

HJR

80

HOUSE COMMITTEE REPORT

(5)

Date Referred: February 12, 1990

FURTHER REFERRALS:

Date of Committee Action: 2/20/90

The COMMUNITY & REGIONAL AFFAIRS Committee considered:

HJR 80

HOUSE JOINT RES. NO. 80

HUD FUNDS FOR RURAL HOUSING

Urging revision of housing requirements of the United States Department of Housing and Urban Development to ensure construction of energy efficient homes in rural Alaska.

RECOMMENDATIONS:

- be replaced with _____ the same title
- have attached amendment(s) a new title
- do pass
- do not pass
- no recommendation
- individual recommendations
- additional referral to the _____ Committee

ADOPTS: _____ letter of intent

ATTACHES NEW FISCAL NOTE(s):
(Dept)

APPROVES PREVIOUS: (Date/Dept)

- fiscal impact _____
- zero fiscal note
- zero with analysis _____

- fiscal note(s) _____
- zero fiscal note(s) _____
- zero fn/analysis _____

SIGNING DO PASS:

SIGNING:
(Check approp. column)

Do Not Pass No Rec Amend

Eileen P. Macken
Cheri Davis
Engelbert Kubina
Richard D. Doherty

	Do Not Pass	No Rec	Amend

Eileen P. Macken
Chairman's Signature

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: Urging revision of housing require-
ments of US HUD
Sponsor: Reps MacLean, Ulmer 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 Rosman*
Division: Municipal & Regional Assistance

Phone: 465-4750
Date: _____

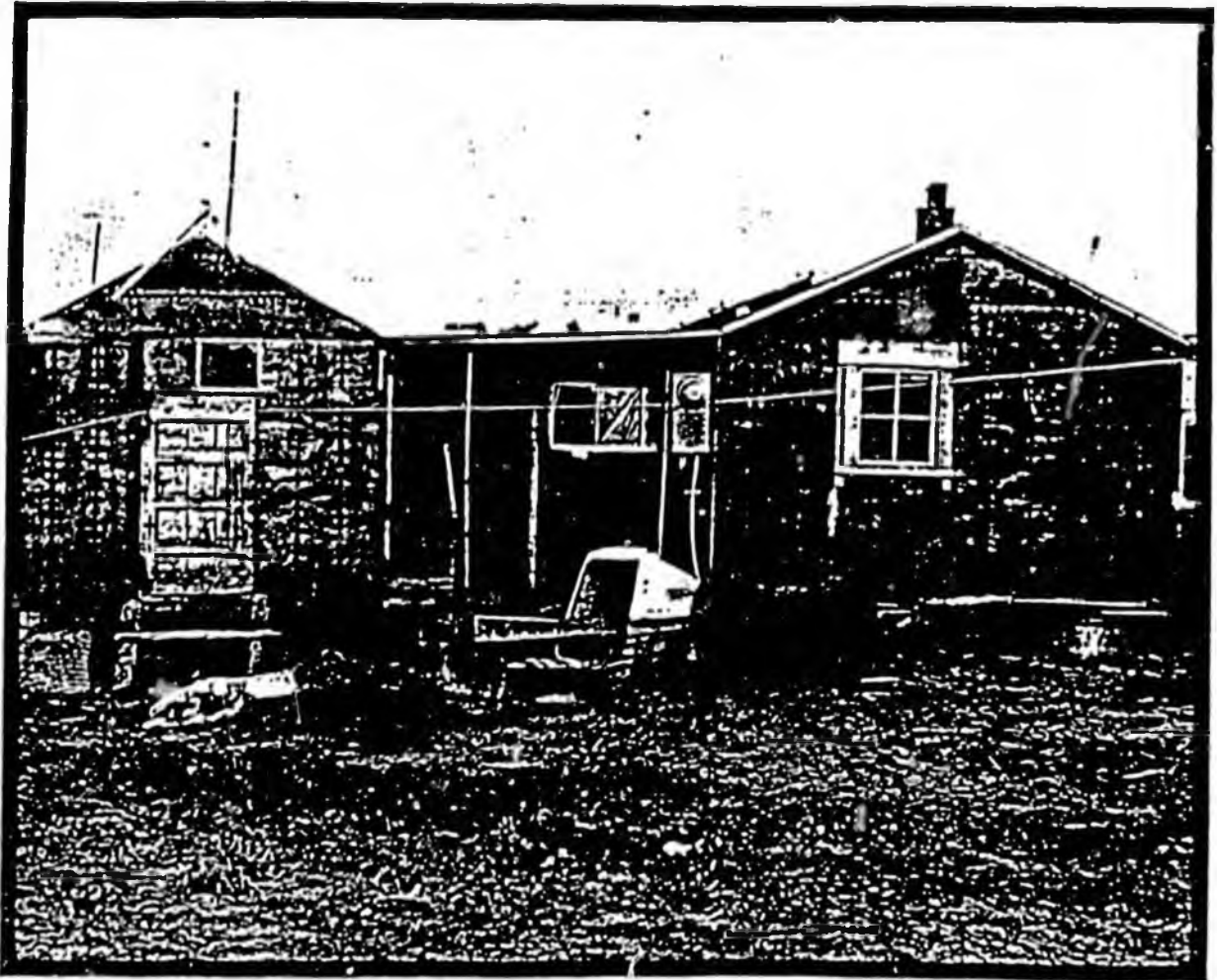
Approved by Commissioner: *Pelle Green*
Agency: Community & Regional Affairs

Date: 20 Feb 90

Distribution (by preparer):

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

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. Huffman, 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
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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 Sts	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, 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.'"

Living in the mistakes of the past

Houses are slums after only 10 years

By HAL BERTON
Daily News reporter

ST. MICHAEL — When the west wind brings 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 locks a "blower" 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 20, Kobak still can't muster enough heat to keep his house comfortable. Frost forms along the living room wall, ice rains overhanging eaves 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 recessed eaves and trickles down through walls and the kitchen ceiling. As summer approaches, the permafrost beneath his house begins to thaw, the wood foundation sags and his door begins to warp in strange ways. Kobak used to level the house by jacking it up and adjusting the wooden support blocking. But the jacks never did the job. They raised the middle of the house, but left the sides sagging.

Kobak's three-bedroom house is one of 500 housing units launched 10 years ago by the federal government in 17 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 timber, plywood covering and mortar 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 nail blade through the cracks along the base of his living room wall.

"When they were building

See Page E-2, ALASKA 980



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

Designers slowly learn how to build housing in the Bush

By HAL BERTON
Daily News reporter

ST. MICHAEL — From the outside, the house looks quite ordinary — balustrade shape, stilt-like foundation and mortar roof. Only a fresh coat of yellow paint distinguishes it from much of the other Native housing built in the western Alaska villages.

But step inside on a sub-zero, mid-water 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 lusting bills. To St. Michael villagers, this house — just completed in December — seems like a major step up.

"Everybody is torn, they look at this and say, 'where were those houses 12 years ago?'" said Albert Washington, St. Michael's mayor.

The St. Michael house is an example of a new wave of federal housing in the Bush — better designed and better insulated than predecessors built in the 1970s. Although not without problems, the



They house them

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 million-dollar climates. Nestled 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 Kalama, a Nome builder, features a double outer wall stuffed (at least in 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 turned to bogs in warm weather. Houses built on these sites tended to lean on their pads as the wooden support systems sank into the soft ground.

Since then, two different facts 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. Other designs leave the tundra intact, but insulate with special synthetic pads and gravel wherever

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 old problems that plagued the 70s-vintage houses have been vanquished. But in the process of curing old problems, new ones have arisen.

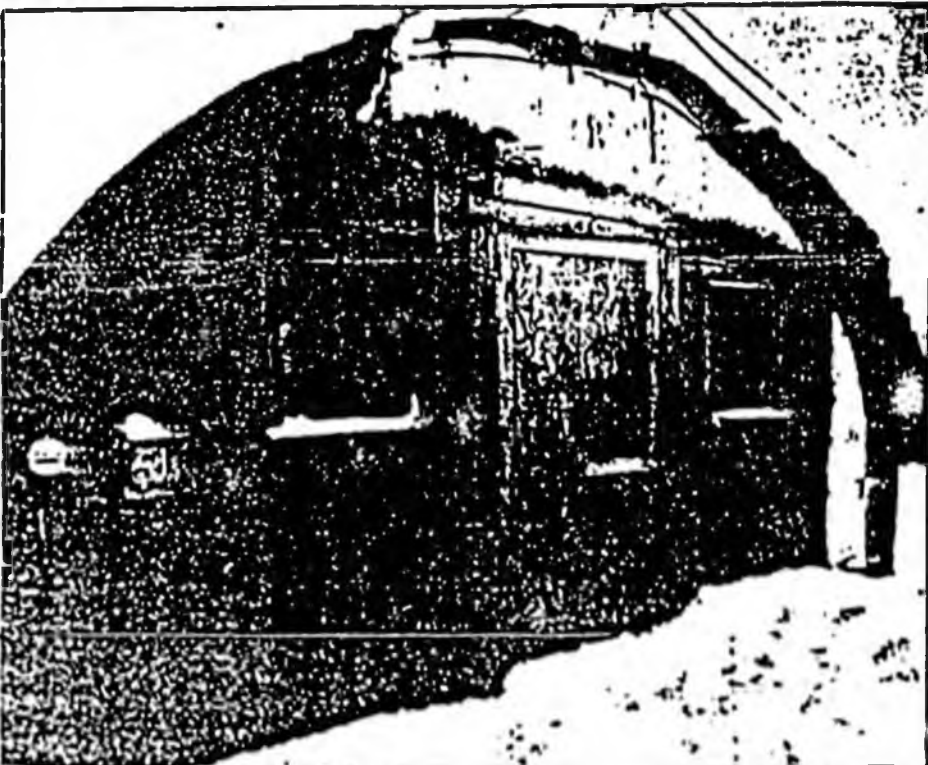
About 800 of the more than 3,000 late-model project houses have major design problems the federal government is spending \$2.6 million to repair, said Miller Lutton, director of HUD's Alaska housing program. These houses are scattered about more than 40 Alaska villages.

"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 get to put them out there for a while."

Almost all of the new housing

See Page E-3, LESSONS

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



An overgrown building in the Lounsbury 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 sheathing around the stilts. The sheathing not only keeps out the cold air, it holds in the warm air some soil, that may cause the permafrost to melt. Over the past few years, some foundations have begun to sag and soil-deficient, 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 Seward Bay, for example, Felix Grant, a village man 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 warping and soaked with fuel oil. There are lots of problems," Grant said. "The whole plywood floor should come out where it should be with fuel oil."

John Gowan, director of the Association of Village Council Presidents, the Bush-based housing authority that develops the Seward Bay project

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.

Gowan 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 authority as landlords, whose staff should fix whatever goes wrong.

Since the late 70s, Gowan says his Bethel housing authority has built more than 800 houses in Kuskokwim-Tukon Delta villages. But the program still has a long way to go. There are 10 villages in the area, and there are a lot left that haven't had any housing.

More than 20,000 homes are planned in the Bush, Amaya said.

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

Continued from Page B-1

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

Andrew and Esther Otten, the Nabuan members, have raised up most of the cracks in their inside walls. But on a blustery day, the wind still forces the moisture in the living room paneling.

The Ottens run up a typewriter 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 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 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 hooked up to sewer and water systems developed by the Public Health Service. Villagers then became home buyers obligated to make modern monthly payments (not 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 standards, it can be measured as a success.

In recent years, architects have adapted innovative insulation 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 permanent and sub-zero cold than the early housing of the 1970s.

As overcrowding has decreased, the incidence of tuberculosis, 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 Lutten, 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 Aftan, 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 seven other western Alaska villages. Here, more than 40 percent of the housing is of the Alaska 500 variety. Many of the houses "are in danger of collapse or self-destruction," wrote Dan Harrison, executive director of the Bering Straits Housing Authority, in a 1984 report to federal officials.

Harrison listed faulty wiring, foundations sliding off their concrete 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

"decant 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 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 trickled to Appalachia, the Midwestern shantytowns and the Southern farm belt to profile the plight of the poor. Then, in the summer of 1964, Homer Bigart, a New York Times reporter, reached Alaska, and proclaimed the Kuskoowim-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 red, driftwood and whale bone in favor of small log cabins and shacks of plywood, tarpaper and tin.

Subsistence foods, not 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 Kuskoowim Delta villages, 12 out of every 100 babies died before age 1. 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 riverbank property known as Louisa. 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 rotting 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 program, ASHA was hit with class action lawsuits filed by Alaska Legal Services last year. ASHA ended up giving away 700 of the houses to homeowners. Another 300 homeowners, in a settlement funded by the federal government, obtained new houses.

These failures 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 area," 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 1973, 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.

The St. Michael project was an attempt of halfhearted housing. Home buyers themselves would build the 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 increased supervisory 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 1973. One of the barges sank in the Bering Sea. The rest of the houses arrived safely in the villages.

In the frigid months of reconstruction, there proved to be scant time for quality control. The villagers proved largely unskilled in home building. And in some regions, frictions between the BIA and regional housing authorities prevented inspectors from every nook and cranny 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 slumped into the houses. The wet insulation lacked heat-retention value, and the plywood gradually rotted.

Poor-quality materials and design problems compounded the errors 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, everybody 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."

One hundred miles to the south, along the bluffs overlooking the Andreavsky 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.

Theresa Mike, mother of 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 none 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 Omani 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 we get the house fixed by the government and continue for \$70-a-month payments? Or should we opt for no renovation, but title free and clear to the house?"

It would be nice to get the house fixed up, she says. But she can'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 wait another day.

To date, all but a handful of the Alaska 500 homeowners have chosen to opt for the fix by foregoing repairs and taking title to the house.

That choice troubles Andrew Prucha, mayor of St. Marys. He doesn't see much hope for the Alaska 500 to hold together without a lot of work. "If they were able, they could withdraw in another 10 years. We'd have to tear them down and rebuild."



The cabinets in Theresa 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.

HOUSE AMENDMENT

1

TO: HJR 80

BY: Leman, MacLean

① Page 1 Line 7,8

Delete "ensure construction of energy efficient"

Replace with "improve design, construction and maintenance of"

② p. 1, line 17

Replace "healthy" with "comfortable"

③ p. 2, lines 6,7

Delete "construction of . . . structurally strong"

Replace with "design and construction of the residence
and instruction in maintenance techniques to improve
its energy efficiency and structural integrity"

④ p. 1, line 16

Replace "28" with "36"

Submit original amendment to the Chief Clerk.
It will then be numbered and duplicated.