

**H B**

**358**

## FISCAL NOTE

**REQUEST:**

Revision Date: \_\_\_\_\_  
 Title: "An Act..thermal & lighting energy standards..."  
 Sponsor: Reps Brown, M.Davis, MacLean, etc  
 Requestor: \_\_\_\_\_

Agency Affected: Community & Regional Affairs  
 BRU: \_\_\_\_\_  
 Components: \_\_\_\_\_

**EXPENDITURES/REVENUES:** (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL	13.0	-0-	5.0	-0-	5.0	-0-
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>13.0</b>	<b>-0-</b>	<b>5.0</b>	<b>-0-</b>	<b>5.0</b>	<b>-0-</b>

CAPITAL						
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REVENUE						
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**FUNDING:** (Thousands of Dollars)

GENERAL FUND	13.0	-0-	5.0	-0-	5.0	-0-
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>	<b>13.0</b>	<b>-0-</b>	<b>5.0</b>	<b>-0-</b>	<b>5.0</b>	<b>-0-</b>

**POSITIONS:**

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

**ANALYSIS :** (Attach a separate page if necessary)

There is no fiscal effect for FY 90. Travel is for private industry members of the technical advisory committee.

Prepared by: *Jim Plasmon*, Deputy Director  
 Division: Municipal & Regional Assistance

Phone: 465-4750  
 Date: 3/26/90

Approved by Commissioner: *David C. Nelson*  
 Agency: Community & Regional Affairs

Date: 3-26-90

**Distribution (by preparer):**

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

Official Business

P.O. Box V  
State Capitol  
Juneau, Alaska 99811

TO: Senator Mike Szymanski, Chair  
Senate Community and Regional Affairs Committee

FROM: Representative Kay Brown

DATE: February 28, 1990

SUBJ: CS SS HB 358 (Fin) - Minimum Thermal Energy Standards

I want to take this opportunity to provide you with some background information on CS SS HB 358 (Fin), legislation that would require future new housing built with state financial assistance after December 31, 1990 to meet at least minimum energy efficiency standards.

### The Need for Minimum Thermal Energy Standards

Nearly all states have some form of minimum standard. It is ironic that, Alaska -- the state with the most extreme cold-weather temperatures and the highest heating costs in the nation -- is without even minimum energy efficiency requirements. The arguments in support of minimum standards are compelling:

- A survey of eight rural villages found that 16 to 37% of family income is spent on energy while a 1988 "Alaska Rural Housing Needs Assessment" found that 36% of rural homes could not maintain an indoor temperature of 70 degrees during the cold winter months.
- An audit of 714 HUD housing units concluded that "projects are being developed that are infeasible, improperly designed, and inadequately constructed" noting that many of the the rural housing units being constructed were generally unsuited for the harsh Alaskan environment (in some homes interior walls were sheathed in ice during the winter).
- The State of Alaska is the financier (and now owner through AHFC) of thousands of repossessed residential properties. Due to poor building

practices these REOs have required substantial funds to repair and upgrade simply to make them marketable.

- Typical home buyers do not have -- nor can they reasonably be expected to have -- the kind of technical expertise necessary to determine whether a home has been built to reasonable energy efficiency standards.

A point worth emphasizing is that under HB 358 the state minimum thermal standards *would apply only to future new homes built with state financial assistance* (homes built "out-of-pocket" or financed without state assistance would not be subject to the standard.)

#### Legislative History of the Alaska Thermal Energy Standard

In 1980, the Alaska Legislature recognized the need for minimum energy efficiency standards by enacting Chapter 83 SLA 1980. This legislation provided for the development and adoption of minimum thermal and lighting standards (AS 46.11.010 -.900) for new structures built with "state financial assistance." Between 1983 and 1988, the Department of Community and Regional Affairs undertook an extensive public process with the help of an Advisory Committee that included representatives of the housing industry to develop an appropriate "regionalized" Alaska standard for new state-financed residential construction.

During the formulation of the standard by the Advisory Committee a clear choice was made to recommend a truly *minimum* energy standard that a number of builders were already building to in a given region in order to assure that the standard would not cause a disruption in the marketplace. Ultimately, the advisory committee developed a consensus recommendation concerning a proposed minimum standard. However, just prior to the standard becoming effective last year a lawsuit was filed that exploited a drafting oversight in the original 1980 law.

Briefly, although the original 1980 legislation clearly stated the Legislature's intent to establish "mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance" (emphasis added), the language actually codified into law only referenced financing "for the construction of" new structures. Due to this drafting oversight, the Superior Court ruled that the standard should apply only to state financial assistance in the form of direct construction lending. Pending appeal to the Alaska Supreme Court, implementation of the Standard has been enjoined. HB 358 was introduced to reaffirm the clear legislative objective of requiring that new homes financed through AHFC meet at least minimum thermal standards.

CS SS HB 358 (Fin)

In summary, CS SS HB 358 (Fin) would:

- explicitly reaffirm the original 1980 intent of the legislature that minimum thermal standards apply to homes constructed, as well as those financed through AHFC, with state financial assistance;
- make it clear that the thermal standards apply only to future new homes built with state-financial assistance homes (i.e., construction starting after December 31, 1990); and
- explicitly identify several alternative means by which builders can demonstrate compliance with the standard, including self-certification.

Assuming CS SS HB 358 (Fin) passes this session, the Department of Community and Regional Affairs would develop and adopt a new minimum standard by way of regulation. This public process will afford an opportunity for all affected parties to participate in the formulation of the minimum standard.

It should be noted that a substantial number of Alaska homebuilders already construct homes that meet or exceed the proposed state minimum standard that had been developed by DCRA prior to the lawsuit. These builders have expressed strong support for the standard, particularly because a minimum standard will help put quality homebuilders on a "level playing field" relative to less conscientious builders.

To put the proposed state minimum standard developed by DCRA into perspective, for Anchorage gas-heated homes, the minimum insulation requirements under the proposed state standard are nearly identical to HUD's Minimum Property Standards (MPS). It should also be noted that significantly higher insulation levels for Anchorage homes are recommended in the most recently published industry developed standard published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE, March 1989 - 90.2P). A comparison of these various standards is attached.

In any case, passage of CS SS HB 358 (Fin) would require that the state minimum thermal standard be developed anew. This would mean that a new standard (presumably building on the extensive work already done to date) would be developed by the Department of Community and Regional Affairs by regulation with full public participation. One possibility I have been exploring with the Alaska State Homebuilders Association is amendment of the bill to formally create, in statute, an advisory committee to help with the development of the new standard. This advisory committee would include

representatives of the homebuilding industry to ensure that any standard adopted is reasonable and workable.

Another possibility I have been considering is establishment of an "early adopter" incentive program. In concept, the early adopter proposal would include:

- postponing the effective date of the thermal standards from December 31, 1990, as currently proposed in CS SS HB 358 (Fin), to December 31, 1991;
- creation of a thermal standards Early Adopter Program and early adopter incentive awards of \$1,500 for homebuilders that voluntarily meet the state thermal standard prior to the minimum standard taking effect, i.e., in the case of new homes constructed after passage of CS SS HB 358 (Fin) and before December 31, 1991; and
- a one-time appropriation of \$250,000 to provide a total of 167 grants (at \$1,500 each) to qualifying "early adopter" builders.

This "early adopter" program would provide builders with the incentive to learn how to meet the standard during the year before it took effect and would help to offset the incremental costs some builders will face in meeting the new standard relative to their current building practices.

As you can see by the attachments, CS HB 358 (Fin) has broad support from all across the state. During the most recent House Finance Committee hearing, builders from Nome to Sitka testified in unanimous support of the bill and the need for minimum thermal standards. I have also provided excerpts of testimony and comment from various builders and other housing professionals that endorse this legislation and the need for minimum thermal energy standards.

Finally, although we can not rectify many of the housing problems that have resulted from poor building practices in the past, we can make a new start in the 1990s.

I look forward to working with you on this legislation.

attachments

2/9/90  
Rep. Kay Brown

**BUILDER AND HOUSING PROFESSIONAL COMMENT  
IN SUPPORT OF  
HB 358 - MINIMUM THERMAL ENERGY STANDARDS**

*AHFC has been committed to the development of energy standards for new construction. Staff members have been working with DCRA from the very outset. We served on the Advisory Committee which assisted in the development of the recommended standards.... We believe the standards are a necessity to help ensure a better housing stock for Alaskans as well as provide homeowners with the potential for lower fuel bills.*

Tom Behan, Executive Director  
Alaska Housing Finance Corporation

*The Alaska State Legislature should enact legislation to restore clear legal authority for the implementation of appropriate minimum thermal standards, based on regional differences, for newly constructed state-financed housing.*

Housing Policy Development Committee  
Alaska Housing Market Council

*At Anchorage Neighborhood Housing Services we have had many occasions to inspect housing units as part of our requirements for lending and in conjunction with our construction assistance programs. There exists a great need for improvement to minimum thermal standards in most of the existing housing stock in Anchorage.*

Cynthia A. Parker, Executive Director  
Anchorage Neighborhood Housing Services, Inc.

*As a builder of energy efficient homes in the Fairbanks area for many years which without exception exceed the State Energy Standard, I feel that [HB 358] will tend to put conscientious Alaskan builders on an even playing field with the fly-by-night contractors from outside who don't know how to build in this environment and, in some cases, don't care.*

Mike Musick  
Ester Construction  
Ester, Alaska

*As a builder, I am intimately familiar with what it takes to build appropriately for the Alaska climate. I know we can do better for the people of Alaska than we have in the past.... My own building practices meet or exceed the State minimum energy standard. Other builders should be doing the same.*

Ralph W. Brodin, Owner  
EE/CC General Contractors  
Girdwood, Alaska

*During the past two years I have built several homes in the Homer area that meet or exceed HB 358's energy standards. I counsel every one that I build for that an energy efficient house is not only healthy and comfortable but also a good investment because of energy savings.*

David Ellington  
Ellington Construction  
Homer, Alaska

*As the American Institute of Architects/Alaska Chapter representative on the Advisory Committee for the [state standard] I was impressed by the participation of all Alaska building industry's sectors.... [The standards] are reasonable and reflect logical and climatic conditions for each region of the State.... Too often builders have sought short term practices through the use of inadequate building practices at the expense of long term operation and maintenance costs.*

Robert Balivet, AIA  
McGlothlin Balivet Co. - Architects & Planners  
Anchorage, Alaska

*I am an architectural designer and have been involved in the design and construction of several homes that exceed the minimum energy standards. I am very knowledgeable about the building science and practices that ensure a comfortable, healthy, and energy efficient home. I am also aware of the very slow pace in which the building trades adopt new methods and materials... In order to improve the comfort and quality levels of our housing stock, we simply need HB 358.*

James A. Dory  
Dory and Associates  
Nome, Alaska

*As a building official of a major Southeast Alaska community, I have been involved with the entire public development of the standards .... [The standards] are technically sound, reasonable in their scope and practical in their nature and application.*

Harry Chartier, Building Official  
City and Borough of Sitka

*[T]he minimum insulation requirements between the proposed State of Alaska "Energy Standard" for gas heated dwellings in [the] Anchorage area and HUD's MPS [Minimum Property Standards] are nearly identical. The major differences between the two is the state proposes to quantify acceptable infiltration losses and ventilation requirements. We believe that this is a positive step in establishing building performance criteria.*

Arlene Patton  
U.S. Housing and Urban Development  
Anchorage Office - Region X

*[T]here must be some inducement to encourage builders to maintain certain standards since businesses tend to stay with the old easy less expensive methods. We are just finishing a new home built to meet or exceed ACHP [Alaska Craftsman Home Program] specs which are more stringent than the proposed State standards.*

David T. Thompson  
Fairbanks, Alaska

*The lack of thermal standards in the past provides the Low-Income Weatherization Program here in the Fairbanks North Star Borough with a seemingly endless supply of rapidly deteriorating high-energy-use dwellings...in need of so much more than the [weatherization] program can provide that the measures often become a band-aid approach to a terminal wound.... There is no reasonable excuse to perpetuate the supply of inadequately constructed buildings.*

Robert Maxwell  
S.I.H., Inc. - Weatherization  
Fairbanks, Alaska

*The average homebuyer knows very little, if anything, about energy efficient home design.... Yet they will live in these homes and pay the bills for them ever after.... In our design practices we always strive to meet or exceed the State minimum energy standard. Other architects should be doing the same.*

Ronald Bisset and Andrew Simasko  
Architects Bissett/Simansko  
Palmer, Alaska

*I view this legislation [HB 358] as critical to the future of our states' building industry in that it will enable Alaska residents to finally receive thermal value in housing that is appropriate to the diverse climate zones of our great state. As a member of the National Association of Home Builders (NAHB) I am aware of attempts by many of our members to stall implementation of these standards and wish to clarify that there is not in any way a consensus to this effect.*

Philip Louden  
Arctic Technical Services  
Fairbanks, Alaska

*As a four year member of the Alaska Home Builders Association, I would like you to know that I support the Thermal Standards as written and their original intent. One of the reasons I especially liked the original implementation of the Alaska State Thermal Standards is they were not mandatory [and only apply to housing using] Alaska public funds.*

C.R. Deer  
Alaska Window  
Fairbanks, Alaska

*Even though the standards will eventually help the construction trades, the industry is taking a short-term viewpoint by delaying implementation.... [further delay] is really unnecessary and only focuses on special interest groups who voice objections... Once again, Alaska is lagging behind the nation in implementing a rational energy policy.*

Raj Bhargava, MSME  
Raj Bhargava Associates - Engineering in Alaska

2/16/90  
Rep. Kay Brown

**HB 358 - Minimum Thermal Energy Standards**  
**Endorsements and Statements of Support**

Alaska Center for the Environment  
Alaska Community Development Corporation (Anchorage)  
Alaska Federation of Natives  
Alaska Health Project  
Alaska Housing Finance Corporation  
Alaska Housing Policy Development Committee  
Alaska Public Interest Research Group  
Alaska Rural Electric Cooperative Association  
Alaska State AFL-CIO  
Alaska State Employees Association  
Alaska Village Electric Cooperative  
Alaska Wilderness Alliance  
Alaska Wildlife Alliance  
Alaska Window (Fairbanks)  
Alaska Chapter Sierra Club  
Analysis North/Alaska Utility Consumer Advocate  
Anchorage League of Women Voters  
American Lung Association of Alaska  
Anchorage Daily News  
Anchorage Neighborhood Housing Services, Inc.  
Anchorage Recycling Center  
Architects Bisset/Simansko (Palmer)  
Arctic Technical Services (Fairbanks)  
Barrow Utilities and Electric Cooperative  
Brandywine Homeowners Association (Eagle River)  
Cedar Park Condominium Association (Anchorage)  
Chugach Electric Association (Anchorage)  
City and Borough of Juneau  
City of White Mountain  
City of Brevig Mission  
City of Nome  
City of Koyuk  
City of Shishmaref  
City and Borough of Sitka  
Denali Citizens Council  
Dick Mueller Realty, Inc. (Kenai)  
Dinyee Village Corporation (Stevens Village)  
Dory and Associates (Nome)  
Ellington Construction (Homer)  
ENSTAR Natural Gas Company (Anchorage)

Ester Construction (Fairbanks)  
Fairbanks North Star Borough  
Golden Valley Electric Association (Fairbanks)  
Greenpeace USA  
Kotzebue Electric Association  
Heat Loss Analysis, Inc. (Anchorage)  
Home Energy Service (Juneau)  
Kachemak Bay Conservation Society  
Kodiak Island Mayors League  
Low-Income Weatherization Policy Advisory Committee  
McGlothlin Balivet Co. - Architects & Planners (Anchorage)  
National Audubon Society  
North Slope Borough  
North and Northwest Alaska Mayors Conference  
Nushagak Electric Co-operative, Inc. (Dillingham)  
Older Alaskans Commission  
Older Persons Action Group, Inc.  
Raj Bhargava Associates/Engineering in Alaska (Anchorage)  
Rotecki, Bill (Ketchikan)  
Rural Alaska Community Action Program  
Second Annual Rural Energy Conference Resolution  
S.I.H. Inc. Weatherization (Fairbanks)  
Southwest Alaska Municipal Conference  
State of Alaska Energy Policy Task Force  
Thermo-Kool of Alaska, Inc. (Anchorage)  
Thompson, David (Fairbanks)  
Tlingit & Haida Regional Electrical Authority  
Trustees for Alaska  
U.S. Department of Housing and Urban Development  
Western Alaska Building and Construction Trades Council

2/13/90  
Rep. Kay Brown

COMPARISON OF MINIMUM THERMAL STANDARDS  
Anchorage Gas-Heated Homes

	<u>STATE*</u>	<u>HUD MPS</u>	<u>FHA</u>	<u>ASHRAE 90**</u>
Ceilings	R 38	R 38	R 38	R 50
Walls	R 18	R 20	R 25	R 23.3
Floors	R 19	R 20	R 22	R 30.3
Windows	R 2.1 - 4 <sup>(1)</sup>	R 2.13	R 2.6	R 2.44
Doors	R 7 (one 2.5)	R 3.12	R 5	R 7.14

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\* proposed state standard

\*\* American Society of Heating, Refrigerating and Air-Conditioning Engineers  
"Energy Efficient Design of New Low-Rise Residential Buildings" (March 1989)

(1) under proposed state standard, variable according to window area as % of wall area.

FISCAL NOTE

REQUEST:

Revision Date: \_\_\_\_\_  
Title: "An Act..thermal & lighting energy standards..."  
Sponsor: Reps Brown, M.Davis, MacLean, etc  
Requestor: \_\_\_\_\_

Agency Affected: Community & Regional Affairs  
BRU: \_\_\_\_\_  
Components: \_\_\_\_\_

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

FUNDING: (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

There is no fiscal effect for FY 90.

Prepared by: *Jim Resman* Phone: 465-4750  
Division: Municipal & Regional Assistance Date: 2/2/90  
Approved by Commissioner: *James G. Hoffner* Date: 2/2/90  
Agency: Community & Regional Affairs

Distribution (by preparer):

- Legislative Finance
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- Office of Management and Budget
- Impacted Agency(ies)

# STATE OF ALASKA

**DEPT. OF COMMUNITY & REGIONAL AFFAIRS**

STEVE COWPER, GOVERNOR  
Rural Development Division  
949 E. 36th Ave. #402  
Anchorage, AK 99508  
(907) 563-1073  
Telefax: (907) 563-1734

February 21, 1990

Gregory Jones  
Alaska Diversified Properties  
P.O. Box 190769  
Anchorage, AK 99519-0769

Dear Greg,

I felt yesterday's meeting was very productive and feel that we are coming closer to a framework in regards to minimum thermal standards that we can work with.

This is a recap of what I heard you propose in terms of amendments for House Bill 358:

- (1) That you agree that a minimum thermal standard is necessary for Alaska and that House Bill 358 needs to be enacted.
- (2) An "early adopter" program for builders who want to voluntarily meet the standard in the interim period. The application process would be simple and verified by a home rating through the Energy Rated Homes of Alaska program. You also advocated the program be adjusted to take into account square footage of the home. We also discussed making the Home Energy Loan Program fit into the effort.
- (3) Have the bill indirectly address the technical fixes necessary to the state standard. The technical fixes will be primarily focused on ventilation requirements, heating system efficiency and air tightness. This would involve a committee that would include representation of home builders.
- (4) Have the bill indirectly address having a provision that the standard would not go into effect in areas where the climate or the cost of energy would not make it economical. The standard would go into effect when an energy cost index is reached. The bill would outline how this would be developed. We both agreed that a simple payback may not be the best analysis for this determination.

Gregory Jones  
February 21, 1990  
Page Two

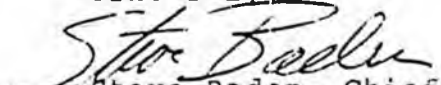
(5) In the areas that would be covered under (4), the FHA thermal standards as modified by the Department working with the committee that is formed in (3) would go into effect.

(6) Having a period before the thermal standard goes into effect after the enactment of the legislation that would be contained in the bill. You proposed two years after the bill's passage and I felt that one year was more appropriate.

You agreed that you would further discuss this with builders and draft language for numbers 3 and 4. We agreed that we would get together again at 10 am., on March 6 in the B.I.A.A.'s office.

As you work on your proposed language please do not hesitate to call me if I can provide you additional information and assistance. I would appreciate it if you could provide me a copy of your draft on Monday, March 5, so that I can review it and have a thought-out response. I look forward to reviewing what you come up with and meeting with you on the 6th.

Sincerely,

  
Steve Baden, Chief  
Energy Programs

cc: Representative Kay Brown  
Larry Taylor  
Barbara Collins  
Randy Nicklas

21 February, 1990

Steve Boden, Chief  
Energy Programs  
Rural Development Division  
949 E. 36th Avenue, Suite 402  
Anchorage, AK 99508

Re: Proposed Revision to HB 358

Dear Steve,

I agree that yesterday's meeting was productive. I am encouraged by the State's willingness to work with us in achieving a Minimum Thermal Standard that will work for the entire state.

In response to the six points in your letter today:

1. Minimum thermal standards are needed for Alaska particularly for the rural areas and portions of the state subject to harsh climates and/or high energy costs. HB 358 needs to be amended to reflect this emphasis.

2. The "Early Adopter" program is very encouraging. We need to work with Barbara Collins to assure compatibility of the thermal standards with the Energy Ratio Homes of Alaska criteria. I concur with the rest of your comments in this paragraph.

3. I would not at this time limit technical fixes to the areas indicated in your letter, although they are the primary concerns right now. The committee that you reference should have the latitude to recommend other changes. The make up of the committee is of great importance to us. We will make a proposal to you in that regard.

4, 5, and 6. I concur with your comments in these paragraphs.

As indicated at our meeting, I will be communicating often and in detail with the builders around the state throughout this process. When we do reach a final agreement it is in the best interest of each of us to have unanimity within our respective ranks. Consequently, the logistics are cumbersome and somewhat unpredictable. I will try to have a draft proposal to you by March 5, and will at least have an outline by March 3.

Thanks for your attention.

Very truly yours,  
Alaska State Home Builders Association

Gregory L. Jones  
National Representative

# STATE OF ALASKA

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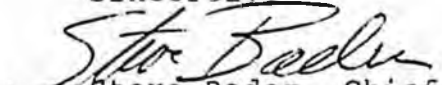
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Gregory L. Jones  
National Representative



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

Official Business

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TO: Senator Mike Szymanski, Chair  
Senate Community and Regional Affairs Committee

FROM: Representative Kay Brown

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### The Need for Minimum Thermal Energy Standards

Nearly all states have some form of minimum standard. It is ironic that, Alaska -- the state with the most extreme cold-weather temperatures and the highest heating costs in the nation -- is without even minimum energy efficiency requirements. The arguments in support of minimum standards are compelling:

- A survey of eight rural villages found that 16 to 37% of family income is spent on energy while a 1988 "Alaska Rural Housing Needs Assessment" found that 36% of rural homes could not maintain an indoor temperature of 70 degrees during the cold winter months.
- An audit of 714 HUD housing units concluded that "projects are being developed that are infeasible, improperly designed, and inadequately constructed" noting that many of the the rural housing units being constructed were generally unsuited for the harsh Alaskan environment (in some homes interior walls were sheathed in ice during the winter).
- The State of Alaska is the financier (and now owner through AHFC) of thousands of repossessed residential properties. Due to poor building

practices these REOs have required substantial funds to repair and upgrade simply to make them marketable.

- Typical home buyers do not have -- nor can they reasonably be expected to have -- the kind of technical expertise necessary to determine whether a home has been built to reasonable energy efficiency standards.

A point worth emphasizing is that under HB 358 the state minimum thermal standards *would apply only to future new homes built with state financial assistance* (homes built "out-of-pocket" or financed without state assistance would not be subject to the standard.)

### Legislative History of the Alaska Thermal Energy Standard

In 1980, the Alaska Legislature recognized the need for minimum energy efficiency standards by enacting Chapter 83 SLA 1980. This legislation provided for the development and adoption of minimum thermal and lighting standards (AS 46.11.010 -.900) for new structures built with "state financial assistance." Between 1983 and 1988, the Department of Community and Regional Affairs undertook an extensive public process with the help of an Advisory Committee that included representatives of the housing industry to develop an appropriate "regionalized" Alaska standard for new state-financed residential construction.

During the formulation of the standard by the Advisory Committee a clear choice was made to recommend a truly *minimum* energy standard that a number of builders were already building to in a given region in order to assure that the standard would not cause a disruption in the marketplace. Ultimately, the advisory committee developed a consensus recommendation concerning a proposed minimum standard. However, just prior to the standard becoming effective last year a lawsuit was filed that exploited a drafting oversight in the original 1980 law.

Briefly, although the original 1980 legislation clearly stated the Legislature's intent to establish "mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance" (emphasis added), the language actually codified into law only referenced financing "for the construction of" new structures. Due to this drafting oversight, the Superior Court ruled that the standard should apply only to state financial assistance in the form of direct construction lending. Pending appeal to the Alaska Supreme Court, implementation of the Standard has been enjoined. HB 358 was introduced to reaffirm the clear legislative objective of requiring that new homes financed through AHFC meet at least minimum thermal standards.

CS SS HB 358 (Fin)

In summary, CS SS HB 358 (Fin) would:

- explicitly reaffirm the original 1980 intent of the legislature that minimum thermal standards apply to homes constructed, as well as those financed through AHFC, with state financial assistance;
- make it clear that the thermal standards apply only to future new homes built with state-financial assistance homes (i.e., construction starting after December 31, 1990); and
- explicitly identify several alternative means by which builders can demonstrate compliance with the standard, including self-certification.

Assuming CS SS HB 358 (Fin) passes this session, the Department of Community and Regional Affairs would develop and adopt a new minimum standard by way of regulation. This public process will afford an opportunity for all affected parties to participate in the formulation of the minimum standard.

It should be noted that a substantial number of Alaska homebuilders already construct homes that meet or exceed the proposed state minimum standard that had been developed by DCRA prior to the lawsuit. These builders have expressed strong support for the standard, particularly because a minimum standard will help put quality homebuilders on a "level playing field" relative to less conscientious builders.

To put the proposed state minimum standard developed by DCRA into perspective, for Anchorage gas-heated homes, the minimum insulation requirements under the proposed state standard are nearly identical to HUD's Minimum Property Standards (MPS). It should also be noted that significantly higher insulation levels for Anchorage homes are recommended in the most recently published industry developed standard published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE, March 1989 - 90.2P). A comparison of these various standards is attached.

In any case, passage of CS SS HB 358 (Fin) would require that the state minimum thermal standard be developed anew. This would mean that a new standard (presumably building on the extensive work already done to date) would be developed by the Department of Community and Regional Affairs by regulation with full public participation. One possibility I have been exploring with the Alaska State Homebuilders Association is amendment of the bill to formally create, in statute, an advisory committee to help with the development of the new standard. This advisory committee would include

representatives of the homebuilding industry to ensure that any standard adopted is reasonable and workable.

Another possibility I have been considering is establishment of an "early adopter" incentive program. In concept, the early adopter proposal would include:

- postponing the effective date of the thermal standards from December 31, 1990, as currently proposed in CS SS HB 358 (Fin), to December 31, 1991;
- creation of a thermal standards Early Adopter Program and early adopter incentive awards of \$1,500 for homebuilders that voluntarily meet the state thermal standard prior to the minimum standard taking effect, i.e., in the case of new homes constructed after passage of CS SS HB 358 (Fin) and before December 31, 1991; and
- a one-time appropriation of \$250,000 to provide a total of 167 grants (at \$1,500 each) to qualifying "early adopter" builders.

This "early adopter" program would provide builders with the incentive to learn how to meet the standard during the year before it took effect and would help to offset the incremental costs some builders will face in meeting the new standard relative to their current building practices.

As you can see by the attachments, CS HB 358 (Fin) has broad support from all across the state. During the most recent House Finance Committee hearing, builders from Nome to Sitka testified in unanimous support of the bill and the need for minimum thermal standards. I have also provided excerpts of testimony and comment from various builders and other housing professionals that endorse this legislation and the need for minimum thermal energy standards.

Finally, although we can not rectify many of the housing problems that have resulted from poor building practices in the past, we can make a new start in the 1990s.

I look forward to working with you on this legislation.

attachments

2/9/90  
Rep. Kay Brown

**BUILDER AND HOUSING PROFESSIONAL COMMENT  
IN SUPPORT OF  
HB 358 - MINIMUM THERMAL ENERGY STANDARDS**

*AHFC has been committed to the development of energy standards for new construction. Staff members have been working with DCRA from the very outset. We served on the Advisory Committee which assisted in the development of the recommended standards.... We believe the standards are a necessity to help ensure a better housing stock for Alaskans as well as provide homeowners with the potential for lower fuel bills.*

Tom Behan, Executive Director  
Alaska Housing Finance Corporation

*The Alaska State Legislature should enact legislation to restore clear legal authority for the implementation of appropriate minimum thermal standards, based on regional differences, for newly constructed state-financed housing.*

Housing Policy Development Committee  
Alaska Housing Market Council

*At Anchorage Neighborhood Housing Services we have had many occasions to inspect housing units as part of our requirements for lending and in conjunction with our construction assistance programs. There exists a great need for improvement to minimum thermal standards in most of the existing housing stock in Anchorage.*

Cynthia A. Parker, Executive Director  
Anchorage Neighborhood Housing Services, Inc.

*As a builder of energy efficient homes in the Fairbanks area for many years which without exception exceed the State Energy Standard, I feel that [HB 358] will tend to put conscientious Alaskan builders on an even playing field with the fly-by-night contractors from outside who don't know how to build in this environment and, in some cases, don't care.*

Mike Musick  
Ester Construction  
Ester, Alaska

*As a builder, I am intimately familiar with what it takes to build appropriately for the Alaska climate. I know we can do better for the people of Alaska than we have in the past.... My own building practices meet or exceed the State minimum energy standard. Other builders should be doing the same.*

Ralph W. Brodin, Owner  
EE/CC General Contractors  
Girdwood, Alaska

*During the past two years I have built several homes in the Homer area that meet or exceed HB 358's energy standards. I counsel every one that I build for that an energy efficient house is not only healthy and comfortable but also a good investment because of energy savings.*

David Ellington  
Ellington Construction  
Homer, Alaska

*As the American Institute of Architects/Alaska Chapter representative on the Advisory Committee for the [state standard] I was impressed by the participation of all Alaska building industry's sectors.... [The standards] are reasonable and reflect logical and climatic conditions for each region of the State.... Too often builders have sought short term practices through the use of inadequate building practices at the expense of long term operation and maintenance costs.*

Robert Balivet, AIA  
McGlothlin Balivet Co. - Architects & Planners  
Anchorage, Alaska

*I am an architectural designer and have been involved in the design and construction of several homes that exceed the minimum energy standards. I am very knowledgeable about the building science and practices that ensure a comfortable, healthy, and energy efficient home. I am also aware of the very slow pace in which the building trades adopt new methods and materials... In order to improve the comfort and quality levels of our housing stock, we simply need HB 358.*

James A. Dory  
Dory and Associates  
Nome, Alaska

*As a building official of a major Southeast Alaska community, I have been involved with the entire public development of the standards .... [The standards] are technically sound, reasonable in their scope and practical in their nature and application.*

Harry Chartier, Building Official  
City and Borough of Sitka

*[T]he minimum insulation requirements between the proposed State of Alaska "Energy Standard" for gas heated dwellings in [the] Anchorage area and HUD's MPS [Minimum Property Standards] are nearly identical. The major differences between the two is the state proposes to quantify acceptable infiltration losses and ventilation requirements. We believe that this is a positive step in establishing building performance criteria.*

Arlene Patton  
U.S. Housing and Urban Development  
Anchorage Office - Region X

*[T]here must be some inducement to encourage builders to maintain certain standards since businesses tend to stay with the old easy less expensive methods. We are just finishing a new home built to meet or exceed ACHP [Alaska Craftsman Home Program] specs which are more stringent than the proposed State standards.*

David T. Thompson  
Fairbanks, Alaska

*The lack of thermal standards in the past provides the Low-Income Weatherization Program here in the Fairbanks North Star Borough with a seemingly endless supply of rapidly deteriorating high-energy-use dwellings...in need of so much more than the [weatherization] program can provide that the measures often become a band-aid approach to a terminal wound.... There is no reasonable excuse to perpetuate the supply of inadequately constructed buildings.*

Robert Maxwell  
S.I.H., Inc. - Weatherization  
Fairbanks, Alaska

*The average homebuyer knows very little, if anything, about energy efficient home design.... Yet they will live in these homes and pay the bills for them ever after.... In our design practices we always strive to meet or exceed the State minimum energy standard. Other architects should be doing the same.*

Ronald Bisset and Andrew Simasko  
Architects Bissett/Simansko  
Palmer, Alaska

*I view this legislation [HB 358] as critical to the future of our states' building industry in that it will enable Alaska residents to finally receive thermal value in housing that is appropriate to the diverse climate zones of our great state. As a member of the National Association of Home Builders (NAHB) I am aware of attempts by many of our members to stall implementation of these standards and wish to clarify that there is not in any way a consensus to this effect.*

Philip Loudon  
Arctic Technical Services  
Fairbanks, Alaska

*As a four year member of the Alaska Home Builders Association, I would like you to know that I support the Thermal Standards as written and their original intent. One of the reasons I especially liked the original implementation of the Alaska State Thermal Standards is they were not mandatory [and only apply to housing using] Alaska public funds.*

C.R. Deer  
Alaska Window  
Fairbanks, Alaska

*Even though the standards will eventually help the construction trades, the industry is taking a short-term viewpoint by delaying implementation.... [further delay] is really unnecessary and only focuses on special interest groups who voice objections... Once again, Alaska is lagging behind the nation in implementing a rational energy policy.*

Raj Bhargava, MSME  
Raj Bhargava Associates - Engineering in Alaska

2/16/90  
Rep. Kay Brown

**HB 358 - Minimum Thermal Energy Standards**  
**Endorsements and Statements of Support**

Alaska Center for the Environment  
Alaska Community Development Corporation (Anchorage)  
Alaska Federation of Natives  
Alaska Health Project  
Alaska Housing Finance Corporation  
Alaska Housing Policy Development Committee  
Alaska Public Interest Research Group  
Alaska Rural Electric Cooperative Association  
Alaska State AFL-CIO  
Alaska State Employees Association  
Alaska Village Electric Cooperative  
Alaska Wilderness Alliance  
Alaska Wildlife Alliance  
Alaska Window (Fairbanks)  
Alaska Chapter Sierra Club  
Analysis North/Alaska Utility Consumer Advocate  
Anchorage League of Women Voters  
American Lung Association of Alaska  
Anchorage Daily News  
Anchorage Neighborhood Housing Services, Inc.  
Anchorage Recycling Center  
Architects Bisset/Simansko (Palmer)  
Arctic Technical Services (Fairbanks)  
Barrow Utilities and Electric Cooperative  
Brandywine Homeowners Association (Eagle River)  
Cedar Park Condominium Association (Anchorage)  
Chugach Electric Association (Anchorage)  
City and Borough of Juneau  
City of White Mountain  
City of Brevig Mission  
City of Nome  
City of Koyuk  
City of Shishmaref  
City and Borough of Sitka  
Denali Citizens Council  
Dick Mueller Realty, Inc. (Kenai)  
Dinyee Village Corporation (Stevens Village)  
Dory and Associates (Nome)  
Ellington Construction (Homer)  
ENSTAR Natural Gas Company (Anchorage)

Ester Construction (Fairbanks)  
Fairbanks North Star Borough  
Golden Valley Electric Association (Fairbanks)  
Greenpeace USA  
Kotzebue Electric Association  
Heat Loss Analysis, Inc. (Anchorage)  
Home Energy Service (Juneau)  
Kachemak Bay Conservation Society  
Kodiak Island Mayors League  
Low-Income Weatherization Policy Advisory Committee  
McGlothlin Balivet Co. - Architects & Planners (Anchorage)  
National Audubon Society  
North Slope Borough  
North and Northwest Alaska Mayors Conference  
Nushagak Electric Co-operative, Inc. (Dillingham)  
Older Alaskans Commission  
Older Persons Action Group, Inc.  
Raj Bhargava Associates/Engineering in Alaska (Anchorage)  
Rotecki, Bill (Ketchikan)  
Rural Alaska Community Action Program  
Second Annual Rural Energy Conference Resolution  
S.I.H. Inc. Weatherization (Fairbanks)  
Southwest Alaska Municipal Conference  
State of Alaska Energy Policy Task Force  
Thermo-Kool of Alaska, Inc. (Anchorage)  
Thompson, David (Fairbanks)  
Tlingit & Haida Regional Electrical Authority  
Trustees for Alaska  
U.S. Department of Housing and Urban Development  
Western Alaska Building and Construction Trades Council

2/13/90  
Rep. Kay Brown

COMPARISON OF MINIMUM THERMAL STANDARDS  
Anchorage Gas-Heated Homes

	<u>STATE*</u>	<u>HUD MPS</u>	<u>FHA</u>	<u>ASHRAE 90**</u>
Ceilings	R 38	R 38	R 38	R 50
Walls	R 18	R 20	R 25	R 23.3
Floors	R 19	R 20	R 22	R 30.3
Windows	R 2.1 - 4 <sup>(1)</sup>	R 2.13	R 2.6	R 2.44
Doors	R 7 (one 2.5)	R 3.12	R 5	R 7.14

-----  
\* proposed state standard

\*\* American Society of Heating, Refrigerating and Air-Conditioning Engineers  
"Energy Efficient Design of New Low-Rise Residential Buildings" (March 1989)

(1) under proposed state standard, variable according to window area as % of wall area.

## FISCAL NOTE

**REQUEST:**

Revision Date: \_\_\_\_\_  
 Title: "An Act..thermal & lighting energy standards..."  
 Sponsor: Reps Brown, M.Davis, MacLean, etc  
 Requestor: \_\_\_\_\_

Agency Affected: Community & Regional Affairs  
 BRU: \_\_\_\_\_  
 Components: \_\_\_\_\_

**EXPENDITURES/REVENUES:** (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	-0-	-0-	-0-	-0-	-0-	-0-
<b>CAPITAL</b>						
<b>REVENUE</b>						

**FUNDING:** (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>	-0-	-0-	-0-	-0-	-0-	-0-

**POSITIONS:**

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

**ANALYSIS :** (Attach a separate page if necessary)

There is no fiscal effect for FY 90.

Prepared by: *Jim Pearson* Phone: 465-4750  
 Division: Municipal & Regional Assistance Date: 2/2/90  
 Approved by Commissioner: *David G. Holmes* Date: 2/2/90  
 Agency: Community & Regional Affairs

Distribution (by preparer) :  
 Legislative Finance  
 Legislative Sponsor  
 Requestor  
 Office of Management and Budget  
 Impacted Agency(ies)

# Alaska State Legislature

Al Adams  
District L

WHILE IN SESSION  
P.O. Box V  
State Capitol  
Juneau, Alaska 99811  
(907) 465-3707

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OUT OF SESSION  
P.O. Box 333  
Kotzebue, Alaska 99752  
(907) 442-3245

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3111 C Street  
Anchorage, Alaska 99503  
(907) 561-7622

Official Business

TO: Senator Mike Szymanski, Chair  
Community and Regional Affairs Committee

FROM: Senator Al Adams *AA*

RE: CS for SS HB 358 (Finance) "An Act relating to minimum thermal and lighting energy standards; and providing for an effective date."

DATE: March 1, 1990

This memo suggests amendments to the aforementioned legislation if the bill is scheduled.

The amendments have a dual purpose. They avert a potential problem in the future if the Alaska Craftsman Home Program becomes extinct. They also provide the opportunity for alternatives to this program that may be more readily available in rural areas.

I appreciate your consideration.

A M E N D M E N T

OFFERED IN THE SENATE

BY SEN. ADAMS

TO: CSSSHB 358(Fin)

Page 6, line 8, after "Program":

Insert "or an equivalent training program"

Page 6, line 14, after "Program":

Insert "or an equivalent training program"



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

Official Business

P.O. Box V  
State Capitol  
Juneau, Alaska 99811

March 15, 1990

Gregory L. Jones, President  
Alaska Diversified Properties  
P.O. Box 196769  
4100 West International Airport Road  
Anchorage, Alaska 99519-6769

Dear Greg,

Steve Baden provided me with a copy of the material that you developed outlining possible amendments to CS SS HB 358 (Fin). Based on my understanding of the concerns you have expressed, and working with the concepts you provided to Steve Baden, I have attempted to draft language that responds to your concerns (enclosed).

As you know, *passage of this legislation will have the effect of requiring a new state standard to be developed and adopted through the regulation process.* In this context, I have drafted possible amendments to the legislation to ensure that the homebuilding industry is directly involved with the development of the standard and also prepared language that specifically addresses the issue of cost-effectiveness. Language to establish the "early adopter program" is also provided. More specifically, these amendments would:

- establish a Residential Energy Standards Technical Advisory Committee, with designated "seats" for homebuilder representatives from across the state, to guide the formulation of the new state minimum thermal standard (after adoption of the standard, the committee would review the standard every two years and recommend appropriate changes);
- amend language in current law at AS 46.11.040 to explicitly require that "specific consideration be given to the availability of inexpensive home heating energy sources" (i.e., natural gas) when making the determination as to whether the standards are economically justifiable;
- add language to ensure that the standard is cost-effective by requiring that incremental costs attributable to the standard is reflected in the value added by the energy efficiency improvements; and

- establish the "early adopter" program, defer the implementation of the standard for one year, and make \$1,500 incentive award payments to builders that voluntarily meet the standard during this period.

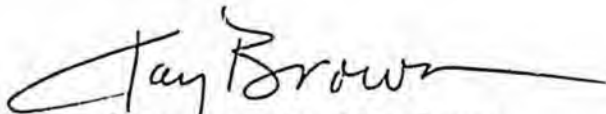
While these amendments take a somewhat different approach than the suggestions you have conceptually outlined, I think you will find that this language responds directly to the fundamental need you have identified to ensure the "reasonableness" of the standard by:

- 1) providing for an active role on the part of the homebuilding industry in the standard development process;
- 2) adding language to ensure that the standard be reasonable and cost-effective, including specific consideration of low-cost gas; and
- 3) by providing an incentive, through the "early adopter" program, to assist builders through the initial transition period.

As you are aware, CS SS HB 358 (Fin) passed through the House with a strong bi-partisan vote and the legislative record clearly shows that this legislation has enormous statewide support. I feel that the bill in its present form is a responsible and defensible measure. Nevertheless, in the spirit of cooperation and compromise and in the genuine hope of enlisting the support and assistance of the homebuilding industry as represented by Alaska State Homebuilder's Association, I would be willing to offer these amendments to the bill during its consideration in the Senate Community and Regional Affairs Committee, but only if I can be assured that the Association will actively support the legislation thereafter. (In particular, the addition of the "early adopter program" amendment has substantial fiscal implications and I will need your wholehearted support if we are to succeed in securing an appropriation for this part of the package.)

As you know, the bill has been scheduled for hearing in the Senate C&RA Committee on March 22nd. It is my hope that we can quickly reach a consensus before that time so that we can apply our collective efforts toward passage (and funding) of this legislation.

Sincerely,



Representative Kay Brown

cc: Bob Peterson  
Randy Niklas  
Tony Doyle

A M E N D M E N T

OFFERED IN THE SENATE

TO: CSSSHB 358 (Finance)

Page 9, line 4, after "affairs":

Insert "after consultation with the Residential Energy Standards Technical Advisory Committee established under AS 46.11.045"

Page 9, following line 7:

Insert a new bill section to read:

"\* Sec. 7. AS 46.11 is amended by adding new sections to read:

Sec. 46.11.045. RESIDENTIAL ENERGY STANDARDS TECHNICAL ADVISORY COMMITTEE. (a) To assist with the development and review of the thermal standards developed under AS 46.11.040, the commissioner shall establish a Residential Energy Standards Technical Advisory Committee and appoint its members. The advisory committee is composed of 18 members and must include

(1) a homebuilder, residential building contractor, or other person who is actively engaged in the construction or sale of residential homes from each of the following regions of the state:

- (A) Anchorage and the Matanuska-Susitna Borough;
- (B) Kenai Peninsula Borough;
- (C) Bristol Bay-Kodiak-Aleutian Islands;
- (D) Fairbanks and Interior Alaska;
- (E) Southeast Alaska;

- (F) Southwest Alaska;
- (G) Northwest Alaska;
- (H) the Arctic Slope;
- (2) a representative of the Department of Housing and Urban Development;
- (3) a representative of the Alaska Housing Finance Corporation;
- (4) a representative of the Alaska Craftsman Home Program;
- (5) a representative of the Energy Rated Homes of Alaska Program;
- (6) a residential real estate appraiser;
- (7) a health professional with expertise in the area of indoor air quality;
- (8) a building official employed by a municipality;
- (9) a registered architect or engineer with experience in energy efficient building design and construction techniques;
- (10) a representative of the University of Alaska Energy Extension Service; and
- (11) a representative of residential home buyer consumer interests.

(b) A member appointed to the advisory committee established in (a) of this section serves a three-year term.

(c) The advisory committee appointed under (a) of this section shall assist the commissioner in the preparation of the thermal and lighting standards and, after initial adoption of the standards, review the standard every two years and make recommendations to the

commissioner regarding appropriate changes.

Sec. 46.11.048. STANDARDS TO BE REASONABLE. In developing the thermal and lighting standards under AS 46.11.040, the commissioner, in consultation with the technical advisory committee established under AS 46.11.045, shall ensure that incremental costs attributable to meeting the standards bear a reasonable relationship to the value added to the home as a result of the energy efficiency investments."

Renumber the following bill sections accordingly.

A M E N D M E N T

OFFERED IN THE SENATE

TO: CSSH B 358 (Finance)

Page 9, line 2, after "standards,":

Insert "with specific consideration given to the availability of inexpensive home heating energy sources,"

A M E N D M E N T

OFFERED IN THE SENATE

TO: CSSH B 358 (Finance)

Page 5, line 26:

Delete "1990"

Insert "1991"

Page 8, line 17:

Delete "1990"

Insert "1991"

Page 11, line 26:

Delete all material.

Insert new bill sections to read:

"\* Sec. 9. ELIGIBILITY OF PERSONS FOR STATE INCENTIVE PAYMENT. (a) A person who initiates and completes construction of a residential building after the effective date of this Act and before January 1, 1992, qualifies for payment of \$1,500 from the Department of Community and Regional Affairs if the person demonstrates, to the satisfaction of the commissioner, that

(1) the residential building meets or exceeds the thermal and lighting energy standards; or

(2) the residential building meets or exceeds the building code of a municipality and the standards for thermal and lighting energy of the municipal building code meet or exceed the thermal and lighting energy

standards.

(b) The Department of Community and Regional Affairs shall

(1) adopt regulations to implement this section;

(2) from legislative appropriations made for the purpose, make the payments required to persons who qualify under (a) of this section.

(c) In this section,

(1) "commissioner" means the commissioner of community and regional affairs;

(2) "thermal and lighting energy standards" has the meaning given in AS 46.11.900(8), as amended by sec. 7 of this Act.

\* Sec. 10. Section 9 of this Act is repealed January 1, 1992.

\* Sec. 11. This Act takes effect immediately under AS 01.10.070(c)."

## HOME ENERGY SERVICE

---

In support of House Bill 358

January 15, 1990

The intent of Statute (AS 46.11.010-.900), which this bill amends, was to provide State mortgage subsidies to houses that meet minimum energy efficiency standards. This bill would accomplish that legislative intent and help protect Alaskans from sub standard building practices. This bill is good for the citizens of Alaska because it serves their economic needs at the lowest possible cost and insures affordable housing for future generations.

While we are fortunate to have programs in Alaska such as the Alaska Housing Finance Corporation (AHFC), it is unfortunate that they have financed and now own so many poorly insulated homes. Alaskans are faced with both the coldest climate and the highest fuel costs in the Nation. In light of this, it is tragic that we are one of only two States which have not yet implemented any minimum building efficiency standards.

Since the energy crisis of the early 1970's, much study has occurred in the area of cost effective building construction practices. Time after time it has proven to be in the consumer and society's best interest to "build it right the first time". As each new standard is developed, the results are consistent. It is always more cost effective to add proper levels of insulation during initial construction than to pay for increased space heating costs year after year.

The C&RA minimum standards follow the American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE) format. In fact C&RA is less restrictive than the latest ASHRAE version 90.2, which was recently published. During the last fifteen years, many different standards have been adopted through out the country. The unmistakable trend has been towards increased insulation levels as new studies become documented. The fact is that these standards make good sense because they work in the real world.

The role of government is evolving with regard to the energy problem. The leadership of the Federal Government in this area during the 1970's has been replaced by inaction in the 1980's. Energy concerns have increasingly been delegated to the states for resolution without appropriate Federal funding. While this issue is crucial to each of us in our daily lives, it also substantially affects the national security of our country.

Utility and oil companies have opposed increased efficiency standards in some States to avoid reduced sales. The costs of new generating plants, hydro facilities, oil exploration activities and pollution, however, have recently been considered as cost factors by the public utility commissions of many States. This has led to a mandate for least cost planning approaches which include cost effective energy efficiency.

The National Association of Homebuilders (NAHB) position is to oppose any item which adds to the initial cost of a home. Examples of this are their past objections to installing smoke detectors and ventilation fans in houses. The acceptable period for payback of an insulation investment for the NAHB appears to be somewhere around 2-3 years. It should be noted, however, that at the current rate of home construction in America, each existing residential unit will have to last for 100 years if we are going to stay current with the existing number of housing units.

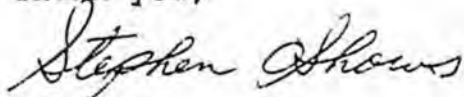
The days of inexpensive energy in America seem to be gone. One notable exception to that is the natural gas service in Anchorage. As these contracts are renewed in the near future, however, it is anticipated that prices will rise to reflect production and cost increases.

This legislation will help lenders, appraisers, builders and consumers. The main reason for this benefit lies in the fact that as we measure these houses and determine if they meet the standard, we will also be able to send the appropriate signals to the financial market. The Energy Rated Homes program, for example, can give this verification and at the same time provide important consumer information to both the buyer and seller of a residential loan.

In recent times we have spent substantial time and money seeking a diversified economic development agenda. We should not close our eyes to the opportunity and benefits an improved and affordable housing stock provides. It is deplorable that many Alaskans live in government financed buildings which are not mechanically capable of being comfortably heated in winter. A further tragedy is the fact that low income Alaskans must pay such a high percentage of their disposable income on energy needs.

I urge your support for this bill and to the overwhelming benefits it will provide to the people of Alaska.

Thank you,



Stephen O. Shows  
President

CHRONOLOGY OF DCRA EFFORTS TO WORK WITH  
HOMEBUILDERS ON ENERGY STANDARD

- 10/27/83 DCRA Commissioner Mark Lewis, invited Alaska State Homebuilders' Association (ASHBA) to name a representative to the advisory committee that will guide the development of the Standard (Attachment 1). ASHBA President Jess Hall named Rick Wike of Wasilla as the Association's representative. The Alaska Mortgage Bankers Association and the Alaska Association of General Contractors also named representatives.
- 2/22/84 First meeting of the advisory committee. Mr. Wike agreed on the need for a mandatory standard. He stated that ASHBA favored a performance-based standard (see report of the first meeting of the Advisory Committee, Attachment 2).
- 12/15/84 Mr. Wike served as ASHBA's representative in the process of selecting the three independent professional construction cost-estimating firms to develop the Standard's cost estimates. He also served on the committee to review the firms' estimates. Intent was to involve housing industries in this important element of the development.
- 1/85-6/85 Advisory committee reviewed and approved every phase of the research and analysis for developing the Standard, including assumptions and sensitivity analysis. Mr. Wike and ASHBA president copied on all correspondence.
- 6/7/85 Advisory Committee met for two days in Fairbanks to review life-cycle-cost computer analysis, and unanimously recommends Standard's insulation levels. Mr. Wike was the only member not to attend the meeting.
- 6/17/85 To ensure Mr. Wike's concurrence with recommendation, DCRA staff Steve Baden and Stuart Brooks traveled to Wasilla to brief Mr. Wike and ASHBA President Robert Johnson and solicit their input. At the meeting, Messrs. Wike and Johnson said they had no problems with the proposed Standard's levels and, in fact, advocated insulation levels (to R-38) for the ceilings of gas-heated homes higher than the R-30 originally recommended. Their recommendation was accepted by the Department and the rest of the Advisory Committee.

- 1/13/85 First draft of Standard was completed and distributed for internal review by the Advisory Committee and the ASHBA before going public (Attachment 3). No response was received from the Association. Based upon the input from the rest of the Advisory Committee, a second draft was produced.
- 4/30/86 Second draft of Standard released for public review. Copies mailed to ASHBA and its local chapters. Approximately 540 copies sent out statewide.
- 5/86-6/86 Second draft revised to reflect input received from statewide review. Public meeting to explain third draft Standard and solicit input was conducted in 19 communities across the state. Meetings were publicized through newspaper ads and radio PSA's. (See Attachment 4 for DCRA staff analysis of public review.)
- 5/13/86 Building Industry Association of Anchorage (BIAA), the Anchorage chapter of ASHBA, presented its fifteen concerns with draft Standard (Attachment 5).
- 5/20/86 DCRA staff, Stuart Brooks and Frank D'Elia, meet with BIAA representatives to explain ASHBA involvement through their representatives on Advisory Committee, and the development of the cost estimates used to develop Standard levels. DCRA staff left with impression that an understanding had been reached regarding costs.
- 6/12/86 Preston Burnett, ASHBA president, wrote DCRA Commissioner Notti questioning need for Standard. Commissioner Notti responded with the background of the development of the Standard, informing him that ASHBA was represented on the Advisory Committee, and asking for specific concerns (Attachment 6). This was the last correspondence received on the Standard from ASHBA until after it was adopted.
- 6/25/86 Samuel Hill, BIAA president, wrote Commissioner Notti stating that the organization's concerns were not allayed and urged DCRA to work with BIAA to make the draft more "reasonable". Commissioner Notti responded on 7/7/86 and asked BIAA to forward its specific concerns and suggested meeting on 7/18/86 (Attachment 7).
- 7/14/86 BIAA accepted meeting invitation. Forwarded copy of 5/13/86 "Builder's Alert" as its specific concerns (Attachment 8).

- 7/30/86 Commissioner Notti not able to travel to Anchorage because of budget reductions. DCRA staff analysis forwarded to BIAA. In cover letter, Steve Baden stated that DCRA found several BIAA concerns well founded. Letter stated that staff would redraft Standard to address concerns expressed at public review process, and would meet with BIAA to address its concerns (Attachment 9).
- 8/26/86 DCRA Deputy Commissioner Jeff Smith and Steve Baden met with representatives of BIAA. Deputy Commissioner Smith, standing in for Commissioner Notti, stated the Department was following the Legislature's mandate but wanted to come to an accommodation with the builders. He also distributed an option paper on how the Standard could be implemented and asked for builders' input. It was agreed that DCRA staff would meet with BIAA's Building Council on 9/3/86. (Attachment 10 contains agenda of 8/26 meeting and implementation options paper.)
- 9/3/86 Steve Baden and Stuart Brooks met with BIAA Building Council and addressed the 5/13/86 concerns point by point. The meeting began with Mr. Baden giving a history of the development process, what the State's position was on the Standard and what was hoped to be accomplished (Attachment 11). Was able to resolve, through clarification, the 5/13 concerns # 1, 4, 9, 10 and 11. DCRA asked the builders for clarification on issues 2, 3, 5, 6, 7, 8, 13, and 14. Chuck Hohman and Steve Bell were designated as BIAA's team to negotiate the later issues. Regarding implementation, the options paper was discussed and the builders were encouraged to work with AHFC in developing a process they could live with.
- 9/8/86 Steve Baden and Stuart Brooks met with Chuck Hohman to discuss BIAA's revised cost-estimates for the remaining issues. It was also agreed that mechanical ventilation would not be required in the Southcentral and Southeast regions.
- 9/11/86 Steve Baden and Stuart Brooks meet with Commissioner Notti and discussed issues brought up through meetings with BIAA and the public review process. Staff recommended either accepting BIAA recommendations or changing the draft language to address its concerns on eleven of the fifteen issues raised by BIAA. Commissioner Notti concurred. Only on the issues of the requirement for the vapor barrier to cover rim joist areas of cantiliver floors and the flue testing of heating systems did DCRA not accept BIAA's concerns (Attachment 12).

- 9/16/86 BIAA's Building Council was invited to meet with Commissioner Notti in Anchorage to learn of DCRA's response to its 5/13 concerns. Only Messrs. Bell and Hohman attended. Commissioner Notti informed them of DCRA's concessions and the two issues where the State could not change. The Commissioner asked if BIAA could now live with the Standard. Mr. Bell and Mr. Hohman responded that, while some individuals would oppose the Standard, the BIAA could live with the Standard's provisions.
- 10/20/86 The Standard was redrafted to meet BIAA's legitimate concerns, and others raised during the public review process. A teleconference public hearing was held in 12 communities on the regulations adopting the Standard. In the hearing, DCRA was criticised by energy professionals and the Alaska Lung Association for compromising with the builders on the mechanical ventilation issue. In its written testimony, BIAA stated that the Standard was now more practical, but it still opposed the Standard for Anchorage because of added costs (Attachment 13). As a result of the concerns expressed by contractors in Southeast, the wall insulation requirements were reduced and a separate region was created for Southeast. (Attachment 14 contains DCRA's considerations of comments given at public hearing.) The Standard was adopted by DCRA on 11/7/86.
- 6/30/87 As a result of concerns expressed by builders in Fairbanks and Kotzebue about floor insulation levels, the Department lowered the floor levels in Regions 3 and 4 from R-40 to R-38, and in Region 5 from R-52 to R-43. The waiver was granted because of the life-cycle cost analysis in accordance with 19AAC 69.230. (The waiver request is included in Attachment 15.)
- 10/14/87 Steve Baden was invited to BIAA to give a presentation of the thermal standard. At the meeting it was made clear that the builders present strongly opposed the Standard and wanted the regulation suspended for two years or repealed. Senator Arliss Sturgulewski attended the meeting and said she would try to facilitate discussions between builders and the State to resolve the issue.
- 11/12/87 Meeting with representatives of builders, Senators Sturgulewski and Faiks, Commissioners Hoffman and Smith, Ray Price of the Governors Office, Steve Baden, Don Markle of the Alaska Craftsman Home Program and Peter Poray of Energy Rated Homes. At the meeting, builders expressed concern with the

Standard on five issues: (1) added cost of construction; (2) indoor air quality; (3) lack of training and education program; (4) AHFC's lack of an enforcement process; and (5) the inability of builders to pass on added costs in today's market (see Attachment 16). Commissioner Hoffman stated that DCRA would work with ASHBA to determine what issues could be resolved.

11/19/87

Ray Price; Randall Burns, Director of the Division of Occupational Licensing; Wayne Munday of AHFC; a representative of the Attorney General's Office; and Steve Baden and Robert Brean of DCRA, met and discussed options for addressing the builders' concerns. It was agreed that the builders' legitimate concerns centered upon a lack of an education program and an enforcement process by AHFC. It was agreed to present the builders: (1) a six-month moratorium from the mandatory measures contained in Chapter 2 of the Standard for areas of Southcentral Alaska heated with natural gas; (2) a builder education program through the Alaska Craftsman Home Training Program; and (3) DCRA implementation through two options: (a) builder self-certification with proof of training through Alaska Craftsman training, or (b) the home receiving a four-star rating or better through the Energy Rated Home Program. (Attachment 17 contains elements of proposal agreed to.)

11/30/87

Michael Harper and Steve Baden of DCRA met with Greg Jones, Larry Taylor and Rob Gambell of ASHBA. DCRA presented proposal developed at 11/19 meeting (Attachment 18). ASHBA expressed the following concerns with the proposal: (1) wanted at least a one-year moratorium; (2) moratorium be statewide; (3) AHFC implementation issue needed to be resolved. (Summary of meeting in Attachment 19). The builders stated that they needed to consult with their council and would meet with Commissioner Hoffman on December 10 with their response. It was stated that, if agreement was reached, the moratorium could go into effect by January 1, 1988.

12/10/87

Commissioner Hoffman met with representatives of ASHBA, BIAA, Kenai Homebuilders Association and Fairbanks Homebuilders Association. At the meeting, the Commissioner stated that DCRA intended to comply with the law, but realized the builders had legitimate concerns regarding AHFC's lack of an implementation process and DCRA's lack of an education program. He agreed to the builders request that the moratorium be statewide, last over

the 1988 building season, and cover the entire state. He also committed to an education program during the moratorium. When the builders raised concerns over indoor air quality, he agreed to meetings on this issue between DCRA staff and ASHBA representatives. The builders said they would bring the issue to ASHBA Board for consideration.

12/30/87

ASHBA passed a resolution stating that they would support a moratorium if the following conditions were met: (1) the Standard in the interim be amended to meet ASHBA's concerns with indoor air quality and building structural concerns regarding the use of a continuous vapor barrier; (2) implementation issues be resolved; (3) issue of liability to builder be addressed; (4) a cost/benefit analysis take place in accordance with the Society of Real Estate Appraisers; and (5) the results of the study be published and made available to the Legislature and public for comment prior to implementation of the Standard (Attachment 20).

1/5/88

Robert Brean and Steve Baden of DCRA met with Larry Taylor, Rob Gambell and Greg Jones of ASHBA. DCRA expressed willingness to discuss indoor air quality concerns. Builders wanted to expand discussion to include negotiating changes in Standard, and to delay implementation of the Standard if their demands were not met. Builders were asked to state their specific concerns. They reiterated their 5/13/86 concerns. When it was pointed out this issue had already been negotiated and settled, the discussion broke down. When it was mentioned that, if the builders were able to demonstrate that their concerns were valid through the life-cycle cost analysis provided for by the regulation, a waiver could be granted, the builders stated that they would rather pursue the legislative process.

1/8/88

DCRA, AHFC and ASHBA made presentations to the Energy Policy Task Force on the Standard and on the issues involved. The Task Force voted unanimously that the Standard was necessary and should continue to be in effect (Attachment 21)

1/14/88

After receiving concerns from building suppliers on their perception of the lack of a public information program prior to the Standard's effective date, and the need of more time to sell off inventory items which might become difficult to sell after the implementation of the Standard, a 120-day moratorium was adopted by DCRA through emergency regulation (Attachment 22).

- 1/15/88 Greg Jones, Larry Taylor and Rob Gambell were informed, by Michael Harper, of the moratorium and that its purpose was to give time to AHFC to adopt an implementation process, DCRA to undertake an education program, and the builders one more building season to prepare for the Standard.
- 1/20/88 Public notice was given of DCRA's intent to extend the moratorium to October 1, 1988, and requesting public input (Attachment 23). The notice was advertised in every newspaper in the State.
- 1/20/88 Letter from Commissioner Hoffman announcing the moratorium and education program was mailed to a list of over 11,000 (Attachment 24). Included on the mailing list were all holders of a State license in the following categories: architects, engineers; land surveyors; realtors; general contractors; and specialty (insulation) contractors. Also added to the list was appraisers & bankers (list provided by AHFC and DCRA); and ASHBA mailing list.
- 2/1/88 After learning of concerns of Ketchikan appraisers, realtors and bankers regarding the Standard and their misconceptions of what was required, Steve Baden travelled to Ketchikan to clarify the issue to representatives of the local housing industry, the Borough Assembly and media (Attachment 25).
- 2/29/88 Notice of Standard workshops were mailed to over 12,000 mailing list of architects, engineers, surveyors, building suppliers, heating contractors, contractors, appraisers, bankers and members of homebuilder associations across the State (Attachment 26).
- 3/8/88 At teleconference on SB 308, ASHBA reiterated its opposition to the Standard and requested a repeal or a five-year moratorium on the Standard.
- 3/10/88 DCRA requested that the moratorium to October 1, 1988 be adopted. No comments were received from the housing industry through the review process. A majority of those responding opposed the moratorium (Attachment 27).
- 3/14/88 Commissioner Hoffman notified Senator Sturgulewski of opposition to continuing the moratorium past 10/1/88 (Attachment 28).
- 3/14/88 -  
5/19/99 Workshops on the Standard conducted in 22 communities across State. Workshops advertised through newspaper ads, PSA's and media interviews.

1116M  
Chenoweth  
3/22/90

Original sponsor(s): REP. BROWN, M. Davis, MacLean, Hudson, Koponen, Goll

1 IN THE HOUSE

2 SENATE CS FOR CS FOR SPONSOR SUBSTITUTE FOR HOUSE BILL NO. 358 ( )  
3 IN THE LEGISLATURE OF THE STATE OF ALASKA  
4 SIXTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to minimum thermal and lighting  
7 energy standards; and providing for an effective  
8 date."

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

10 \* Section 1. AS 18.56.090 is amended to read:

11 Sec. 18.56.090. GENERAL POWERS. In addition to other powers  
12 granted in this chapter, the corporation may, for the purpose of  
13 providing housing for persons of lower and moderate income or persons  
14 located in remote, underdeveloped, or blighted areas of the state and  
15 for its other corporate purposes,

16 (1) [REPEALED

17 (2)] make or participate in the making of mortgage loans to  
18 sponsors, developers, builders, and purchasers of residential housing,  
19 if the corporation determines that

20 (A) mortgage loans are not otherwise available, wholly  
21 or in part, from private lenders upon reasonably equivalent terms  
22 and conditions; and

23 (B) the residential housing for which the mortgage  
24 loans are made complies with applicable provisions of AS 18.56.-  
25 096(c) and the applicable thermal and lighting energy standards  
26 of AS 46.11.010;

27 (2) [(3)] purchase or participate in the purchase of mort-  
28 gage loans made to sponsors, developers, builders, owners, and pur-  
29 chasers of residential housing, if the corporation

1 (A) has given approval before the initial making of  
2 the loan and has determined that mortgage loans were, at the time  
3 the approval was given, not otherwise available, wholly or in  
4 part, from private lenders upon reasonably equivalent terms and  
5 conditions, or

6 (B) has determined that

7 (i) the purchase or participation will result in  
8 additional residential housing, taking into account without  
9 limitation such factors as reinvestment of the proceeds of  
10 the sale in additional mortgage loans, increased avail-  
11 ability of mortgage loans insured by the federal government,  
12 its agencies or departments, the reduction, if any, of  
13 interest payments to be made with respect to mortgage loans,  
14 or such other factors as will tend to increase or improve  
15 the supply of residential housing within the state; and

16 (ii) the residential housing covered by the mort-  
17 gage loan complies with applicable provisions of AS 18.56.-  
18 096(c) and the applicable thermal and lighting energy stan-  
19 dards of AS 46.11.040;

20 (3) [(4)] make partial rental payments and mortgage inter-  
21 est payments under a contract with any housing owner if the payments  
22 will be applied to decrease rental or mortgage interest charges of  
23 persons of lower and moderate income or owners or purchasers of res-  
24 idential housing in remote, underdeveloped, or blighted areas of the  
25 state;

26 (4) [(5)] make loans from the housing development fund;

27 (5) [(6)] collect and pay reasonable fees and charges in  
28 connection with making, purchasing, and servicing its mortgages,  
29 loans, notes, bonds, certificates, commitments, and other evidences of

1 indebtedness;

2       (6) [(7)] acquire real property, or any interest in real  
3 property, in its own name, by purchase, transfer, or foreclosure, when  
4 the acquisition is necessary or appropriate to protect any loan in  
5 which the corporation has an interest; sell, transfer, and convey the  
6 property to a buyer; and, if the sale, transfer, or conveyance cannot  
7 be effected with reasonable promptness or at a reasonable price, rent  
8 or lease the property to a tenant pending the sale, transfer, or  
9 conveyance;

10       (7) [(8)] sell, at public or private sale, to any purchas-  
11 er, including the Federal National Mortgage Association, all or any  
12 part of a mortgage or other instrument or document securing a con-  
13 struction, land development, mortgage, or temporary loan of any type  
14 permitted by this chapter;

15       (8) [(9)] purchase, in order to meet the requirements of  
16 the sale of its mortgages to the Federal National Mortgage Associa-  
17 tion, stock of the Federal National Mortgage Association;

18       (9) [(10)] procure insurance against any loss in connection  
19 with its operation;

20       (10) [(11)] consent to the modification of the rate of  
21 interest, time of payment of any installment of principal or interest,  
22 or any other terms, of the mortgage loan, mortgage loan commitment,  
23 construction loan, temporary loan, contract, or agreement of any kind  
24 to which the corporation is a party;

25       (11) [(12)] borrow money as provided in this chapter to  
26 carry out and effectuate its corporate purposes; and issue its obliga-  
27 tions as evidence of borrowing;

28       (12) [(13)] include in any borrowing the amounts necessary to  
29 pay financing charges, interest on the obligations for a period not

1 exceeding one year after the date on which the corporation estimates  
 2 funds will otherwise be available to pay the interest, consultant,  
 3 advisory and legal fees, and other expenses that are necessary or  
 4 incident to this borrowing;

5 (13) [(14)] under AS 18.56.088, adopt and publish regula-  
 6 tions respecting its lending programs and other regulations that are  
 7 necessary to effectuate its purposes;

8 (14) [(15)] provide technical and advisory services to  
 9 sponsors, builders, and developers of residential housing and to  
 10 residents of it;

11 (15) [(16)] promote research and development in scientific  
 12 methods of constructing low-cost and energy-efficient residential  
 13 housing of high durability;

14 (16) [(17)] make and execute agreements, contracts, and  
 15 other instruments necessary or convenient in the exercise of the  
 16 powers and functions of the corporation under this chapter, including  
 17 contracts with any person, firm, corporation, governmental agency, or  
 18 other entity;

19 (17) [(18)] receive, administer, and comply with the condi-  
 20 tions and requirements respecting any appropriation or gift, grant, or  
 21 donation of property or money;

22 (18) [(19)] sue and be sued in its own name;

23 (19) [(20)] adopt an official seal;

24 (20) [(21)] adopt bylaws for the regulation of its affairs  
 25 and the conduct of its business and adopt regulations and policies in  
 26 connection with the performance of its functions and duties;

27 (21) [(22)] employ fiscal consultants, engineers, attorneys,  
 28 real estate counselors, appraisers, and other consultants and employ-  
 29 ees that may be required in the judgment of the corporation, and fix

1 and pay their compensation from funds available to the corporation;

2       (22) [(23)] do all acts and things necessary, convenient, or  
3 desirable to carry out the powers expressly granted or necessarily  
4 implied in this chapter;

5       (23) [(24)] invest or reinvest, subject to its contracts with  
6 noteholders and bondholders, any money or funds held by the corpora-  
7 tion in any obligations or other securities or investments in which  
8 banks or trust companies in the state may legally invest funds held in  
9 reserves or sinking funds or any funds not required for immediate  
10 disbursement, and in certificates of deposit or time deposits secured  
11 by obligations of, or guaranteed by, the state or the United States;

12       (24) [(25)] REPEALED

13       (26) REPEALED

14       (27) REPEALED

15       (28)] purchase a mortgage loan made to refinance an existing  
16 mortgage loan, without regard to whether the corporation holds the  
17 existing mortgage loan, as long as the interest rate and fees charged  
18 to the borrower are sufficient to fully reimburse the corporation for  
19 all costs incurred by the corporation in purchasing the mortgage loan  
20 and as long as the borrower will be in compliance with AS 18.56.-  
21 096(a)(6) after purchase of the mortgage loan by the corporation.

22 \* Sec. 2. AS 18.56.096 is amended by adding a new subsection to read:

23       (c) The corporation may not make, participate in the making of,  
24 purchase, or participate in the purchase of a loan for a residential  
25 building if construction of the building begins after December 31,  
26 1991, unless the building complies with the thermal and lighting  
27 energy standards required by AS 46.11.040. The corporation

28       (1) may adopt regulations to implement this subsection; and

29       (2) shall, by regulation, establish

1 (A) procedures by which the person responsible for the  
2 construction of the building may demonstrate that the building  
3 complies with the thermal and lighting energy standards, includ-  
4 ing

5 (i) self-certification, if the contractor respon-  
6 sible for the building construction provides satisfactory  
7 evidence that the contractor has completed a training pro-  
8 gram of the Alaska Craftsman Home Program and the training  
9 program is satisfactory to the commissioner of community and  
10 regional affairs;

11 (ii) submission of the certificate of a registered  
12 architect, registered engineer, or a building inspector, and  
13 the architect, engineer, or building inspector has completed  
14 a training program of the Alaska Craftsman Home Program and  
15 the training program is satisfactory to the commissioner of  
16 community and regional affairs;

17 (iii) submission of the certificate of occupancy  
18 issued by the municipality in which the building is located,  
19 if the certificate is issued by a municipality in which the  
20 municipal building code meets or exceeds the thermal and  
21 lighting energy standards, as determined by the commissioner  
22 of community and regional affairs;

23 (iv) another method approved by the commissioner  
24 of community and regional affairs in regulations adopted by  
25 the commissioner after consultation with the executive  
26 director of the corporation; and

27 (B) criteria by which the energy conservation stan-  
28 dards may be met; for purposes of this subparagraph, the residen-  
29 tial building complies with the energy standards if the residence

1 has received a rating under the rating system developed by Energy  
2 Rated Homes of Alaska if, in the judgment of the commissioner of  
3 community and regional affairs, the rating meets or exceeds the  
4 thermal energy standards required by AS 46.11.040.

5 \* Sec. 3. AS 18.56.105 is amended to read:

6 Sec. 18.56.105. ALLOCATION OF LENDING ACTIVITIES. The corpora-  
7 tion shall designate regions within the state which in the aggregate,  
8 encompass the entire state. In participating in the making or pur-  
9 chasing of loans under AS 18.56.090(1) and (2) [AS 18.56.090(2) AND  
10 (3)] or under AS 18.56.100, the corporation shall make its money  
11 available through the private financial institutions in the state  
12 within each region designated by the corporation under this section.  
13 The corporation shall allocate its money among the regions on the  
14 basis of recent and future anticipated lending activity as well as the  
15 potential need for the loans in each region and may reallocate its  
16 money among the regions as it considers appropriate to reflect changes  
17 in lending activity or need in the regions.

18 \* Sec. 4. AS 18.56.110(g) is amended to read:

19 (g) Notwithstanding AS 18.56.090(11) [AS 18.56.090(12)] and (a)  
20 of this section, the corporation may not issue bonds in any 12-month  
21 period beginning after June 30, 1983, in an amount that exceeds the  
22 amount of bonds authorized to be issued during the preceding period,  
23 unless a different amount is authorized by the legislature. This  
24 subsection does not apply to the issuance by the corporation of re-  
25 funding bonds or to the issuance by the corporation of bonds the  
26 proceeds of which are intended to be used to refinance mortgage loans  
27 held by the corporation.

28 \* Sec. 5. Section 1, ch. 83, SLA 1980, is amended to read:

29 Section 1. DECLARATION OF POLICY. It is the policy of the state

1 to encourage and facilitate the implementation of energy conservation  
2 measures relating to in-state energy use. This policy shall be imple-  
3 mented by

4 (1) the state setting an example of wise and efficient  
5 energy use, by designing and managing public buildings and their  
6 energy systems to meet appropriate standards for energy efficiency;

7 (2) providing incentives for the design and modification of  
8 residential [COMMERCIAL, AND INDUSTRIAL] buildings to accomplish  
9 maximum energy efficiency; and

10 (3) establishing mandatory energy efficiency standards for  
11 buildings purchased or constructed with state financial assistance.

12 \* Sec. 6. AS 46.11.040 is amended to read:

13 Sec. 46.11.040. APPLICABILITY OF THERMAL AND LIGHTING ENERGY  
14 STANDARDS TO RESIDENTIAL [PRIVATE] BUILDINGS. State financial assis-  
15 tance may not be approved or granted for the construction of or pur-  
16 chase of a loan for a [NEW] residential [OR COMMERCIAL] building if  
17 construction of the building begins after December 31, 1991 [1980],  
18 unless

19 (1) the building is in compliance with thermal and lighting  
20 energy standards;

21 (2) the building is in compliance with the building code of  
22 a municipality and the standards for thermal and lighting energy of  
23 the municipal building code meet [MEETS] or exceed [EXCEEDS] the  
24 thermal and lighting energy standards;

25 (3) the building

26 (A) is constructed under an exception to the municipal  
27 building code granted because the exception will result in in-  
28 creased energy efficiency; or

29 (B) is located or is to be located in an area where

1 thermal and lighting energy standards are not justified because  
2 of the high cost of implementation of the standards, with spe-  
3 cific consideration given to the availability of inexpensive home  
4 heating energy sources, as determined under regulations adopted  
5 by the commissioner of community and regional affairs after  
6 consultation with the Residential Energy Standards Technical  
7 Advisory Committee established under AS 46.11.045; or

8 (4) the applicant agrees, in writing, that the building  
9 will be brought into compliance with thermal and lighting energy  
10 standards within one year of conveyance.

11 \* Sec. 7. AS 46.11 is amended by adding new sections to read:

12 Sec. 46.11.045. RESIDENTIAL ENERGY STANDARDS TECHNICAL ADVISORY  
13 COMMITTEE. (a) To assist with the development and review of the  
14 thermal standards developed under AS 46.11.040, the commissioner shall  
15 establish a Residential Energy Standards Technical Advisory Committee  
16 and appoint its members. The advisory committee is composed of 16  
17 members and must include

18 (1) a homebuilder, residential building contractor, or  
19 other person who is actively engaged in the construction or sale of  
20 residential homes from each of the following regions of the state:

- 21 (A) Anchorage;  
22 (B) Matanuska-Susitna Borough;  
23 (C) Kenai Peninsula Borough;  
24 (D) Bristol Bay-Kodiak-Aleutian Islands;  
25 (E) Fairbanks and Interior Alaska;  
26 (F) Southeast Alaska;  
27 (G) Southwest Alaska;  
28 (H) Northwest Alaska;  
29 (I) the Arctic Slope;

- 1 (2) a representative of the Department of Housing and Urban  
2 Development;
- 3 (3) a representative of the Alaska Housing Finance Corpora-  
4 tion;
- 5 (4) a representative of the Alaska Craftsman Home Program;
- 6 (5) a representative of the Energy Rated Homes of Alaska  
7 Program;
- 8 (6) a residential real estate appraiser;
- 9 (7) a building official employed by a municipality; and
- 10 (8) a registered architect or engineer with experience in  
11 energy efficient building design and construction techniques.

12 (b) A member appointed to the advisory committee established in  
13 (a) of this section serves a three-year term.

14 (c) The advisory committee appointed under (a) of this section  
15 shall assist the commissioner in the preparation of the thermal and  
16 lighting standards and, after initial adoption of the standards,  
17 review the standard every two years and make recommendations to the  
18 commissioner regarding appropriate changes.

19 (d) Before making appointments to the advisory committee, the  
20 commissioner shall solicit nominations from the Alaska State Home-  
21 builders Association for those regions in which the association has an  
22 active local association or chapter.

23 Sec. 46.11.048. STANDARDS TO BE REASONABLE. In developing the  
24 thermal and lighting standards under AS 46.11.040, the commissioner,  
25 in consultation with the technical advisory committee established  
26 under AS 46.11.045, shall ensure that incremental costs attributable  
27 to meeting the standards bear a reasonable relationship to the energy  
28 cost savings resulting from the energy efficiency investments.

29 \* Sec. 8. AS 46.11.900 is amended to read:

1           Sec. 46.11.900. DEFINITIONS. In this chapter

2           (1) "alternative energy system"

3           (A) means a source of thermal, mechanical, or elec-  
4           trical energy that [WHICH] is not dependent on oil or gas or a  
5           nuclear fuel for the supply of energy for space heating and  
6           cooling, refrigeration and cold storage, electrical power, me-  
7           chanical power, or the heating of water;

8           (B) includes

9           (i) an alternative energy property as defined by  
10           [SEC. 48(1)(3)(A) OF THE INTERNAL REVENUE CODE ( ) 26 U.S.C.  
11           48(1)(3)(A) ( )]; and

12           (ii) a method of architectural design and construc-  
13           tion that [WHICH] provides for the collection, storage, and  
14           use of direct radiation from the sun; [AND

15           (iii) REPEALED]

16           (2) "department" means the Department of Commerce and  
17           Economic Development;

18           (3) "energy audit" means a determination and written sum-  
19           mary prepared under 42 U.S.C. 8216(b) [42 U.S.C. 8216(b)(1)(A),  
20           (SEC. 215, P.L. 95-619, NATIONAL ENERGY CONSERVATION POLICY ACT)] of

21           (A) the energy consumption characteristics of a build-  
22           ing, including the size, type, and rate of energy consumption of  
23           major energy consuming systems of the building and the climate  
24           characterizing the region where the building is located; and

25           (B) the energy conservation and cost savings likely to  
26           result from appropriate energy-conserving maintenance and operat-  
27           ing procedures and modifications, including the purchase and  
28           installation of energy-related fixtures; for purposes of this  
29           subparagraph when a fossil fuel is the energy source, the energy

1 cost savings shall be determined with reference to the projected  
2 price of that fossil fuel over a 10-year period;

3 (4) "financial institution" means a bank, trust company,  
4 savings bank, savings and loan association, or credit union;

5 (5) "life-cycle cost" means the total cost of owning,  
6 operating, and maintaining a building over its useful life, including  
7 its energy and fuel costs, determined on a basis of a systematic  
8 evaluation and comparison of alternative building systems, except that  
9 in the case of leased buildings the life-cycle cost shall be calculat-  
10 ed over the effective remaining term of the lease;

11 (6) ["NEW BUILDING" MEANS A BUILDING THE CONSTRUCTION OF  
12 WHICH BEGINS AFTER DECEMBER 31, 1980;

13 (7) "public building" means a building owned or controlled  
14 and held by the state for government or public use;

15 (7) [(8)] "state financial assistance" means a loan, grant,  
16 guarantee, insurance, payment, rebate, subsidy, or other form of state  
17 assistance other than aid under AS 05.35.010 - 05.35.070, AS 14.11,  
18 and AS 29.60, including the purchase by a state agency of a loan to  
19 finance the construction or purchase of a [NEW] residential [, COMMER-  
20 CIAL, OR INDUSTRIAL] building;

21 (8) [(9)] "thermal and lighting energy standards" means the  
22 thermal and lighting energy standards

23 (A) established by the American Society of Heating,  
24 Refrigeration, and Air Conditioning Engineers as revised

25 (i) [(A)] by the commissioner of transportation  
26 and public facilities under AS 44.42.020(a) for public  
27 facilities; or

28 (ii) [(B)] by the commissioner of community and  
29 regional affairs for buildings and structures that are not

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public facilities; or  
 (B) developed in regulations adopted  
 (i) by the commissioner of transportation and  
public facilities under AS 44.42.020(a) for public facili-  
ties; or  
 (ii) by the commissioner of community and regional  
affairs for buildings and structures that are not public  
facilities.

\* Sec. 9. APPLICATION OF THERMAL AND LIGHTING ENERGY STANDARDS TO PROGRAMS FOR RESIDENTIAL HOUSING THAT IS CONSTRUCTED OR PURCHASED WITH STATE FINANCIAL ASSISTANCE. Persons responsible for administration and management of programs in which state assistance is provided for the purchase or construction of residential buildings are encouraged to adopt and enforce the compliance standards and methods of AS 18.56.096(c)(2), added by sec. 2 of this Act, within the housing programs for which they are responsible.

\* Sec. 10. ELIGIBILITY OF PERSONS FOR STATE INCENTIVE PAYMENT. (a) A person who initiates and completes construction of a residential building after the effective date of this Act and before January 1, 1992, qualifies for payment of \$1,500 from the Department of Community and Regional Affairs if the person demonstrates, to the satisfaction of the commissioner, that

(1) the residential building meets or exceeds the thermal and lighting energy standards; or

(2) the residential building meets or exceeds the building code of a municipality and the standards for thermal and lighting energy of the municipal building code meet or exceed the thermal and lighting energy standards.

(b) The Department of Community and Regional Affairs shall

(1) adopt regulations to implement this section;

1           (2) from legislative appropriations made for the purpose, make  
2 the payments required to persons who qualify under (a) of this section.

3           (c) In this section,

4           (1) "commissioner" means the commissioner of community and  
5 regional affairs;

6           (2) "thermal and lighting energy standards" has the meaning  
7 given in AS 46.11.900(8), as amended by sec. 8 of this Act.

8           \* Sec. 11. Section 10 of this Act is repealed January 1, 1992.

9           \* Sec. 12. This Act takes effect immediately under AS 01.10.070(c).

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## Living in the mistakes of the past

### Houses are slums after only 10 years

By HAL BENNTON  
Daily News reporter

**S**T. MICHAEL — When the west winds bring a blast of chill Siberian air to the island village of St. Michael, Leo Kobak huddles indoors and tries to keep his family warm. He tucks a blanket across the back door, puts an electric heater in his bedroom and turns his fuel-oil stove up full blast.

In the worst of the winter cold snaps, when the outside temperature may dip below minus 50, Kobak still can't muster enough heat to keep his house comfortable. Frost forms along the living room wall, ice coats electrical sockets and water may freeze when spilled on the kitchen floor.

In warmer weather, Kobak has other problems to contend with.

Snow that drifts into the caves melts and trickles down through walls and the kitchen ceiling. As summer approaches, the permafrost beneath his house begins to thaw. The wood foundation heaves and his floor begins to move in strange ways. Kobak used to level the house by jacking it up and adjusting the wooden support blocks. But the jacks never did the job. They raised the middle of the house, but left the sides sagging.

Kobak's three-bedroom box home is one of 500 housing units financed 10 years ago by the federal government in 13 Bush villages. Designed by architects of the federal Bureau of Indian Affairs, each house was identical to the next — rectangular red, yellow and green-painted boxes of siding, plywood flooring and metal roofs.

A decade after their completion, many of the houses are falling apart. Floors are rotting, joints separating and some houses are in danger of sliding off their foundations. Kobak can shove a knife blade through the cracks along the base of his living room wall.

"When they were building

See Page E-2, ALASKA 808



Andrew and Esther Otten stand in front of their old house, left, and their new home.

## Designers slowly learn how to build housing in the Bush

By HAL BENNTON  
Daily News reporter

**S**T. MICHAEL — From the outside, the house looks quite ordinary — boxcar shape, stilt-like foundation and metal roof. Only a fresh coat of yellow paint distinguishes it from much of the other Native housing built in this western Alaska village.

But step inside on a sub-zero, mid-winter day. With the aid of a small fuel-oil furnace, the house stays warm. No ice on bedroom walls. No frost inside the windows. No huge heating bills. To St. Michael villagers, this house — just completed in December — seems like a major step up.

"Everybody in town, they look at this and say, 'where were these houses 12 years ago,'" said Albert Washington, St. Michael's mayor.

The St. Michael home is an example of a new wave of federal housing in the Bush — better designed and better insulated than predecessors built in the 1950s. Although not without problems, the



new dwellings are helping improve the tattered reputation of federal Native housing projects in rural Alaska. These projects offer villagers the chance eventually to take title to the houses through monthly payments. The size of the payments is pegged to their income.

A decade ago, many of the Native houses built in Alaska proved better-suited for milder Lower 48 climates. Nearly a thousand dwellings — low-budget affairs put together with the aid of villagers who often lacked construction skills — went up throughout western and interior Alaska. Housing materials were of poor quality. Foundations ill-

designed. Hundreds of the homes now seemed destined for early obsolescence.

Today, the permafrost and intense cold of the far north still pose formidable construction challenges. But in a long and sometimes painful learning process, designers are figuring out ways to build better Bush housing.

The St. Michael house, a prototype developed by Phil Kaluza, a Nome builder, features a double outer wall stuffed fat with insulation. Triple-pane windows — made by a Fairbanks manufacturer — help keep warm air trapped inside. When the air gets stale, a heat exchanger sends the air outside and draws in fresh air. The furnace, controlled by a computer sensor, is nearly twice as energy-efficient as old-style systems installed in many of the neighboring houses.

Design Lab Inc., an Anchorage-based architectural firm, also has worked to improve the quality of Bush projects. During the past decade, it has designed about 1,500 houses for regional

housing authorities funded by the federal Department of Housing and Urban Development. In the interior, it has created Indian homes of log. In the Yukon-Kuskokwim Delta, houses feature 10-inch-thick walls and heavily insulated floors and ceilings. In Southwest, the firm has experimented with a double-walled structure.

Foundation systems also have changed. A decade ago, house sites often were flat spots bulldozed out of the tundra. With the protective insulation of the vegetative layer stripped away, these sites tended to bog in warm weather. Houses built on these pads as the wooden support systems sank into the softened ground.

Since then, two different tactics have been taken to deal with the permafrost. Some designs call for metal pilings to be driven through the permafrost layer and into solid ground. Others designs leave the tundra intact, then insulate with special synthetic pads and gravel whenever

possible. The wood foundations are built on top of this cover. Each year, as the ground settles, they are leveled with jacks.

Federal officials who fund the housing projects view the new designs with cautious optimism. Many of the cold problems that plagued the 70-year-old houses have been vanquished. But in the process of curing old problems, new ones have arisen.

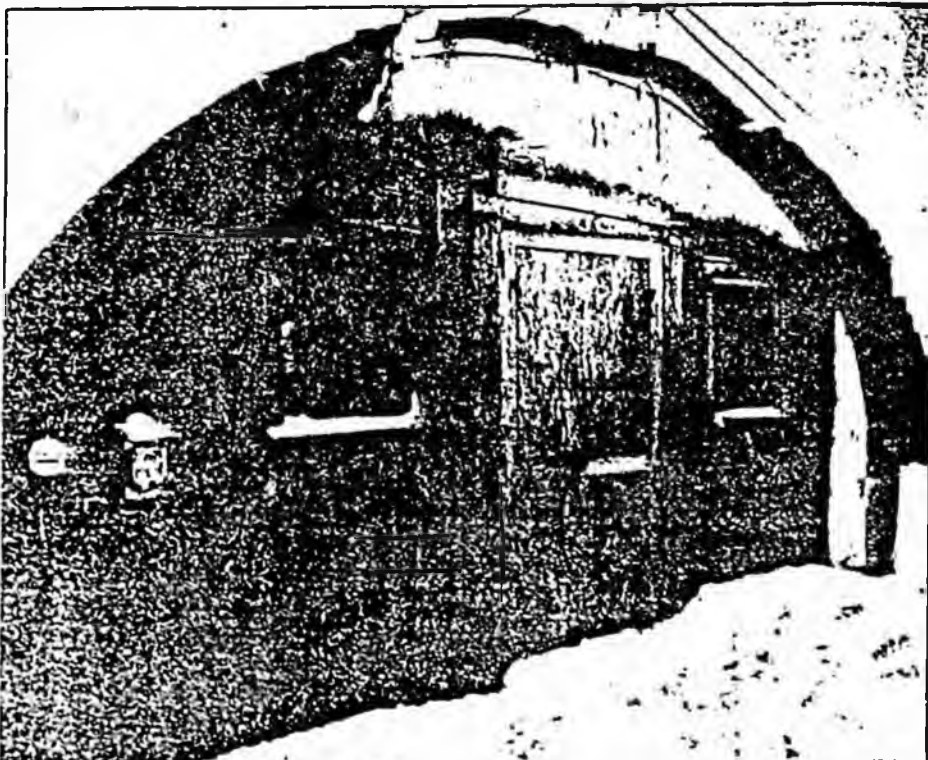
About 800 of the more than 3,000 late-model project houses have major design problems the federal government is spending \$4.4 million to repair, said Miller Lutton, director of HUD's Alaska housing program. These houses are scattered about more than 60 Alaska villages.

"If you counted the number of innovative houses that have been tried in Alaska, you could count over 100," Lutton said. "Many appear to be successful. But you got to put them out there for a while."

Almost all of the new hous-

See Page E-3, LEISURE

## LESSONS: Designers slowly figure out how to build houses in the Bush



An abandoned building in the Louctown area of Bethel.

Continued from Page E-1

are perched up off the ground on wooden stilts. To keep cold air from blowing up underneath the house, some weatherization teams and home buyers have put particle board skirting around the stilts. The skirting not only keeps out the cold air, it holds in the warm in some soils, that may cause the permafrost to melt. Once that happens, some foundations have begun to sag and self-destruct, Amaya said.

Even when design problems are overcome, houses still may not meet early expectations. Most of the houses now are built by contractors, and housing authorities are finding they need tough quality control to make sure the jobs get done correctly.

In a recently completed housing project in Srammon Bay, for example, Felix Grant, a villager who worked on the project, says construction crews rushed through the job. They didn't nail down all the walls and left some wood supports out from under some floors.

When Grant moved into his new house, he found the vinyl floor unraveling and soaked with fuel oil. There are lots of problems," Grant said. "The whole plywood floor should come out where it's soaked with fuel oil."

John Gwinn, director of the Association of Village Council Presidents, the Bethel-based housing authority that developed the Srammon Bay project, says he's aware of some

**6** If you counted the number of innovative houses that have been tried in Alaska, you could count over 100.

— Miller Lutton

problems with new houses. The contractor has been asked to go back and fix them, he says.

Gwinn also has been working to get village home buyers to take care of more of their routine maintenance in theory. When a toilet plugs up, a window breaks or the house needs a fresh coat of paint, the home buyer is to be responsible for repairs.

But home buyers often lack the inclination or the skills to do such work. And their villages often have no hardware stores to supply parts. Many look at the housing authorities as landlords, whose staff should fix whatever goes wrong.

Since the late '70s, Gwinn says his Bethel housing authority has built more than 600 houses in Kuskokwim Yukon Delta villages. But the program still has fallen far short of meeting all the needs in his region for low-income housing. There are 34 villages in the area, and there are a lot left that haven't had any housing.

More than 10,000 houses are needed in the Bush, Amaya said.

# ALASKA 500: 10-year-old federally financed houses now falling apart

Continued from Page E-1

these houses, they were thinking of the Lower 48," says Kobuk's wife, Katherine. "They are not built for Alaska."

Andrew and Esther Otten, the Kobuk's neighbors, have caulked up most of the cracks in their inside walls. But on a blustery day, the wind still freezes the moisture to the living room paneled.

The Ottens hung up a tapestry in the house proclaiming "Home Sweet Home." But Andrew Otten said he sometimes has second thoughts about the federally financed housing.

My old house used to be warmer. It had two rooms and it didn't use that much oil.

The Alaska "500 homes" now hold an infamous niche in the history of a gargantuan federal effort to bring modern housing to Alaska's villages. The federal Department of Housing and Urban Development — working largely through regional housing authorities — has spent more than \$500 million to build more than 4,500 houses in rural Alaska.

The program has sought to improve the living conditions of Alaska Natives by moving them out of overcrowded shacks and cabins and into more spacious, better-built housing. Wherever possible, the houses were coated up to new sewer and water systems developed by the Public Health Service. Villagers then became home buyers, obligated to make modest monthly payments that eventually allow them to take title to their houses.

Today, the program is nearly 20 years old and has replaced much of the ramshackle old housing in the Bush. By many yardsticks, it can be measured as a success.

In recent years, architects have adapted innovative installation systems, foundation designs and construction techniques to create a new generation of public housing. Some of these homes suffer from design defects, but most are better able to withstand the rigors of Alaska's permafrost and sub-zero cold than the early housing of the 1970s.

As overcrowding has decreased, the incidence of tu-

berculosis, once a major killer, has declined. And life expectancies have increased. Better housing has helped slow the rural migration to cities. In many villages, populations have stabilized or begun to increase, said Miller Lutton, director of the federal housing program in Anchorage.

But the program has a mixed legacy. In learning how to build good housing, the government has financed a lot of bad. And many people are still living in the mistakes of the past, saddled with sagging foundations and fuel bills they can ill afford to pay.

Kobuk says he uses more than \$250 a month worth of fuel — three-and-a-half 55-gallon drums of oil — during the worst of the winter cold. Federal assistance pays only part of the bill.

Rafael Afean, an aging carpenter living in another federally financed house in St. Marys, a Yukon River village, says his fuel bill leaves him with little money for groceries. "Sometimes, it's a question of paying for heat or paying for food."

All told, the problem houses include about a 1,000 houses built between the late '60s and the late '70s representing about a fifth of the total federal project units. These houses are riddled with design and construction flaws. Some have been abandoned or razed to make way for replacements; the rest still are inhabited.

Some of the worst housing is in St. Michael and several other western Alaska villages. Here, more than 40 percent of the housing is of the Alaska 500 vintage. Many of the houses "are in danger of collapse or self-destruction," wrote Dan Harrison, executive director of the Bearing Straits Housing Authority, in a 1984 report to federal officials.

Harrison listed faulty wiring, foundations sliding off their earthen pads, deficient insulation, mildew and rot among the houses' many problems.

Villagers, disappointed with the quality of the homes, joined with other Alaska 500 homeowners in a class action suit against HUD for failure to deliver on its promise of a



Andrew and Esther Otten in their home in St. Michael

"decent home in a suitable living environment."

In a recent out-of-court settlement, the agency offered to try to repair most of the design and construction defects of the Alaska 500 homes. As an alternative, a villager could simply take title to his home, as it is.

Most villagers chose to take the house and forget about the costly fix-up job. "I decided it would take years to get any of the repairs done," Kobuk said.

The federal housing program in the Bush was launched in the mid-'60s as national efforts to attack poverty in America reached a fever pitch. East Coast journalists trekked to Appalachia, the Midwestern ghettos and the Southern farm belt to profile the plight of the poor. Then, in the summer of 1968, Homer Bigart, a New York Times reporter, reached Alaska, and proclaimed the Kuskokwim-Yukon Delta the poorest place in the nation.

"The worst slums in the United States are not in racially turbulent quarters of New York, Cleveland, Chicago or Los Angeles," Bigart wrote. "By all available indices of poverty, they are sparsely strewn, like garbage

on an ice floe, along the nation's desolate sea frontier with the Soviet Union."

The Eskimos that Bigart encountered had largely abandoned traditional homes of sod, driftwood and whale bone in favor of small log cabins and shacks of plywood, tarpaper and tin. Subsistence foods, but measured in standard poverty indices, helped make up for a lack of cash to buy groceries. But diet alone could do little to combat the diseases that ran rampant in the cramped, overcrowded housing.

In Kuskokwim Delta villages, 12 out of every 100 babies died before age 5. Tuberculosis, introduced decades earlier by whites, was a major killer of Eskimo and Indian adults. The Natives had a life expectancy one-half that of the average American.

Two years after Bigart's report, a Senate subcommittee led by Sen. Ted Kennedy, D-Mass., arrived in Bethel to tour a dilapidated section of riverine property known as Lousetown. The area was such a mess that several senators didn't even want to get off the bus, recalls Gene Pamplona, a Bethel resident who accompanied the senators. Kennedy, followed closely by Sen. Walter Mondale, D-Minn., disembarked, gingerly walked up to a garbage dump and discovered a dead dog, frozen to the ground.

Finishing his tour, Kennedy vowed to build new housing in Bethel. Within months of his return to Washington, the money was in the pipeline.

□

The first federal funds flowed to the Alaska State Housing Authority, which quickly launched a series of village housing programs. In many cases, these houses "began to deteriorate within moments of the last nails being driven," wrote one ASHA official in a memorandum forwarded to Alaska Sen. Ted Stevens. "The common complaints ... consist of ceiling tiles coming apart; frost accumulating six feet high on the walls; cabinets coming off the walls; sagging, buckling ...

Instead of winning Bush support for its housing programs, ASHA was hit with class action lawsuits filed by Alaska Legal Services lawyers. ASHA ended up giving away 200 of the houses to homeowners. Another 350 homeowners, in a settlement funded by the federal government, obtained new houses.

These lawsuits convinced ASHA that it wanted no part of any new Bush housing projects. "It has been said that even if ASHA could walk on water, it would nonetheless drown in the Bush areas," the ASHA official wrote. "The animosity of the purchasers towards ASHA ... as a result of these programs is immense. These people feel that they have been lied to and that representations have been made that were not kept."

Despite ASHA's withdrawal from the Bush, the federal pipeline of housing dollars kept flowing. In 1975, it reached north to St. Michael. Back then, many St. Michael villagers lived in cabins and shacks left over from the boom days of the Gold Rush. During the early 1900s, St. Michael was a town of more than 10,000 people, the major port of entry for goods bound to the gold fields of the upper Yukon.

After the Gold Rush, most of the whites left. By the time the federal housing project began, St. Michael's population had dwindled to less than 400, mostly Eskimos. For lodging, some lived in the old log dwellings left behind by the Army; others had pieced together plywood and tarpaper shacks.

One hundred miles to the south, along the bluffs overlooking the Adirivik River, 20 St. Marys villagers were moving their families into new homes. Today, those homes are in much the same battered shape as those in St. Michael.

Therese Mike, mother to 11 children, lives in a house where the interior walls have separated from the roof. The gap between the two is wide enough to stick a fist through. Her kitchen pipes leak, so most of the time she keeps the water turned off. Her hot water heater broke down years ago, so some of the kids ever takes baths in the tub. The house's foundation needs to be shored up.

□

Mike is a big woman who wears a long dress and floral apron. She prefers to speak in her native Yupik, but will switch to English for a visitor.

She says her husband is in jail, so she is raising her family alone.

In December, she heard news of the new settlement reached by home buyers with the federal government. Since then, she's been mulling over her options. Should she get the house fixed by the government and continue her \$70-a-month payments? Or should she opt for no renovation, but little free and clear to the house?

It would be nice to get the house fixed up, she says. But she isn't sure she can afford that option. At times, she hasn't been able to come up with the monthly payments and has been threatened with eviction.

Perhaps it's best to take title to the house, she says. Repairs can await another day.

To date, all but a handful of the Alaska 500 homeowners have chosen to settle the suit by requesting repairs and taking title to the houses.

That choice troubles Andrew Pukkas, mayor of St. Marys. He doesn't see much hope for the Alaska 500 in his town without a lot of work. "If they keep shifting, they won't be staying another 10 years. We'll have to tear them down and rebuild."

The St. Michael project was an attempt at self-help housing; home buyers themselves would build U.S. houses and would be paid for at least part of their labor. To ensure quality housing, the Bureau of Indian Affairs was appointed to develop designs and supervise construction. Regional housing authorities were created to administer the program.

The program, which encompassed 500 houses in 19 villages, may have looked good on paper, but it unfolded in a chaotic series of events. Most of the houses, pre-cut into piece-together packages by an Oregon manufacturer, were barged north in the summer of 1975. One of the barges sank in the Bering Sea. The rest of the houses arrived safely in the villages.

In the frigid months of construction, there proved to be scant time for quality control. The villagers proved largely unskilled in home building. And in some regions, feuds between the BIA and regional housing authorities prevented inspectors from ever setting foot in the villages.

At many sites, the fragile layer of tundra that helps keep the permafrost cool was stripped away to prepare for the wood foundation pad. That meant the permafrost would melt, turning into a soggy bog when the temperature warmed. Insulation and plywood were soaked by the rain, then slapped into the homes. The wet insulation lacked heat-retention value, and the plywood gradually rotted.

Poor-quality materials and design problems compounded the error of faulty construction. The windows, for example, even if installed properly, let in lots of cold air. The fiber board cabinets were made cheaply. Even when nailed firmly to the walls, they tended to self-destruct. Tops fell off drawers and doors off shelves.

Still, when the homes finally were finished, people were eager to move in, recalled Albert Washington, mayor of St. Michael. "First cold weather we got, everyone was excited. They thought they were going to be warm. Then they found out how cold the homes were. The kitchen stoves couldn't even begin to heat the homes."

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The cabinets in Therese Mike's home in St. Marys are coming apart.

Daily News photos by Bob Hallinen



An above-ground utility system connects newer houses in Bethel.

# Home/Family

E

## Poor insulation causes buildup



Masses of glistening icicles catching the winter sun may remind you of Norse myths, snow queens and fantasy.

But to a homeowner, they're more bothersome than beautiful.

A dense string of icicles at the eaves, hanging like gleaming stalactites to the ground, indicates inefficient heating, heat loss and poor insulation. Other signs of the same problem include spots on the roof that are completely bare of snow, and a pattern of trusses or roof supports visible in the frost.

Alaska, land of skis and sled dogs, seems an unlikely place for heat-inefficient dwellings, but examples are everywhere — and especially easy to spot at this time of year. The lumps of ice that accumulate along the cold edges of the roof are called "ice dams," and they're just one symptom of the problem.

Growing concern for waste of natural resources is causing many Alaska homeowners to take a new look at the ways they use energy. And one of those looks should be an appraising one cast at the roof. A heavy snowfall obscures the problem for a while, but within a few days the telltale indicators show up to tell homeowners (and their neighbors) that money and heat are being squandered through heat leaks.

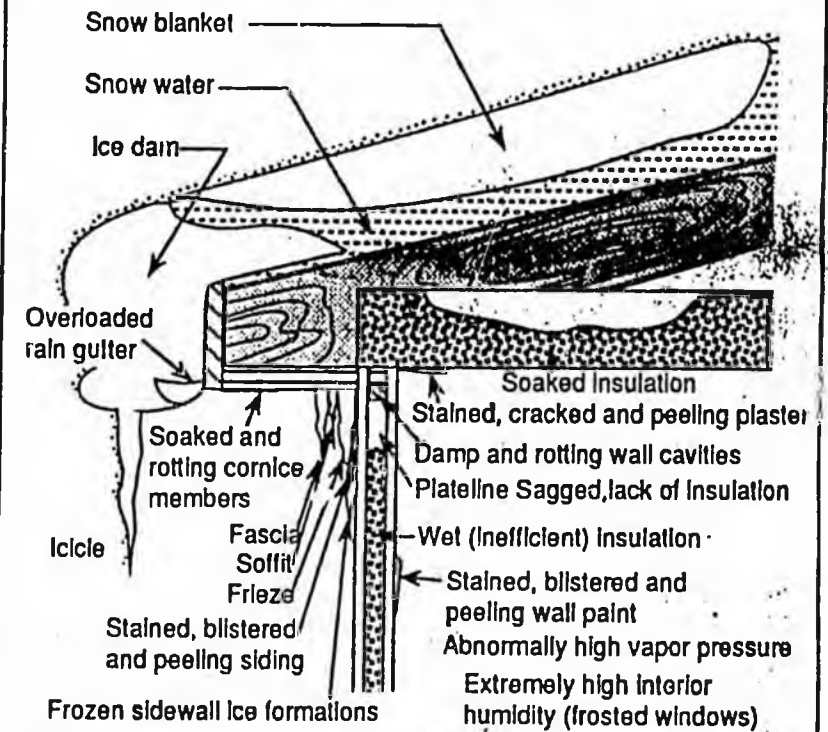
Poor insulation causes ice dams to form. When heat is allowed to seep upward into the roof sheeting and covering, it causes the snow on the roof to melt. As water runs downward to the edge of the roof, it refreezes. Drainage continues, and a pool of water accumulates on the upslope side of the dam. The water pool then often leaks back through the roof and is absorbed into the insulation, sheetrock and, finally, the walls. If the problem is not corrected, the interior can suffer thousands of dollars worth of damage.

Stained ceilings, browned plaster, peeling wallpaper and paint or mold in the corners are typical energy-leak indicators in local homes. As temperatures rise outside after the annual January-February cold snap, these eyesores routinely appear.

Where does all this moisture come from? Although Alaska has a dry climate compared to, say, New England or Hawaii, most homeowners do not realize how much damp is generated by the household each day. Plants, showers, cooking, respiration and perspiration produce 5 to 8

## Common and costly ice damages

This diagram shows both the ice dam and its damages. All the damages illustrated here are far more common and costly than are generally acknowledged.



Source: University of Minnesota.

Times graphic by WIT TUTTELL

gallons a day in vapor form, says energy expert Steve Baden of Anchorage.

During the dry winter, the house tries to equalize climates between inside and outside by forcing moisture out. If the water cannot escape and freezes in the crawl space, it may later thaw and fall down into the living room, ruining the ceiling.

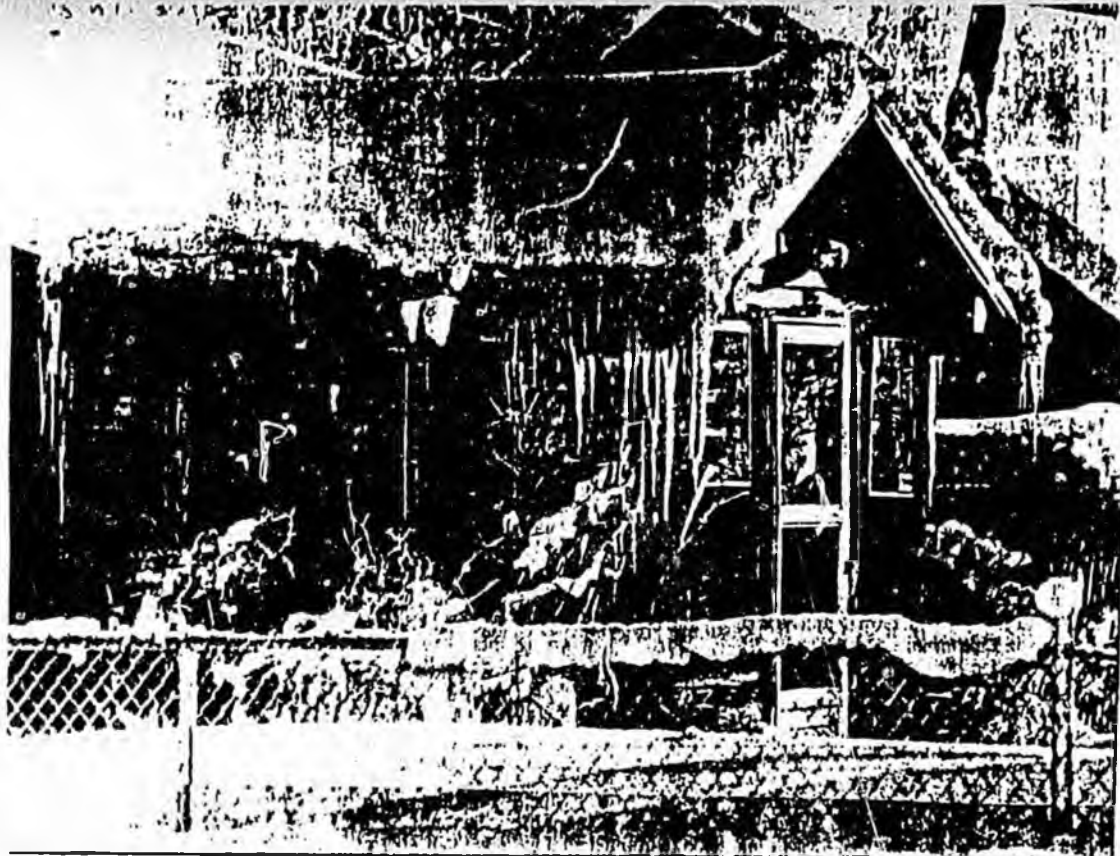
Steve Baden is chief of energy programs for the Alaska Department of Community and Regional Affairs. He has been in the energy conser-

See Ice dams, page E-2

Ice  
be

dammed

By ANN CHANDONNET  
Times Writer



Times photo by WALT JOHNSON

ful glistening icicles you see lining the eaves of some homes actually are a sign of poor insulation.

vation field for 10 years.

"Ice dams are a big problem around Anchorage," Baden says, "and they don't necessarily have to be. By taking care in the initial construction of the home, you can do things to prevent the situation. What you see when you see an ice dam is a symptom — not the problem itself," he stresses. "One of three things is happening, or a combination. The basic problem is that the roof is hot, and the heat is melting the snow. As the water hits the edge, which is cold, it's freezing and backing up." This means the roof is under-insulated, says Baden. Occasionally, the roof truss will be too low and the contractor was unable to insulate the side of the truss properly.

"When you can see the trusses

outlined in the frost, which means the trusses have more insulating value than the actual insulation, this shows significant heat loss," Baden says.

However, ice dams can also appear at the edges of roofs that are properly insulated, "but because the vapor barrier wasn't properly installed, the insulation has become wet and lost its insulating value."

A third cause of an ice dam is that there is insufficient ventilation in the attic or crawl space to dissipate what heat makes it through the ceiling insulation, Baden says.

"Some heat will escape, no matter what," says Baden. "And you must have enough ventilation in the attic to take that heat and dissipate it so it won't warm the roof. Otherwise, your hard-earned dollars are going out in melting snow."

The key to energy efficiency is "doing it right the first time," advises Baden. This would be easier if Alaska had different

building codes. "Alaska is one of the only states in the country without energy standards for insulation," adds Baden, "even though we have the highest cost of energy and the coldest temperatures."

Existing Anchorage building codes have a standard of R30 in the roof and R19 in the walls. This standard has been proposed as a state standard, says architect Stuart Brooks. The state proposal includes "a proper vapor barrier, proper ventilation both in the living area and the attic. It would be necessary to have a raised truss in the eave, more raised than current building standards," Brooks said, "to allow for insulation."

Even if adopted, this proposal would be limited in effect because it would apply only to homes that are state-financed, Brooks points out. "The new standard is held up in the courts, but House Bill 358 would address this technicality." There would solve only part of the energy effi-

ciency problem because there would still be no proper standard for homes that are not state-financed and existing homes would not be addressed, Brooks and Baden concur.

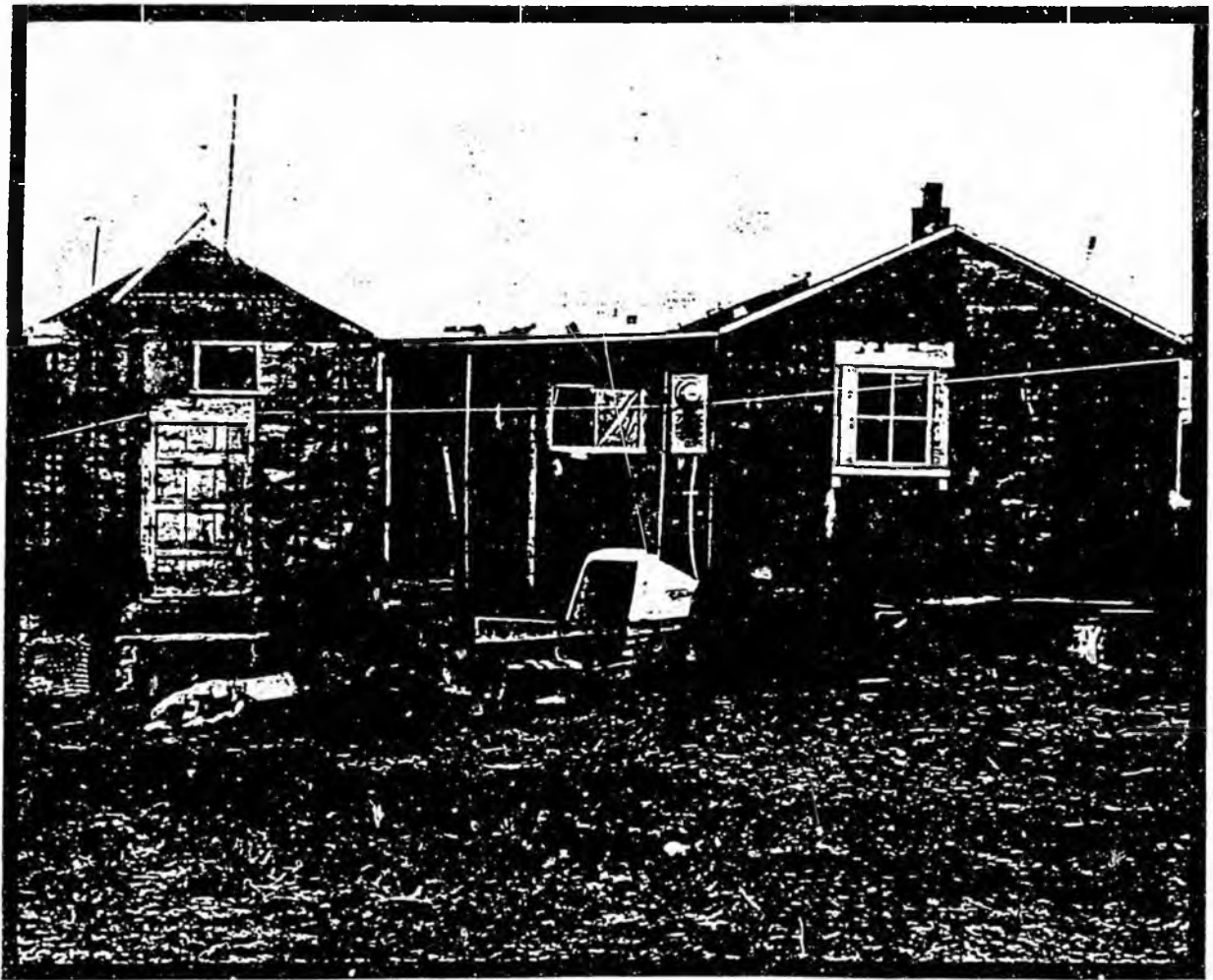
The Department of Community and Regional Affairs, energy conservation section, advises homeowners of some steps they can take to right existing construction wrongs:

- The condensation problem is worse in rooms with high relative humidity — like bathrooms. Paint the ceiling with Clidden Insul-Aid, or install a polyethylene vapor barrier and replace the ceiling.

- Condensation of ice or snow buildup on the inside of, or between, windows is another sign of energy waste. Quality windows combined with proper weatherstripping or caulking can often solve this problem.

- Drafts due to cracks around doors and window jambs can also be minimized with weatherstripping and caulking.

# 1988 Rural Housing Needs Assessment Study



DOYON Region - Photo by Rob Stapleton, Jr.

State of Alaska  
Steve Cowper, Governor



Department of Community  
and Regional Affairs  
David G. Hoffman, Commissioner

Submitted in fulfillment under contract 88-0137 to the  
Alaska Department of Community and Regional Affairs

by

Rural Alaska Community Action Program (RurAL CAP)  
ASK\* Marketing Information Search  
Alaska Public Interest Research Group (AKPIRG)

March 1988

## HOUSING PHYSICAL CONDITION BASED ON INSULATION

In the following table, percentages of houses with attics and walls of different R-values are listed by region. R-values refer to the level of insulation. One inch of batt insulation is approximately equal to R-3. For example, R-38 is equivalent to 12 inches of batt, and R-19 is equivalent to 6 inches of batting.

### Insulation Levels in Percentages:

	-----Attic-----					---Walls---		Can't Maint 70 deg F
	R<R11	R<R19	R<R22	R<R30	R<R38	R<R11	R<R19	
Ahtna	15%	51%	78%	80%	96%	22%	69%	56%
Aleut	23%	36%	50%	65%	76%	23%	45%	16%
Arctic Slope	0%	6%	19%	36%	56%	1%	18%	37%
Bering S's	14%	29%	89%	94%	97%	11%	41%	67%
Bristol Bay	14%	39%	76%	78%	90%	19%	52%	22%
Calista	3%	34%	68%	77%	77%	11%	78%	41%
Chugach	16%	26%	47%	56%	71%	20%	52%	15%
Cook Inlet	7%	22%	52%	71%	77%	10%	62%	12%
Doyon	4%	18%	47%	74%	79%	11%	65%	40%
Koniag	2%	11%	17%	18%	20%	3%	63%	27%
NANA	25%	25%	50%	50%	50%	1%	26%	72%
Sealaska	12%	55%	93%	95%	97%	15%	81%	41%
TOTAL	9%	29%	58%	69%	76%	12%	57%	36%

According to the 1986 Energy Conservation Standard For New Residential Buildings published by the State DCRA Office of Energy Programs, the minimum prescribed insulation requirement for ceilings is R-38, except in Arctic Slope where the ceiling requirement is R-52. The minimum prescribed insulation requirements for walls are R-21 in Sealaska; R-18 in Aleut, Chugach, Cook Inlet, and Koniag; R-25 in Ahtna, Bristol Bay, Calista, and Doyon; R-30 in Bering Straits and NANA; and R-35 in Arctic Slope.

Houses with attic R-values less than R-38 range from 71% to 97% in nine of the regions, and more than half of the houses in two more regions. Houses with wall R-values less than R-19 range from 41% to 81% in all but two region.

# Report says federal housing for Alaska Natives is a mess

By GEORGE FROST  
Daily News reporter

A federal housing program for Alaska Natives is riddled with waste, and many of the homes built since 1975 are unsafe, substandard and ill-suited to harsh arctic conditions, according to a study released Tuesday by a federal housing inspector.

The program, administered by the Department of Housing and Urban Development, is so poorly run that it must be considered a failure, said Rich Nygaard, regional inspector general for the Department of Housing and Urban Development.

"Despite more than 14 years experience, HUD has

not provided Alaska Natives with decent, safe or affordable housing. Design and construction defects, deferred maintenance and poor housekeeping continues to create safety and health hazards for Alaska families," he said.

Local HUD officials disagreed strenuously with many of the audit findings.

"We feel the audit report is completely flawed and does not cover what they said they were covering," said Arlene Patten, acting HUD manager of the Anchorage office. "It is based on a false premise and a misunderstanding of the program."

Patten said the audit fo-

cused on projects built in the late 1970s and early 1980s startup phase of the program and "does not show the substantial improvements."

"Since then, most of these things have been corrected and the homes are no longer substandard," she said.

"I think the program is trying to meet the need of the regional Bush people of Alaska, and without that program there would be no housing out there for them."

More than \$300 million has been spent to build 3,290 single-family homes under the Alaska Mutual Help Home Ownership Program.

Please see Back Page, HOMES

Continued from Page A-1

The Alaska program, part of a nationwide Indian housing system, gives low-income Native families an opportunity to purchase their own homes. They pay whatever they can afford, and HUD makes the remainder of the loan payments.

Of all the homes built since 1975, more than six of every 10 have been either the subject of a lawsuit because of poor construction or have required extra HUD funding to correct those problems, according to the detailed, 141-page report.

An inspection of 207 of the 714 newer homes built since 1984 showed that almost all had serious problems. All 207 had defective foundations. Many of the homes rest on primitive pads that are unsuited for the fragile tundra, subject to summertime floods and fierce winter storms.

Fifty-seven had broken or deficient furnaces, stoves and other mechanical systems.

"In some projects, home and basic sanitary maintenance was quite limited and others nonexistent," the study said.

A series of inspections in villages throughout the Bush turned up numerous safety hazards: broken stairs and porches, tottering foundations, and electrical hazards from improperly installed lighting fixtures, the audit said.

Some families use Coleman camping stoves to cook their meals because their regular stoves are broken or they can't afford propane cylinders that fuel them. Others burn creosote-soaked driftwood for heating, another potential hazard.

Nine of 50 homeowners in one village reported that cracks in the flooring of their homes allowed winds to "enter with such force that it raises the vinyl floor-

ing off the floor, creating an effect like walking on pillows."

And in wintertime, interior walls are sheathed in up to 4 inches of ice, the audit found.

HUD contracts with 13 different Indian Housing Authorities, most of them subdivisions of local government or Native corporations and agencies, to run the program.

William Nishamura, regional HUD administrator for Alaska, disagreed that a majority of homes are substandard. The audit ignored the complexities of building in the Arctic, he said. Building standards and materials are not yet perfected for Alaska.

Nishamura laid blame for many of the problems at the door of the Native housing agencies. Building sites are chosen by the Native agencies, which also provide the soils engineers, architects, planners and builders, he said.

A majority of problems cited in the report are caused by poor maintenance, not poor design or construction. And it is the responsibility of Native housing agencies to train homebuyers how to maintain their furnaces, stoves and foundations, not HUD's, he said.

John Guinn, executive director of a Bethel-based housing agency run by the Association of Village Council Presidents, agreed with many criticisms in the audit but said the program was not a failure.

"I disagree that it's not working. It's been very effective in providing housing for the needy. The program just needs somebody at HUD who is willing to stand up for what we need."

Guinn said the housing program operated at a furious pace in the early 1980s, and mistakes were made.

"A lot of it was finding a contractor who knew how to

build in rural Alaska," he said. "And a lot of (housing) directors didn't have construction experience. We were playing catchup. I think our housing authorities built over 400 in one year."

"We were building so fast there would have been problems in construction and in HUD oversight."

In the early years of the program, homes were built to Lower 48 standards, he said. "There were not adequate furnaces, not adequately insulated. They (HUD) don't realize that when it's 30 below and blowing 100 outside you have got quite a wind-chill factor."

The Native housing agencies are repairing many of the problems and training families in basic maintenance, he said.

"They are all being repaired. We will authorize \$25,000 or more per house for new furnaces, doors, insulation."

A problem that all concerned agreed on was a shortage of money for the program, and an unrealistic "cap" of \$92,200 that can be spent for any one home.

That money must stretch to pay for "planning, architecture, a soils engineer, shipping, construction, everything," Guinn said. "In many cases in remote villages it is not enough to do the job, so at some point you have to cut corners."

"When you get out to some of these remote tundra villages, gravel is like gold," he said. "You can't afford to fly it in. A couple years down the road the house starts moving."

Guinn said that HUD signs off on every home that is built, and "someplace along the line I think somebody in the HUD system should have had the intestinal fortitude to say this foundation won't work or this heating system isn't adequate."

2/9/90  
Rep. Kay Brown

**BUILDER AND HOUSING PROFESSIONAL COMMENT  
IN SUPPORT OF  
HB 358 - MINIMUM THERMAL ENERGY STANDARDS**

*AHFC has been committed to the development of energy standards for new construction. Staff members have been working with DCRA from the very outset. We served on the Advisory Committee which assisted in the development of the recommended standards.... We believe the standards are a necessity to help ensure a better housing stock for Alaskans as well as provide homeowners with the potential for lower fuel bills.*

Tom Behan, Executive Director  
Alaska Housing Finance Corporation

*The Alaska State Legislature should enact legislation to restore clear legal authority for the implementation of appropriate minimum thermal standards, based on regional differences, for newly constructed state-financed housing.*

Housing Policy Development Committee  
Alaska Housing Market Council

*At Anchorage Neighborhood Housing Services we have had many occasions to inspect housing units as part of our requirements for lending and in conjunction with our construction assistance programs. There exists a great need for improvement to minimum thermal standards in most of the existing housing stock in Anchorage.*

Cynthia A. Parker, Executive Director  
Anchorage Neighborhood Housing Services, Inc.

*As a builder of energy efficient homes in the Fairbanks area for many years which without exception exceed the State Energy Standard, I feel that [HB 358] will tend to put conscientious Alaskan builders on an even playing field with the fly-by-night contractors from outside who don't know how to build in this environment and, in some cases, don't care.*

Mike Musick  
Ester Construction  
Ester, Alaska

*As a builder, I am intimately familiar with what it takes to build appropriately for the Alaska climate. I know we can do better for the people of Alaska than we have in the past.... My own building practices meet or exceed the State minimum energy standard. Other builders should be doing the same.*

Ralph W. Brodin, Owner  
EE/CC General Contractors  
Girdwood, Alaska

*During the past two years I have built several homes in the Homer area that meet or exceed HB 358's energy standards. I counsel every one that I build for that an energy efficient house is not only healthy and comfortable but also a good investment because of energy savings.*

David Ellington  
Ellington Construction  
Homer, Alaska

*As the American Institute of Architects/Alaska Chapter representative on the Advisory Committee for the [state standard] I was impressed by the participation of all Alaska building industry's sectors.... [The standards] are reasonable and reflect logical and climatic conditions for each region of the State.... Too often builders have sought short term practices through the use of inadequate building practices at the expense of long term operation and maintenance costs.*

Robert Balivet, AIA  
McGlothlin Balivet Co. - Architects & Planners  
Anchorage, Alaska

*I am an architectural designer and have been involved in the design and construction of several homes that exceed the minimum energy standards. I am very knowledgeable about the building science and practices that ensure a comfortable, healthy, and energy efficient home. I am also aware of the very slow pace in which the building trades adopt new methods and materials... In order to improve the comfort and quality levels of our housing stock, we simply need HB 358.*

James A. Dory  
Dory and Associates  
Nome, Alaska

*As a building official of a major Southeast Alaska community, I have been involved with the entire public development of the standards .... [The standards] are technically sound, reasonable in their scope and practical in their nature and application.*

Harry Chartier, Building Official  
City and Borough of Sitka

*[T]he minimum insulation requirements between the proposed State of Alaska "Energy Standard" for gas heated dwellings in [the] Anchorage area and HUD's MPS [Minimum Property Standards] are nearly identical. The major differences between the two is the state proposes to quantify acceptable infiltration losses and ventilation requirements. We believe that this is a positive step in establishing building performance criteria.*

Arlene Patton  
U.S. Housing and Urban Development  
Anchorage Office - Region X

*[T]here must be some inducement to encourage builders to maintain certain standards since businesses tend to stay with the old easy less expensive methods. We are just finishing a new home built to meet or exceed ACHP [Alaska Craftsman Home Program] specs which are more stringent than the proposed State standards.*

David T. Thompson  
Fairbanks, Alaska

*The lack of thermal standards in the past provides the Low-Income Weatherization Program here in the Fairbanks North Star Borough with a seemingly endless supply of rapidly deteriorating high-energy-use dwellings...in need of so much more than the [weatherization] program can provide that the measures often become a band-aid approach to a terminal wound.... There is no reasonable excuse to perpetuate the supply of inadequately constructed buildings.*

Robert Maxwell  
S.I.H., Inc. - Weatherization  
Fairbanks, Alaska

*The average homebuyer knows very little, if anything, about energy efficient home design.... Yet they will live in these homes and pay the bills for them ever after.... In our design practices we always strive to meet or exceed the State minimum energy standard. Other architects should be doing the same.*

Ronald Bisset and Andrew Simasko  
Architects Bissett/Simansko  
Palmer, Alaska

*I view this legislation [HB 358] as critical to the future of our states' building industry in that it will enable Alaska residents to finally receive thermal value in housing that is appropriate to the diverse climate zones of our great state. As a member of the National Association of Home Builders (NAHB) I am aware of attempts by many of our members to stall implementation of these standards and wish to clarify that there is not in any way a consensus to this effect.*

Philip Loudon  
Arctic Technical Services  
Fairbanks, Alaska

*As a four year member of the Alaska Home Builders Association, I would like you to know that I support the Thermal Standards as written and their original intent. One of the reasons I especially liked the original implementation of the Alaska State Thermal Standards is they were not mandatory [and only apply to housing using] Alaska public funds.*

C.R. Deer  
Alaska Window  
Fairbanks, Alaska

*Even though the standards will eventually help the construction trades, the industry is taking a short-term viewpoint by delaying implementation.... [further delay] is really unnecessary and only focuses on special interest groups who voice objections... Once again, Alaska is lagging behind the nation in implementing a rational energy policy.*

Raj Bhargava, MSME  
Raj Bhargava Associates - Engineering in Alaska

3/21/90  
Rep. Kay Brown

**HB 358 - Minimum Thermal Energy Standards**  
**Endorsements and Statements of Support**

Alaska Center for the Environment  
Alaska Community Development Corporation (Anchorage)  
Alaska Federation of Natives  
Alaska Health Project  
Alaska Housing Finance Corporation  
Alaska Housing Policy Development Committee  
Alaska Public Interest Research Group  
Alaska Rural Electric Cooperative Association  
Alaska State AFL-CIO  
Alaska State Employees Association  
Alaska Village Electric Cooperative  
Alaska Wilderness Alliance  
Alaska Wildlife Alliance  
Alaska Window (Fairbanks)  
Alaska Chapter Sierra Club  
Analysis North/Alaska Utility Consumer Advocate  
Anchorage League of Women Voters  
American Lung Association of Alaska  
Anchorage Daily News  
Anchorage Neighborhood Housing Services, Inc.  
Anchorage Recycling Center  
Architects Bisset/Simansko (Palmer)  
Arctic Technical Services (Fairbanks)  
Barrow Utilities and Electric Cooperative  
Brandywine Homeowners Association (Eagle River)  
Cedar Park Condominium Association (Anchorage)  
Chugach Electric Association (Anchorage)  
City and Borough of Juneau  
City of White Mountain  
City of Brevig Mission  
City of Nome  
City of Koyuk  
City of Shishmaref  
City and Borough of Sitka  
Denali Citizens Council  
Dick Mueller Realty, Inc. (Kenai)  
Dinyee Village Corporation (Stevens Village)  
Dory and Associates (Nome)  
Ellington Construction (Homer)  
ENSTAR Natural Gas Company (Anchorage)

Ester Construction (Fairbanks)  
Fairbanks North Star Borough  
Golden Valley Electric Association (Fairbanks)  
Greenpeace USA  
Kotzebue Electric Association  
Heat Loss Analysis, Inc. (Anchorage)  
Home Energy Service (Juneau)  
Kachemak Bay Conservation Society  
Levelock Village Council  
Kodiak Island Mayors League  
Low-Income Weatherization Policy Advisory Committee  
McGlothlin Balivet Co. - Architects & Planners (Anchorage)  
National Audubon Society  
North Slope Borough  
North and Northwest Alaska Mayors Conference  
Nushagak Electric Co-operative, Inc. (Dillingham)  
Older Alaskans Commission  
Older Persons Action Group, Inc.  
Raj Bhargava Associates/Engineering in Alaska (Anchorage)  
Rotecki, Bill (Ketchikan)  
Rural Alaska Community Action Program  
Second Annual Rural Energy Conference Resolution  
S.I.H. Inc. Weatherization (Fairbanks)  
Southwest Alaska Municipal Conference  
State of Alaska Energy Policy Task Force  
Thermo-Kool of Alaska, Inc. (Anchorage)  
Thompson, David (Fairbanks)  
Tlingit & Haida Regional Electrical Authority  
Trustees for Alaska  
U.S. Department of Housing and Urban Development  
Western Alaska Building and Construction Trades Council

## FISCAL NOTE

**REQUEST:**

Revision Date: \_\_\_\_\_  
 Title: "An Act..thermal & lighting energy standards..."  
 Sponsor: Reps Brown, M.Davis, MacLean, etc  
 Requestor: \_\_\_\_\_

Agency Affected: Community & Regional Affairs  
 BRU: \_\_\_\_\_  
 Components: \_\_\_\_\_

**EXPENDITURES/REVENUES:** (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	-0-	-0-	-0-	-0-	-0-	-0-

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

**FUNDING:** (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>	-0-	-0-	-0-	-0-	-0-	-0-

**POSITIONS:**

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

**ANALYSIS :** (Attach a separate page if necessary)

There is no fiscal effect for FY 90.

Prepared by: *Jim Rosman* Phone: 465-4750  
 Division: Municipal & Regional Assistance Date: 2/2/90  
 Approved by Commissioner: *J. Paul G. Hollman* Date: 2/2/90  
 Agency: Community & Regional Affairs

Distribution (by preparer):  
 Legislative Finance  
 Legislative Sponsor  
 Requestor  
 Office of Management and Budget  
 Impacted Agency(ies)

2/13/90  
Rep. Kay Brown

COMPARISON OF MINIMUM THERMAL STANDARDS  
Anchorage Gas-Heated Homes

	<u>STATE*</u>	<u>HUD MPS</u>	<u>FHA</u>	<u>ASHRAE 90**</u>
Ceilings	R 38	R 38	R 38	R 50
Walls	R 18	R 20	R 25	R 23.3
Floors	R 19	R 20	R 22	R 30.3
Windows	R 2.1 - 4 <sup>(1)</sup>	R 2.13	R 2.6	R 2.44
Doors	R 7 (one 2.5)	R 3.12	R 5	R 7.14

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\* proposed state standard

\*\* American Society of Heating, Refrigerating and Air-Conditioning Engineers  
"Energy Efficient Design of New Low-Rise Residential Buildings" (March 1989)

(1) under proposed state standard, variable according to window area as % of wall area.

# Opinion

## Energy costs drain the rural economy

By DAVID G. HOFFMAN

In most rural Alaskan communities energy costs are placing a serious strain on the local economy. This burden is illustrated by research showing that rural Alaskans spend between 16 percent and 37 percent of their family incomes on energy bills. In Anchorage energy costs take only two or three percent of a person's paycheck.

Local governments are feeling the pinch too, as the result of the downturn in the states economy combined with cuts in federal funding. Many rural communities have facilities that they can no longer afford to heat or maintain.

Alaska is one of only three states in the union without an energy standard for home construction, and all too often homes built here simply don't measure up to the climate and states energy costs. A Department of Community and Regional Affairs Rural Housing needs assessment found that 28 percent of homes in rural Alaska could not maintain a healthy indoor air temperature of 70 degrees Fahrenheit during the long winter months, regardless of how well the furnace or woodstove is burning.

The wretched condition of rural housing was underscored in the Federal Housing and Urban Development's recent audit of its rural housing program. HUD auditors determined that rural housing projects "are being developed which are in-

feasible, improperly designed and inadequately constructed."

This can be seen in the Northwest Alaska community of Golovin, where a low income family living in a 400 square foot home uses a barrel of heating oil a week and still cannot achieve a comfortable temperature.

### Answers are not hard to find

An obvious solution would be to construct home that can withstand the rigors of an Alaskan winter and have affordable heating bills. It's now possible to construct homes that are comfortable and healthy, and can be heated for less than \$300 a year. The department of Community and Regional Affairs recently announced the award of a grant to build 13 such "superinsulated" homes in Golovin next summer.

The Alaska Craftsman Home Program, also sponsored by the Department of community and Regional Affairs, encourages the construction of such homes by offering training and technical assistance to contractors, lending institutions and home builders. Over 50 homes across the state are now being constructed to the program's voluntary standard. But voluntary standards are not enough.

### Energy standard needed

In addition, the state needs to implement an energy standard for homes that

have been purchased with state financial assistance. The department has developed a standard geared to the different regions of the state to reflect Alaska's diverse climate, energy expenses, and construction costs. Implementation of the standard is being delayed, however, by a legal challenge from a small group of urban contractors.

Rep. Kay Brown, D-Anchorage, has introduced legislation (House Bill 358) which addresses the legal issues raised by the suit, to clear the way to implement the standard. Alaskans deserve homes that are comfortable, healthy and affordable to heat.

Another solution would be to retrofit community facilities so they could have healthy temperatures and be less expensive to maintain. For example, it is possible to reduce a building's heating costs an average of 60 percent through remodeling it to so-called "superinsulation" values. New energy-efficient light bulbs can provide the same amount of light while using 35 percent less electricity and last four times longer than standard light bulbs.

These are not pie-in-the-sky dreams. Down to earth examples can be found in Tununak where the village clinic was superinsulated, reducing the annual \$4,000 heating bill to \$1,100. a Mat-Su Valley home will be heated by its water heater after it is retrofitted through the

Alaska Craftsman Home Program. A lighting retrofit in Nikolai cost \$2,246 and is expected to net a \$1,151 savings in the first year.

### Everybody benefits

The Low Income Weatherization Program assists those Alaskans who are least able to afford high energy bills. The heating expenses for needy Alaskans participating in the program have been cut by an average of 25 percent after receiving home improvements such as additional insulation, repairs to cracked walls and installation of efficient heating systems. This program makes particular sense for rural Alaska with its high energy costs, severe weather and high incidence of substandard housing.

Energy programs strengthen local communities by reducing the operating costs of homes and community facilities, ensuring long-term financial savings. And because the labor skills needed to make the improvements are easily attainable in each community, sorely needed jobs are created. It's a combination that makes sense for rural Alaska.

*(David G. Hoffman is the Commissioner of the Department of community and Regional Affairs, which is responsible for energy conservation and weatherization programs in the state.)*

## SECTIONAL ANALYSIS

### CS SS HB 358 (Fin) - Minimum Thermal Energy Standards

Section 1. Amends the existing "General Powers" provisions (AS 18.56.090) of the Alaska Housing Finance Corporation (AHFC) to clarify that new homes financed with AHFC mortgage loans must comply with minimum thermal standards.

Section 2. Amends current AHFC statute (AS 18.56.096) to provide that the corporation may not finance new homes constructed after December 31, 1990 unless the building meets minimum thermal energy standards.

Specific means are identified by which builders can demonstrate compliance with the minimum thermal standard. Alternatives are provided, including:

- self-certification, provided the contractor provides evidence of having completed the Alaska Craftsman Home Program;
- an engineer's, architect's or building inspector's certification that the standard has been met, provided the person making this certification has completed the Alaska Craftsman Home Program;
- where a local government has an equivalent or higher thermal standard within its code, a copy of the Certificate of Occupancy stating compliance with the local code;
- a showing that the home has received a rating from Energy Rated Homes of Alaska demonstrating equivalency with the state standard; or
- another method approved by the Commissioner of the Department of Community and Regional Affairs in consultation with the Executive Director of AHFC.

Section 3. Technical correction; conforming amendment resulting from the numbering changes in Section 1.

Section 4. Technical correction; conforming amendment resulting from the numbering changes in Section 1.

Section 5. Amendment to the original Declaration of Policy section to delete "commercial and industrial" buildings.

**Section 6.** Amendment to existing law (AS 46.11.040) to clarify that "state financial assistance" includes the purchase of new homes (i.e., home mortgages financed by AHFC) constructed after December 31, 1990. Clarification of existing statute to eliminate ambiguity concerning refinancing and make it clear that after December 31, 1990 state financial assistance would be conditioned on meeting the minimum standard. Clarification of existing statute to provide that a building is considered to be in compliance with the state standard if it complies with a local building code that is at least equivalent to the state minimum thermal energy standard.

**Section 7.** Amends the definitions section applicable to the chapter. Changes are made to reflect proper citations for the federal tax code and referenced federal law. Because "new building" is defined in context (see Section 2), the existing, separate definition is repealed as redundant. Clarification of the statutory authority of the Department of Community and Regional Affairs to develop the thermal standards for new residential homes built with state financial assistance and for the Department of Transportation and Public Facilities in the case of public facilities.

**Section 8.** State housing programs other than those administered by AHFC are encouraged to adopt the compliance methods identified in Section 2.

**Section 9.** Immediate effective date.



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

Official Business

P.O. Box V  
State Capitol  
Juneau, Alaska 99811

TO: Senator Mike Szymanski, Chair  
Senate Community and Regional Affairs Committee

FROM: Representative Kay Brown *KJB*

DATE: March 21, 1990

SUBJ: CS SS HB 358 (Fin) - Minimum Thermal Energy Standards

Thank you for scheduling CS SS HB 358 (Fin), legislation that would require future new housing built with state financial assistance after December 31, 1990 to meet at least minimum energy efficiency standards. The purpose of this memorandum is to provide you with some background information on the need for this legislation.

### The Need for Minimum Thermal Energy Standards

Nearly all states have some form of minimum standard. It is ironic that, Alaska -- the state with the most extreme cold-weather temperatures and the highest heating costs in the nation -- is without even minimum energy efficiency requirements. The arguments in support of minimum standards are compelling:

- A survey of eight rural villages found that 16 to 37% of family income is spent on energy while a 1988 "Alaska Rural Housing Needs Assessment" found that 36% of rural homes could not maintain an indoor temperature of 70 degrees during the cold winter months.
- An audit of 714 HUD housing units concluded that "projects are being developed that are infeasible, improperly designed, and inadequately constructed" noting that many of the the rural housing units being constructed were generally unsuited for the harsh Alaskan environment (in some homes interior walls were sheathed in ice during the winter).
- The State of Alaska is the financier (and now owner through AHFC) of thousands of repossessed residential properties. Due to poor building

practices these REOs have required substantial funds to repair and upgrade simply to make them marketable.

- Typical home buyers do not have -- nor can they reasonably be expected to have -- the kind of technical expertise necessary to determine whether a home has been built to reasonable energy efficiency standards.

A point worth emphasizing is that under this legislation the state minimum thermal standards *would apply only to future new homes built with state financial assistance* (homes built "out-of-pocket" or financed without state assistance would not be subject to the standard.)

### Legislative History of the Alaska Thermal Energy Standard

In 1980, the Alaska Legislature recognized the need for minimum energy efficiency standards by enacting Chapter 83 SLA 1980. This legislation provided for the development and adoption of minimum thermal and lighting standards (AS 46.11.010 -.900) for new structures built with "state financial assistance." Between 1983 and 1988, the Department of Community and Regional Affairs undertook an extensive public process with the help of an Advisory Committee that included representatives of the housing industry to develop an appropriate "regionalized" Alaska standard for new state-financed residential construction.

During the formulation of the standard by the Advisory Committee a clear choice was made to recommend a truly *minimum* energy standard that a number of builders were already building to in a given region in order to assure that the standard would not cause a disruption in the marketplace. Ultimately, the advisory committee developed a consensus recommendation concerning a proposed minimum standard. However, just prior to the standard becoming effective last year a lawsuit was filed that exploited a drafting oversight in the original 1980 law.

Briefly, although the original 1980 legislation clearly stated the Legislature's intent to establish "mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance" (emphasis added), the language actually codified into law only referenced financing "for the construction of" new structures. Due to this drafting oversight, the Superior Court ruled that the standard should apply only to state financial assistance in the form of direct construction lending. Pending appeal to the Alaska Supreme Court, implementation of the Standard has been enjoined. HB 358 was introduced to reaffirm the clear legislative objective of requiring that new homes financed through AHFC meet at least minimum thermal standards.

CS SS HB 358 (Fin)

In summary, CS SS HB 358 (Fin) would:

- explicitly reaffirm the original 1980 intent of the legislature that minimum thermal standards apply to homes constructed, as well as those financed through AHFC, with state financial assistance;
- make it clear that the thermal standards apply only to future new homes built with state-financial assistance homes (i.e., construction starting after December 31, 1990); and
- explicitly identify several alternative means by which builders can demonstrate compliance with the standard, including self-certification.

Assuming CS SS HB 358 (Fin) passes this session, the Department of Community and Regional Affairs would develop and adopt a new minimum standard by way of regulation. This public process will afford an opportunity for all affected parties to participate in the formulation of the minimum standard.

It should be noted that a substantial number of Alaska homebuilders already construct homes that meet or exceed the state minimum standard developed by DCRA prior to the lawsuit. These builders have expressed strong support for the standard, particularly because a minimum standard will help put quality homebuilders on a "level playing field" relative to less conscientious builders.

To put the minimum standard developed by DCRA into perspective, *for Anchorage gas-heated homes, the minimum insulation requirements under the proposed state standard are nearly identical to HUD's Minimum Property Standards.* It should be noted that significantly higher insulation levels for Anchorage homes are recommended in the most recent industry developed standard published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE, March 1989 - 90.2P). A comparison of these various standards is attached.

In any case, *passage of CS SS HB 358 (Fin) would require that the state minimum thermal standard be developed anew.* This means that a new standard (presumably building on the extensive work already done to date) would be developed by the Department of Community and Regional Affairs by regulation with full public participation.

Although there is apprehension regarding the proposed requirement for thermal standards by some members of the homebuilding industry, as you

can see by the attachments, CS SS HB 358 (Fin) has broad support from all across the state. During the most recent House Finance Committee hearing, builders from Nome to Sitka testified in unanimous support of the bill and the need for minimum thermal standards. I have also provided excerpts of testimony and comment from various builders and other housing professionals that endorse this legislation and the need for minimum thermal energy standards.

Finally, although we can not rectify many of the housing problems that have resulted from poor building practices in the past, we can make a new start in the 1990s.

I appreciate your consideration of this legislation.

attachments