

ALASKA LEGISLATURE COMMITTEE FILES 1983-1984

2992

HSA SB 227 - SB 347

2992

TO USE SPILL-OVER ENERGY FROM A HYDRAULIC WINDMILL (117-81)

Clark Corbridge
7420 Tikchik Circle
Anchorage, AK 99504
333-4587 or 279-0641

Amount Funded: \$5000

To build a windmill incorporating a controllable-pitch, full-feathering propeller; hydraulic control of propeller pitch, a hydraulic pump, motor and 'lock.' If successful, the project will prove the viability of the theoretical ideas concerning the use of full-feathering, ground controllable propellers and hydraulic methods of power transportation for windmills. Alaskans could benefit from wind-power systems, which are quieter and therefore, more environmentally acceptable. Because the hydraulic windmill should provide that all adjustments be made from the ground, it would be substantially safer than a conventional windmill.

EQUIPMENT FOR SENSITIVITY AND COLD TEMPERATURE TESTING OF SMOKE DETECTORS (131-81)

John Benevento
Geophys. Inst., U of A
Fairbanks, AK 99701
479-7560

Amount Funded: \$4900

To be used for equipment in basic laboratory tests for smoke detectors to be used in the bush. Tests would be run that would be difficult to document and evaluate under field test conditions.

HEAT PUMP FOR FOUNDATION STABILIZATION (118-81)

R. Dale Guthrie
SR Box 20044-B
Fairbanks, AK 99701
479-6034 or 479-7142 (work)

Amount Funded: \$5000

This would be a dual function heat pump; to stabilize a house foundation on permafrost with energy efficient interior heating. Building on permafrost in Alaska is expensive and sometimes unsatisfactory. It is difficult to remove subfoundation heat in an even and controlled manner without producing the undesired side effects of expansion and differential heaving of the slab and foundation. It may be possible to avoid these problems and at the same time, salvage building threatened by permafrost with a modification of a heat pump system already in existence. Instead of pumping heat into the basement from the soil surrounding the house, heat could be evenly extracted from beneath the existing slab.

TO INSTALL A HIGH-PRESSURE JET MODIFICATION TO A CLAM HARVESTER (066-81)

Ed Stultz
7020 E. 11th
Anchorage, AK 99504
333-4348

Amount Funded: \$5000

A competent hand digger can harvest 200 to 300 pounds of clams per day. It is proposed that the suggested high-pressure digger could harvest 5000 pounds per hour, by using a water-pressure method.

DEVICE TO TEST SOIL STRENGTH (068-81)

Douglas Beaudoin
50 Valley Drive
Fairbanks, AK 99701
488-9228

Amount Funded: \$2050

This would be a tri-dimensional stress-strain controlled field testing apparatus. It would predict settlement rates of foundation materials. It would also determine size, shape and type of foundations and footings for each type of soil condition. The objective would be to perform field tests throughout the Anchorage and Fairbanks areas where foundation failures occur and where cohesive soils exist.

TO DEVELOP A SUBMERSIBLE INVESTIGATING DRONE (069-81)

Randy and Larry Smith
P.O. Box L
Haines, AK 99827
766-2810

Amount Funded: \$5000

For underwater research, mapping and salvage. The drone would also have application in pollution investigation, fisheries and halibut studies, harbor maintenance and light underwater salvage. It would be an unmanned, remote-controlled drone capable of being towed and/or maneuvered under its own power at ocean depths up to 35 fathoms. It would fit in a standard hold of any vessel over 50 feet in length and could be lowered into the water with a moles winch.

TO STUDY THE FEASIBILITY OF MIGRATORY BEE/HONEY OPERATION SYMPATHETIC TO DELTA BARLEY PROJECT (070-81)

Paul Carlson
Chilkat Valley Farm
P.O. Box B
Haines, AK 99827
766-2770

Amount Funded: \$2350

Bees would be purchased and installed in the Delta area. Bees from Haines would be sent by truck to the Delta area where eight acres of rapeseed will be planted for bee pasture. The bees would then be transported back to Haines following the bloom period. The benefit would be increased honey production, a sounder agricultural program, utilizing honey bee pollination for seed set and fruit yields.

WIND POWERED HEAT PUMP AND LIGHTING SYSTEM (003-81)

Erick Olson
P.O. Box 393
Haines, AK 99827

Amount Funded: \$5000

Project will demonstrate the feasibility of heating and lighting a house in south-east Alaska using wind power. The power will be generated by a 10 kilowatt "Elektro" wind generator and fed through battery banks to a six kilowatt modified sine wave inverter. The heat pump will optimize power that is produced by turning energy into heat in an energy conservative manner.

MARICULTURE OF SUBTIDAL RED SEaweEDS (005-81)

Natasha Calvin
P.O. Box 112
Auke Bay, AK 99821

Amount Funded: \$5000

The species of Alaskan seaweeds of the Rhodophyta, or red algae group, when used as natural herbs, applied topically, give significant relief from the symptoms of herpes infections. Awardee would dive in many places of the outer Chik... of area which provide algae species.

TO CONSTRUCT A DUAL-LAYER GREENHOUSE ON ALASKAN PENINSULA (020-81)

Charles & Sara Hornberger
P.O. Box 69
Illiama, AK 99606

Amount Funded: \$3400

To demonstrate that it is possible to grow major portion of food needs on the Alaskan peninsula and enjoy a growing period of 8 months. The greenhouse would be geographically situated and constructed to utilize solar heat to the maximum efficiency.

TO REFINE INDOOR HYDROPONIC SYSTEM (022-81)

Ira Winograd
435 Kennedy St.
Juneau, AK 99801
465-3991 (day) 586-6417 (eve.)

Amount Funded: \$1500

To create an indoor hydroponic system for home use producing vegetables at a price which is cost competitive with market produce. Compact in size, 3 feet by 8 feet, awardee plans to market the units in kit form.

TO DEVELOP A METHOD OF PRODUCING ETHANOL ALCOHOL (026-81)

Craig Delbridge
% Northland Maint. Co.
Pump Station #1
P.O. Box 73608
Fairbanks, AK 99707
479-3983

Amount Funded: \$5000

Alcohol would be remove from fermentation as it is formed, by tying together the fermentation and distillation functions in a continuous loop. The efficient production of ethanol as a fuel could cut costs in marketing Alaskan grain and Alaskan wood products. Exportation to overseas markets is almost prohibitive at this time, due to high transportation costs.

HIGH TEMPERATURE SURFACE COMBUSTION TECHNIQUES (028-81)

Horace Simmons
Box 2464
Kodiak, AK 99615
486-4890

Amount Funded: \$1500

Incomplete combustion in stoves and furnaces increases fuel consumption. Awardee will try to eliminate this problem by constructing two types of surface combustion units. One will be intended for use with natural-draft oil ranges and heaters and

TO CONSTRUCT A CHICKEN HOUSE AND SOLAR PIT GREENHOUSE (031-81)

with wood and coal heaters. Another type will be constructed for use in forced-draft furnaces and boilers.

Joy Orth
P.O. Box 1171
Wrangell, AK 99929

Amount Funded: \$4200

To develop a system of food production which would provide a continuous supply of fresh vegetables, eggs and meat suitable to southeast Alaskan conditions.

COMPOSTING TECHNIQUES EXPERIMENTATION (033-81)

Eugene Gerow
P.O. Box 8265 NRB
Kenai, AK 99611
776-8996

Amount Funded: \$4900

To develop a process of utilizing heat from decomposing brushwood and trimmings. Branches are chipped and stacked. Water is circulated through the stacks where it is heated by the exothermic reaction of the decomposing brushwood. This hot water is then used to heat buildings. Completion of the decomposition cycle results in a high quality compost that can be tested for use for agricultural purposes.

TO REUSE WASTE HEAT FROM LAUNDROMAT (038-81)

James Wilcox
1914 Churchill Ct.
Juneau, AK 99801
586-2637

Amount Funded: \$4400

Rocks would collect heat while the dryers are in use. After dryers have run, tops of rocks should be warm enough to change temperature of water in pipes, which would lower cost of heating water. Rocks would be in a box above the dryer, with vents entering from the dryers. Heat recovery fans on top of the box would draw heat back from rocks and distribute heat to building.

TO CONSTRUCT A SOLAR SEMI-SUBTERRANEAN BARN/ROOT CELLAR (052-81)

Jack Detzel, Jr.
P.O. Box 278
2 Mile Tanana Loop Rd.
Delta Junction, AK 99737
895-4696 (work)

Amount Funded: \$4000

To make use of the heat loss from poultry and passive solar collector in the barn and root cellar. The root cellar would provide necessary storage area for vegetables. The barn would provide shelter to laying chickens and turkeys. Vegetables, eggs and poultry could be provided to Delta residents all year around.

CONSTRUCTION OF ELECTRIC HYBRID CAR (057-81)

H. J. Coutts
Mile 348 Nenana Hwy.
Nenana, AK 99760
353-1106 (Mon. - Thurs.) 479-3645 (Fri.)

Amount Funded: \$5000

Not only construct but demonstrate its use under cold climate conditions. The car will be assembled from off-the-shelf components. Fuel economy, which may approach 200 miles per gallon including electric power consumption will be measured and reported.

IMPROVED HYDRAULIC RAM FOR USE ON STREAMS IN INTERIOR ALASKA (056-81)

N. Meade Riche
1379 Alaska Hwy.
Delta Junction, AK 99737
895-4842 (message)

Amount Funded: \$4900

A lighter, more compact and more efficient ram than used now. It will be fabricated from local materials and will be easy to install. The renewable hydro-power will be used in the nearby stream to pump water to gardens, greenhouses and animal barns, without using electric-powered or gasoline-driven engine pumps currently in use.

WOOD FUELED ELECTRICITY GENERATOR (059-81)

Richard Miller
P.O. Box 4005
Kenai, AK 99611
283-4426

Amount Funded: \$5000

To build and demonstrate an efficient, technologically simple producer gas refinery to convert firewood into a flammable gas vapor to fuel a portable piston driven electric generator. This would provide a means for comparatively economical sources of electricity for many Alaskan areas where conventional means have proven too costly.

TO DEVELOP A MICRO HIGH HEAD HYDROELECTRIC SITE FOR REDUCTION OF FOSSIL FUELS (077-81)

Kenneth Cassell
568C Thane Rd.
Juneau, AK 99801
586-2394 or 586-3911 (work)

Amount Funded: \$5000

Along the five mile length of Thane Road in Juneau, there are 27 streams; all having potential to produce electricity. The need for fossil fuel would be less by promoting the use of micro hydro. A community involvement program is planned in all facets of the project.

TO REUSE WASTE COMPUTER PAPER (079-81)

Nancy North
401 3th St., #108
Juneau, AK 99801

Amount Funded: \$1000

To find a secondary use for waste computer paper which is thrown away in vast amounts in the State of Alaska offices.

EMERGENCY SOLAR POWER FOR SMALL BOATS (004-81)

George Olanna
Shishmaref, AK 99772
479-7987 or 452-6519 (home)

Amount Funded: \$3000

To use the photovoltaic application of battery charging for boats. This could be used not only to start the motor, but operate CB radios. There is almost 24 hours of sun during the spring seal hunt and, as batteries very often go 'dead', this could be a method to possibly save the lives of hunters who are 75 miles out sea.

TO RECYCLE ALUMINUM CANS (013-81)

Daniel Moen
Kodiak Scrap Metals
P.O. Box 3074
Kodiak, AK 99615
486-3881

Amount Funded: \$2400

To modify a log-splitter for the purpose of crushing cans. This method of decreasing volume of used cans would be especially beneficial to the bush country, where disposal methods are a problem.

RIVER-POWERED ELECTRICAL GENERATOR (021-81)

Pete Brown
General Delivery
Aniak, AK 99557

Amount Funded: \$3000

Using the power of the river in a similar manner as the fish wheel. The 12 VDC generator would be designed to power lights, a freezer and power tools at a fish camp.

INSTALLATION OF SELF-TIMER SILENCERS ON SMOKE DETECTORS (130-81)

Nancy Smoyer
Geophys. Inst., U of A
Fairbanks, AK 99701
479-7125

Amount Funded: \$5000

There is a high incidence of false alarms in smoke detectors now being used in Alaskan villages. A simple electronic circuit has been designed which will allow de-activation of smoke detectors for ten minutes, by pushing a remotely connected push button. The awardee will use the grant to construct approximately 100 of these devices for installation in six villages.

TO DIVE TO RECORD ABUNDANCE AND DISTRIBUTION OF SEaweEDS (006-81)

Robert Ellis
P.O. Box 112
Auke Bay, AK 99821

Amount Funded: \$5000

Awardee is an experienced research diver. Collect plants for microscopic inspection for possible use as medicine and food. At present, there is not a systematic, coordinated effort being expended in Alaska in this area.

1982 Northern Technology Grants Projects

WOOD UTILIZATION SURVEY IN THE FAIRBANKS NORTH STAR BOROUGH (N-82-01)

Steve Laroe
226 Glacier Avenue
Fairbanks, Alaska 99701
456-6094

Amount Funded: \$2500

The Interior Woodcutters Association will conduct a survey to determine if adequate wood supplies are available for domestic and commercial use. Due to an increased demand for fuel wood in the area, there is a notable decrease in available areas for wood cutting. 1,200 questionnaires will be sent to Fairbanks residents to determine the actual demand for use of firewood in the area. The Association's goal is to educate Alaskans concerning the use of timber and to promote the proper use and management of this resource in interior Alaska on a sustained yield basis.

DEVELOPMENT OF AN AUTOMATIC AND MANUAL FUEL-SAVING FLOOR REGISTER (N-82-02)

Lone Wagner
919 Cherry Street
Anchorage, Alaska 99504
338-4555

Amount Funded: \$4000

The register will direct the air in a heating system ductwork to the area of a room most in need of heat. Directional louvres will automatically direct initial cool air to the ceiling area. As air becomes warmer, it will be directed to floor area. A two-selector manual system will operate on the same principle. The plastic louvred register will be mounted over the outlet of a conventional forced air heating system.

FROZEN FOOD PROCESSING PLANT (N-82-14)

Max Stark
St. Rt. 10603
Fairbanks, Alaska 99701
479-2891

Amount Funded: \$3750

The purpose of this project is to grow broccoli, cabbage and cauliflower and to explore methods of freezing these products on a large scale. Produce will be grown by the awardee, as well as 4-H members and other residents. Plans for a much larger food plant will be undertaken if the smaller plant is successful. Stark is a retired vocational agriculture teacher and is currently supervisor of the Alaska Experimental Farm.

DOCUMENTATION OF OFF-PEAK ELECTRIC HEATING SYSTEMS AND USAGE (N-82-23)

Albert Shaw
631 West 11th Street
Juneau, Alaska 99801
586-1602

Amount Funded: \$500

The problem to be addressed is the apparent lack of information on electric off-peak heating systems. The grantee will collect and document the names of suppliers of these systems plus information on what utilities are doing to implement such systems. The information could be used by individuals and utilities to determine if off-peak electric power is adaptable to their particular needs.

DESIGN, DEVELOP AND TEST MANUAL, SEMI-AUTOMATIC AND AUTOMATIC CONTROLS FOR THERMAL SHUTTERS (N-82-26)

John Davies (Ph: 479-7424)
Richard Siegrist (Ph: 479-7131)
SR 20123-K
Fairbanks, Alaska 99701

Amount Funded: \$4900

The grantees feel that energy-efficient thermal shutters will not be used by Alaskans to any degree until reliable, automatic controls are available at a reasonable cost. The four control designs will be: a single shutter manually cranked from the interior of the house; single or multiple shutters semi-automatically cranked by a switch-activated motor; multiple shutters automatically cranked in unison by a motor controlled by hard-wired electronics that monitor light, temperature and/or time of day, and multiple shutters automatically and individually cranked at arbitrary times by a motor controlled by software-based microcomputer electronics that monitor a large number of environmental conditions.

DESIGN AND CONSTRUCT WASTE OIL FURNACE (N-82-44)

Frank Abegg III
3762 Erickson Road
Fairbanks, Alaska 99701
479-6045

Amount Funded: \$3450

The proper disposal of waste oil is an ongoing problem. The Environmental Protection Agency and the Alaska Department of Environmental Conservation encourage disposal through incineration. Although the cleanest method, it too can create pollution. The design for this prototype waste-oil fired hot air furnace will enable it to generate up to 100,000 BTU/Hour for space heating. The grantee has extensive experience in this area and has marketed many devices such as this. However, although there are many waste oil burners on the market there still is not one designed for Alaska's unique conditions that can burn more than a few gallons per day. The furnace will use a standard high pressure fuel oil burner modified to burn waste oil. The furnace will be capable of operating on a wide range of oils which could be stored underground in a heated tank.

TO DEVELOP A MICROPROCESSOR CONTROLLER TO OPTIMIZE HOT WATER HEATER USAGE (N-82-49)

Richard Jablonowski
Box 638
Juneau, Alaska 99802
586-3833

Amount Funded: \$5000

The project will utilize a microcomputer to design the logic for and test the energy savings of an "intelligent" black box controller for domestic hot water heaters. The computer program will be able to direct the controls to turn a hot water heater on and off; sense thermostat "on" and "off" conditions; sense requests for hot water (flow or pressure changes); measure, and record and analyze operating characteristics for financial and energy analyses. The computer's data will be doublechecked by cumulative energy meters. The final outcome will be the development of "micro-chips" as the major component and memory of these proposed devices which will be installed, at a minimal cost, in hot water heaters.

BANDSAW POWER ALTERNATIVE FOR BUSH AREAS (N-82-51)

Matthew Kirchhoff
Box 8800
Port Alexander, Alaska 99801

Amount Funded: \$500

The absence of electricity in many rural Alaskan communities prohibits the use of power tools. Using a commercial bandsaw kit, the grantee proposes to build a bandsaw and utilize a treadle in lieu of power. Components for the treadle design are readily available. A 50 pound automobile flywheel, pulleys, shaft, gears and foot sprocket will be used to activate the bandsaw. He estimates that the lowest gear setting will yield a blade speed of 340 feet per minute, and the highest gear setting will yield a blade speed of 4900 feet per minute. His ultimate goal is to produce the kits for use by other Alaskans in remote areas.

CROSS-TRANSMISSION OF COCCIDIOSIS BETWEEN WILD AND DOMESTIC ALASKAN SHEEP (N-82-72)

Carol Nielson
P. O. Box 81751
Fairbanks, Alaska 99708

Amount Funded: \$5000

In central and northern Alaska, the further development of commercial sheep herds as a local source of meat through "fat lamb" production would probably involve summer pasture grazing and winter confinement feeding. While on pasture, it is very possible that domestic lambs and ewes could acquire coccidia, harbored by Alaskan Dall sheep. The grantee proposes to investigate the possibilities for cross-transmission of coccidiosis between Dall sheep and domestic sheep by determining if both kinds of sheep harbor similar species of Eimeria and if infective coccysts from wild sheep can cause coccidiosis in susceptible domestic lambs. Alaskans who are considering commercial sheep-raising, even on a small scale, need to know if the use of summer pastures will expose their animals to increased risk of coccidiosis.

STUDIO-SIZED, HYDRAULICALLY POWERED IMPACT MILL (N-82-77)

Stannard
'Connor
Fairbanks, Alaska 99701
479-108

Amount Funded: \$4100

To address the high cost of imported clay and the unavailability of local sources, the applicant plans to develop a mill to pulverize local ceramic raw materials. It will not only provide an example of one person's ability to subsist on local materials, but will also provide other potters in the Fairbanks area with practical experience so that they too can extend their ceramic endeavors without being completely dependent on outside suppliers.

SOIL HEATED FOOD PRODUCTION WITH SEEP IRRIGATION (N-82-87)

John Quirk
P. O. Box 29
Galena, Alaska 99741
656-1238

Amount Funded: \$3750

Hot water plastic pipe will be placed two feet apart underground, and 18 inches deep to use the waste heat from the Ruby, Alaska powerplant water jacket heat to warm the soil from April through September. Seep irrigation will be used along all the rows and slitted row covers on two rows for early production. This should extend the growing season and increase the production of vegetable crops.

WINTER STORAGE FOR ROOT CROPS (N-82-103)

Stanford Gurtler
General Delivery
Ruby, Alaska 99768

Amount Funded: \$4950

To build a 24' x 48' root cellar for winter storage of excess vegetables. This will be a village effort and will eventually be turned over to the local school as a students' project. The awardee is a native rural Alaskan trained in arctic agriculture by the local Learning Center.

DEVELOPMENT OF A LOW-COST, LIGHTWEIGHT, SOLAR SNOW MELTER FOR EXPEDITIONARY AND REMOTE SITE USE (N-82-107)

Matthew Sturm
Dan Solie
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701
479-7369

Amount Funded: \$1300

To maximize the amount of solar energy collected in the snow melting device, maximize the efficiency of the heat transfer process to the snow and minimize the heat losses. An important part of the work will consist of experimenting with a variety of materials in a number of configurations in order to determine the best possible arrangement. Obtaining water is often a problem in cold climates.

Despite the limited availability of sunlight, it is possible to melt snow using only the sun's rays.

TO DEVELOP A HYDRO-POWER GENERATION SYSTEM (N-82-109)

Michael Loeffler
P. O. Box 595
Chugiak, Alaska 99567
694-3920

Amount Funded: \$5000

To build a turbine test unit which will incorporate various impeller designs and test in several locations under different water conditions. The system will need little, if any, stream damming and components are off-the-shelf items that are readily available and inexpensive. The ultimate goal of the project is to produce inexpensive kits simple enough for Alaskans in remote areas to build.

MONITORING OF INTERIOR WINDOW INSULATIONS (N-82-80)

William McDonald
James Bershire
1551 East Tudor
Anchorage, Alaska 99507
274-2627

Amount Funded: \$4650

Since determining the right type of thermal shutter in Alaska has yet to be undertaken, the awardees propose to gather and disseminate information on the performance of several different types of interior shutters, in actual application in southcentral Alaska. The approach to monitoring will be twofold; microprocessor measurements of heat loss through the windows with and without shutters in place, and visual observation with a log noting condensation problems that may exist. The period of testing will be one complete heating season.

INSTRUMENTATION FOR A SMALL HYDRO-POWER PROJECT (N-82-108)

Louis Butera
University of Alaska, Anchorage
274-9344

Amount Funded: \$3750

The project will enable the collection of data to substantiate and make possible the compilation of an Alaskan Small Hydropower Guide. The instrumentation will be installed on a 5 KW hydroelectric project currently under construction on a local stream.

FISH MEAL AND OIL PRODUCING RAFT (N-82-119)

John Stam
Box 21
Galena, Alaska 99741

Amount Funded: \$3800

The awardee is a subsistence fisherman who has an alternative for current fish camp methods of cutting and drying fish for use as dog food. He proposes to build a large raft, using oil drums for flotation. The whole fish would be boiled in large containers aboard the raft, the excess water drained off, and the remaining fish sludge laid out under the raft roof to dry. Using this method, fish dries in 2 to 4 days, as opposed to the 1 to 2 week period on racks at the fish camp and there is no waste of fish. When the fish is dried, it will be mixed with dog meal to provide a nutritious feed all winter.

HYDROGEN GAS GENERATION BY AND FOR BOATS (N-82-38)

Joseph Charles Black
Dawn Lee Black
Box 1912
Kodiak, Alaska 99615
486-4666 or 5516

Amount Funded: \$5000

Although the testing is being conducted in Kodiak the proposal is based upon research conducted by Paul H. Lee, Research Physicist, University of California - Santa Barbara. Dr. Lee has offered to loan the awardees a 12 ft. buoy to investigate the possibility of producing hydrogen gas as fuel to power a boat. The buoy would be cabled to an electrolysis system in the boat that would produce hydrogen gas. The hydrogen gas would be stored in metal hydride flakes. In turn, heat would release the gas from the flakes.

Dr. Lee's approach is to use inertial coupling to design a generator for buoys. The generator has only one moving part. It is carried by the buoy for the purpose of recharging its batteries. The device is hermetically sealed from the ocean environment. The power it will produce from a 3-ft. wave, having periods ranging between 4 and 8 sec, is substantially that near 12 watts. For a 5-ft. wave, a maximum power of over 40 watts can be produced.

In conjunction with the project, the awardees will produce an educational film depicting step-by-step procedures. The film will be shown on public television statewide.

According to the awardees, the village of Old Harbor on Kodiak Island has been designated for a pilot program by the Alaska State Division of Energy for conversion to hydrogen gas with the use of wind power. The awardees think that the use of tidal/wave power to produce hydrogen gas as outlined in the proposal, will be timely.



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THE ALASKA COUNCIL ON SCIENCE AND TECHNOLOGY

RESEARCH ACTIVITIES
FUNDED BY
THE ALASKA COUNCIL ON SCIENCE AND TECHNOLOGY

SEPTEMBER 1982

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GEOTHERMAL ENERGY RESOURCES OF THE LOWER SUSITNA BASIN

Principal Investigators: Donald L. Turner
Eugene M. Westcott
Geophysical Institute
University of Alaska
Fairbanks, Alaska

Amount Funded: \$149,664

This project proposes the continuation of geothermal exploration in the lower Susitna valley near communities along the Parks Highway. Very large areas in the Willow-Wasilla-Big Lake region show substantial geothermal resources exist, but there are gaps in the data base outlining this resource.

Proposed follow on work will focus on providing a much better definition of the nature and area and vertical distribution of the geothermal system and on providing specific recommendations for exploratory drilling. This is one of the few areas in Alaska where a sizeable future population could be located directly over a large geothermal resource that can be economically utilized.

EFFECTS OF COMMERCIAL TELEVISION ON RURAL ALASKAN CHILDREN

Principal Investigator: Norma Forbes
Center for Cross Cultural Studies
University of Alaska
Fairbanks, Alaska

Amount Funded: \$77,714

The proposed research is the third phase of a study of effects of the introduction of television on rural Alaskan Native children.

Data will be collected in two Tlingit-Haida villages in Southeast Alaska and four Eskimo villages in the Kotzebue Basin. Villages in each area are paired such that one had television and one did not during an earlier phase of the study. All village sites now have television. A wide range of social, psychological, and educational data will be utilized, with most of the measures reflecting television's role as a change agent.

PERSISTENCE OF HERBICIDES IN AGRICULTURAL SOILS

Principal Investigators: C.W. Knight & J.S. Conn
Agricultural Experiment Station
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$132,973

Agricultural acreage in the Alaskan Interior is increasing at a dramatic pace. By 1990, approximately 500,000 acres are expected to be under cultivation. The majority of the acreage will be located in the interior. A complicating factor in this development is that it is occurring in the sub-arctic, where little research has been undertaken to determine the effect of cold soils, long photoperiod, and short growing season on the various agroecosystems. One such component is agricultural herbicides. Herbicides are used extensively in agriculture throughout the developed world and now in Alaska.

Since persistence of herbicides could result in damage to herbicide-susceptible rotational crops, or in longterm buildup of residues sufficient to damage even lesssusceptible crops, information on herbicide degradation is urgently needed.

This information would be directly useful to extension personnel and farmers for: selection between alternative herbicides; planning clearing practices that optimize soil pH and organic matter content for minimizing herbicide buildup; and in the planning of crop rotation sequences. The information would also benefit those evaluating the length of environmental impact that would be caused by herbicide contamination of non-agricultural lands.

SNOWPACK STRUCTURE AND REGIONAL AVALANCHE HAZARD FORECASTING

Principal Investigator: Edward R. LaChapelle
Professor of Atmospheric Sciences
and Geophysics
University of Washington
Seattle, Washington

Amount Funded: \$28,503

Forecasting avalanches for widely varying mountainous terrain is a growing problem for many areas throughout the world. It is proposed that the role of snowpack structure analysis be formalized and included into regional avalanche forecasting.

A computer program will be applied to a large data base in order to isolate snowpack features that discriminate stable from unstable conditions. This information can then be synthesized with meteorological data into an operational guidance model for avalanche forecasting in Alaska.

FOREST ECOSYSTEM MANAGEMENT MODEL

Principal Investigator: John Fox
Institute of Arctic Biology
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$63,236

There will be increasing utilization of interior Alaska forests in the next several decades for saw logs, house logs and firewood. The effects of all management options cannot be evaluated by field studies alone because of the costs and time lags involved. The alternative, increasingly in use now in the eastern U.S., is development of forest growth and ecosystem computer simulation models. Such models aid in the selection of possible field experiments and in the refinement through field studies of the assumptions rationale of the models and consequently of predictive capabilities.

There is a current need for forest production-decomposition-nutrient exchange models capable of predicting effects of forest management practices and climatic changes for interior Alaska forests. A large data base now exists, suitable for building a first generation of such models fully comparable to, or even exceeding performances of the models currently used for eastern deciduous forests.

Such a modelling program would benefit and complement current management oriented research by the state and federal institutions in Alaska.

VOLCANO-GLACIER INTERACTIONS ON MT. WRANGELL

Principal Investigator: Carl S. Benson
Professor of Geophysics and Geology
Geophysical Institute
University of Alaska
Fairbanks, Alaska

Amount Funded: \$154,500

A major goal of this proposed research will be to complete selected parts of research which deals with the behavior of glaciers on the flanks of Mt. Wrangell. (Mt. Wrangell is an explosive volcano similar to Mt. St. Helens. It is the northernmost and one of the largest active volcanoes on the Pacific Rim.)

The research will cover site selection for a deep ice core to be obtained in 1982 for analysis of climatic and volcanic history. The research will also continue detailed monitoring of volcanic activity. Monitoring is important because of the three-fold increase in heat from Mt. Wrangell since the Mt. St. Elias earthquake in 1979 and the increased activity currently reported by long-term residents of the Copper Valley.

ALASKAN EARTHQUAKE CATALOG

Principal Investigator: Niren N. Biswas
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$128,334

It is proposed to establish and test a homogeneous catalog of Alaskan earthquakes with local magnitude greater than or equal to 4.0, for the period January 2, 1966 through December 31, 1980. Prior to the great Alaskan earthquake of 1964, there were only two seismographic stations in Alaska. In 1964, the National Weather Service began establishing a network of seismic and tide gauging stations along the south coast of Alaska. Shortly thereafter, in late 1965 and early 1966, the University of Alaska's new seismic laboratory began establishing a network of stations in central Alaska.

Now there are more than 200 short-period seismic stations in Alaska, divided into at least six major networks, and operated by five different groups for a variety of different purposes. A clear need exists to synthesize all of this data on Alaskan earthquakes into one list.

ENHANCED OIL RECOVERY

Principal Investigator: Christine Ehlig-Economides
Dept. of Petroleum Engineering
School of Mineral Industry
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$120,000

Alaska owes most of its present and much of its future prosperity to revenues from oil and gas production within the state. While exploration continues on the North Slope and offshore, the ongoing production from fully developed reservoirs in Alaska already provide the U.S. with nearly 20 percent of the total domestic production.

As primary production rates begin to decline and the secondary measures such as gas cap injection or water flooding reach the limits of effectiveness, the Alaskan reserves will be greatly extended through design of appropriate enhanced oil recovery processes.

To aid the design effort, the investigators propose a major, two part research project on enhanced oil recovery in Alaska. The first part will deal with the physical properties of the Alaskan crude oil. The second part, which is not a component of this proposal, will deal with the geological description of the formation properties of Alaskan reservoirs.

NEAR-SHORE BOTTOMFISH MANAGEMENT PROGRAM

Investigators: Lewis Haldorson
University of Alaska
Juneau, Alaska

Alaska Coastal Research, Inc.
Box 368
Langely, Washington 98260

Amount Funded: \$72,710

With the recent trend to very short halibut openings in southeast Alaska, and reduced salmon troll seasons, increasing numbers of fishermen are turning to, or investigating the possibility of fishing previously underutilized resources. Near-shore bottomfish are the first alternative for most of these fishermen. It appears that these previously unexploited fish populations are beginning to be targeted by small boat fishermen who are seeking alternate resources.

Research underway since 1980 has gathered extensive baseline information on important species caught in these fisheries. However, the state in 1981 almost eliminated the bottomfish study program in Alaska. The data gathered remains of relatively little value to the state unless it can be used as the basis for developing effective management plans. The proposed research is designed to complement this research program by developing a monitoring procedure for the inshore aggregation of fishes.

EFFECT OF HYDROCARBONS ON FISH

Principal Investigator: John P. Harrington
Chemistry Department
University of Alaska
Anchorage, Alaska 99501

Amount Funded: \$47,029

This project will help answer any questions on the long term effect that hydrocarbons, especially aromatic and polycyclic aromatic hydrocarbons, have on fish.

The rapid exploration and development of oil potential in Alaska may soon overlap all the richest fishing areas of the state. The investigator plans to obtain dissolved hydrocarbons and raw crude oil from Port Valdez ballast, fractionate it by solvent extraction and test the effects of these fractions on the mutation rate of bacteria and Alaskan fish.

One of the chief values of this project will be to raise the general awareness of interactions between industry and the environment.

STUDY OF WIND CHARACTERISTICS FOR APPLIED WIND POWER

Principal Investigator: Tunis Wentink, Jr.
Professor of Physics
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Amount Funded \$149,408

The objective of the proposal is to provide information leading to the early implementation of wind powered systems as energy supplements for use by the people of Alaska. The work involves the analysis of existing wind data, acquisition of new wind data and transference of the information to the users of wind power.

The research will provide an improved service program for dissemination of wind power information, involving coordination with the University and other extension services and agencies. One improvement in particular will be in servicing specific information requests by private enterprise and state and local governments.

INFLUENCE OF CLIMATIC FLUCTUATION ON PERMAFROST

Principal Investigator: T.E. Osterkamp
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$142,733

Permafrost is a common soil condition in Alaska, with about three-fourths of the land area underlain by permanently frozen ground. Long-term needs of understanding the basic permafrost properties and processes and the short-term needs of developing solutions to permafrost detection and engineering problems, require intensive study and a comprehensive approach.

The study will include the monitoring of the thermal regime of the permafrost in Alaska at 15-20 sites. Measurements will be made of the thickness of the active layer and any thawing that may occur at the permafrost table and base, and of the temperature profiles through the permafrost section.

Interpretation and modeling of the temperature profiles will then be carried out to determine the effects of past and present changes in surface temperatures on the permafrost and to predict future changes in the permafrost regime.

SOLAR RADIATION ASSESSMENT

Principal Investigator: Gerd Wendler
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$165,964

Before an alternative energy source can be applied intelligently in Alaska, knowledge of how much energy is available from this specific source is essential. There is very little information concerning solar energy. Although a sophisticated system of solar radiation data acquisition is in use at the Geophysical Institute in Fairbanks, most of the data is only for the Fairbanks vicinity.

In order to obtain radiation data from each of the four major climatic regions in the state, substations were established in Kodiak, Anchorage and Barrow, using a limited number of sensors and antiquated data systems. The resultant data from these three stations are incomplete for proper evaluation of solar energy utilization.

The investigators propose to maintain operation of all four radiation stations in Alaska after the Department of Energy support discontinues. The Fairbanks station will operate as it is at the present, but the other three stations will be upgraded by using additional sensors needed for the assessment of solar energy. All data will be reduced and presented in a form directly usable by individuals or agencies within Alaska. The data will be archived and disseminated by the investigators and the State Climatologist at the State Climate Center.

BIOGEOCHEMISTRY OF ARSENIC MINE DRAINAGE

Principal Investigator: Edward J. Brown
Institute of Water Resources
University of Alaska
Fairbanks, Alaska

Amount Funded: \$83,500

The contribution of micro-organisms to the accelerated leaching of arsenic associated with gold mining to groundwater is unclear. The proposed research will study the biogeochemistry of arsenic in both placer and lode gold mining areas in Alaska where arsenic is prevalent.

This research could determine the specific causes for the increased levels of arsenic in streams and groundwater. The results of the study will be used to formulate solutions to water quality problems caused by placer and gold mining (if mining, in fact, is determined to be the cause).

STUDY OF AIRBORNE POLLEN AND SPORES FOR MEDICAL PURPOSES

Principal Investigator: James H. Anderson
Research Associate
Institute of Arctic Biology
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$81,341

Many Alaskans suffer with allergies induced by airborne pollen and spores. Alaska is practically unknown "aeropalynologically", and research is needed to help allergic patients and their physicians toward more effective prevention and treatment.

The objectives of this proposal will be to acquire detailed knowledge of the composition and seasonality of the atmospheric pollen and spore flora and to develop a method of predicting significant pollen inducing events.

This proposal is partly for funding to finish analysis of 1978 samples and to analyze the samples from three Durham samplers in 1981. The major portion of the funding is to upgrade, expand and intensify aeropalynological research more adequately to meet medical and scientific needs and criteria in the state.

FATE OF FERTILIZER NITROGEN IN AGRICULTURAL SOILS

Principal Investigator: Stephen Sparrow
Agricultural Experiment Station
University of Alaska
Fairbanks, Alaska 99701

Amount Funded \$191,257

Very little is known about the behavior of nitrogen fertilizer in Alaskan soils. A better understanding of this behavior is needed to enable efficient utilization of applied nitrogen by crops and to minimize potential pollution problems.

The proposed research will study the various transformations and fates of nitrogen fertilizer in Alaskan soils. These include nitrification, immobilization and mineralization, leaching and gaseous loss of nitrogen. The results will be used to make recommendations to farmers and to policy planners on methods of management for best use of nitrogen fertilizer.

The study site will be located on University land at mile 1408, Fairbanks, within the Delta Agricultural Project. A leaching study will also be conducted at the University of Alaska Research Farm, at Fairbanks.

GROWTH RATES IN MUSKOX CALVES

Principal Investigator: Robert G. White
Institute of Arctic Biology
University of Alaska
Fairbanks, Alaska

Amount Funded: \$52,059

Muskox herds reintroduced to Alaska are expanding rapidly and show extremely high population growth rates. This phenomena warrants further study as these muskox may compete for food with caribou, reindeer, and moose.

There are no data on the milk requirements and food conversion efficiency in muskox calves, which is needed to interpret the nutritional basis for differences in growth and reproductive performance of circumpolar muskox populations.

IMPACT OF COMMUNITY PARTICIPATION ON RURAL EDUCATION

Principal Investigator: Gerald A. McBeath
Department of Political Science
University of Alaska
Fairbanks, Alaska

Amount Funded: \$146,332

Alaska lacks information on the extent and degree of community participation and involvement in its schools, as well as what effect such participation has had on students and parents.

This project will describe the range of variation in community activity in rural areas of the state. Field research is proposed in 20 sites with data collection using several methods. Case studies will be formed and compared, and the project will also provide information necessary for the formulation of strategies for effective community participation.

HUMPBACK WHALE SURVEY IN PRINCE WILLIAM SOUND

Principal Investigator: Olga von Ziegesar
North Gulf Oceanic Society
P.O. Box 156
Cordova, Alaska

Amount Funded: \$17,987

The purpose of this research is to photo-document individual humpback whales and determine their number, movements, and activities in Prince William Sound, Alaska.

This information will be used to determine any critical habitats or critical time periods in humpback whale utilization of the area. In addition, data collected will provide a baseline against which future changes can be measured.

ARCTIC ALASKA SOILS DATA BASE

Principal Investigator: K.R. Everett
Ohio State University
Research Foundation
Columbus, Ohio

Amount Funded: \$45,548

A large data pool exists for the characteristics of soils in arctic Alaska, and these data are being added to at an ever increasing rate. At present there is no single source from which to access the existing soils information.

It is the goal of this project to assemble and cross reference existing soils data for arctic Alaska while it is still in a manageable state.

EFFECTIVE TEACHERS IN RURAL ALASKA

Principal Investigator: Judith Kleinfeld
Professor of Psychology
The Institute of Social and Economic Research
University of Alaska
Fairbanks, Alaska 99701

Co-Principal Investigator: Bill McDiamond
Research Associate
The Center for Cross-Cultural Studies
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$145,18

The extremely high teacher turnover rate in rural Alaska disrupts the continuity of educational programs, contributing to academic deficiencies for many students. Often these problems are caused by the teachers themselves who cannot cope with a cross-cultural, multi-grade classroom in a different cultural situation, and the rigors of a rural Alaskan lifestyle. Despite the significance of the problem, very little research has been done on the characteristics of teachers who are successful in isolated cross-cultural situations, or with Eskimo and Indian students.

This proposal will examine the characteristics of teachers who are effective in rural native communities. The research will identify the criteria which rural communities use in evaluating the effectiveness of rural teachers. It will also identify the criteria which school administrators and other professional educators use in evaluating teachers in rural settings. Finally, it will describe the characteristics and adaptive strategies of rural teachers who have been considered effective by these groups.

The research target school districts will include some with a high teacher turnover rate. In the high rate districts are: Southwest Region, Northwest Arctic and Kuspuks school districts. The low rate districts are: Lower Yukon, Lake and Peninsula and Yukon Flats school districts.

GENETIC ANALYSIS OF BITING ALASKAN BLACK FLIES

Principal Investigator: Gerald F. Shields
Associate Professor of Zoology
Institute of Arctic Biology
University of Alaska
Fairbanks, Alaska 99501

Amount Funded: \$39,216

An increase in agricultural and livestock production is expected to continue in Alaska. Species of black flies, after emergence, extract blood from a variety of hosts, including man and cattle. In addition, little is known of the deleterious effects of black flies on subsistence resources such as reindeer and caribou. In areas outside of Alaska, these flies have severely reduced productivity through host harassment, and in extreme cases, death has resulted.

The more noxious biters are known as Gnu arcticum and the study will concentrate on this species. Preliminary analyses of the distribution of arcticum indicate that this species reproduces in abundance in the very areas of Alaska in which livestock increases are planned. This particular insect presents a potential threat to the success of the livestock industry in Alaska.

When the studies are completed, control agencies will be provided with information concerning the location and distribution of cattle biting flies in the areas proposed for livestock production, the relative abundance of these taxa in relation to non-biting types and the emergence time at these locations.

EVALUATION OF EMERGENCY TRAUMA TRAINING IN LOGGING CAMPS

IN SOUTHEAST ALASKA

Principal Investigator: Laurel Anderson
Southeast Region EMS Council, Inc.
Sitka, Alaska

Amount Funded: \$24,525

Logging is the most hazardous industry in Alaska. In 1978, accidents and injuries in logging camps were four times the rate of all private sector industries. In 1974, an advanced emergency care course was introduced to two logging camps in Southeast Alaska. Since that time, Emergency Trauma Training (ETT) has been conducted in nine other camps. Reports from independent sources indicate that the training reduces the severity of the injury and the incidence of accidents. This study will determine if these reports are related to the ETT. This will be done by examining Workers' Compensation claims of some logging camps from 1973-1979 and comparing camps that received ETT with camps that did not.

NORTHERN PLANTS DOCUMENTATION CENTER

Principal Investigator: David F. Murray
Institute of Arctic Biology
University of Alaska
Fairbanks, Alaska

Amount Funded: \$39,541

This proposal is for funds to supplement federal and University of Alaska support of a computerized data bank of information on Alaskan plants. These data provide fundamental information required in environmental assessments, land use planning, vegetation mapping, and impact evaluation.

Although the data have been available, their retrieval has not been practical until the development of appropriate computer programs. These project funds will be used to expand the master file.

STUDIES OF ALASKAN DULSE (Marine red algae)

Principal Investigators: John W. Chandler
Robert J. Ellis
Natasha I. Calvin
Marine Botanicals
Auke Bay, Alaska

Amount Funded: \$75,000

Preliminary laboratory studies indicate that two species of seaweed found primarily in southeast Alaska are effective against herpes virus. Alaskan Dulse is the name given these two species by their discoverers.

Prior to determination of the abundance of seaweed in Alaska the medical effectiveness must be researched. This project will analyze the properties of the Dulse and explore the medical implications for treatment of herpes infection through topical application of Dulse.

ALASKAN TEPHROCHRONOLOGY PROJECT

Principal Investigator: Robert Thorson
Assistant Professor of Geology
Geology/Geophysics Department
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$121,365

Tephrochronology is the study of volcanic deposits or tephra (volcanic ash) which results from explosive eruptive events. Geologists in this discipline attempt to determine the characteristics, age, source and distribution of volcanic ash, so that volcanic hazards can be properly assessed. Compiling this information is critical for understanding the regional hazards associated with explosive volcanic events.

This proposal will fund the organization and completion of an Alaskan Tephrochronology Project at the University of Alaska Museum. The purpose of the project is to define and facilitate the study of tephra layers throughout the state. The objectives will be to establish a reference collection and data file on Alaskan tephra; to coordinate future tephrochronology research.

The end result of the two-year project will be the first comprehensive view of the entire volcanic ash sequence in Alaska. Such an overview will be vitally important in identifying volcanic hazards and enhancing the safety and well-being of the state's residents.

COASTAL FLOODING BY STORM SURGES & OBJECTIVE FORECASTING PROCEDURES

Principal Investigator: James L. Wise
Arctic Environmental Information
& Data Center
University of Alaska
707 "A" Street
Anchorage, Alaska 99501

Amount Funded: \$57,500

Coastal flooding from storm surges is a real hazard to communities along the Bering, Chuckchi, and Beaufort Sea coasts. The project will gather storm surge occurrence data, then work with the National Weather Service and a storm surge modeling expert to:

- 1) prepare a climatology of storm surges;
- 2) develop manual objective forecast procedures; and
- 3) develop an automated objective forecast procedure.

YUKON-KUSKOKWIM COASTAL COMMUNITY HARVEST DISRUPTION STUDY

Principal Investigator: Ann Fienup-Riordan
325 East Manor Street
Anchorage, Alaska 99501

Amount Funded: \$79,888.

The study will provide socioeconomic and sociocultural parameters that can be used to evaluate the nature and extent of potential resource conflicts on coastal Alaskan communities, should uplands or offshore oil and gas activities create an environmental disturbance.

Research will include the identification and assessment of the economic, social and cultural ramifications of possible renewable resource harvest disruption on residents of Scammon Bay, adjacent communities, and the region as a whole. Disruptions could include effects of offshore structures, tanker movements, noise, human disturbances, potential oil spills and other occurrences.

SIXTY SECONDS OF SCIENCE

A SERIES OF STATEWIDE MONTHLY RADIO PROGRAMS

Principal Investigator: Nan E. Elliott
Arctic Environmental Information and Data Center
University of Alaska
Anchorage, Alaska 99501

Amount Funded: \$62,006

"Sixty Seconds of Science", a statewide monthly radio program, was developed by the Arctic Environmental Information and Data Center in 1980 through a grant from the National Science Foundation.

The goal of the project is to reach the nonscientific audience and inform it of science activity in Alaska. Ten 60-second programs will be produced each month. The programs are aired by 85 percent of the commercial and public radio stations in the state. In 1981, in its first year, "Sixty Seconds of Science" won a first-place award from the Alaska Press Club.

UNDER-ICE NAVIGATION BY SEALS

Principal Investigator: Robert Elsner
Institute of Marine Science
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$35,631

The objective of this study is an experimental examination of the under-ice orientation and navigation capabilities of the Bering Sea spotted seal. It will investigate the possible sensory disturbances arising from ambient noise levels and environmental disturbances which are anticipated to take place in connection with petroleum exploration in Alaskan waters seasonally covered with sea ice.

A series of experiments will be performed with captive spotted seals. The study will take place in a large, flooded industrial gravel pit during the winter to simulate under-ice low visibility conditions while maintaining control over the environment.

REMOVAL PROCESSES OF AIR POLLUTION PARTICLES BY ICE FOG CRYSTALS

Principal Investigator: Takeshi Ohtake
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Amount Funded: \$118,816

Air pollution in Fairbanks during the winter months manifests itself primarily as ice fog. Researchers have cautioned that the city might experience dangerously high levels of air pollution with increasing population and industrial development.

However, a high possibility of removal of air pollution particulates by sedimentating ice fog crystals has been demonstrated. Chemical analyses of ice fog precipitation collected in the Fairbanks area suggest that the pollution particulates are scavenged by the ice fog crystals. If removal of air pollution by ice fog is verified, more ice fog might be preferable because the ice fog may be less harmful than air pollution.

This possible cleansing effect of air pollution particles will be studied in Fairbanks. The mechanism of the scavenging effect of ice fog crystals will be examined by use of electron microscope techniques. The research objectives of this study will be: to obtain current size and number distributions of ice fog crystals and aerosols in Fairbanks and its vicinity; to evaluate the degree of the cleansing effect by ice fog crystals in a subarctic polluted urban atmosphere; and to examine the mechanism of artificially enhancing such a possible scavenging effect by small ice fog crystals.

STUDY OF IMPLEMENTING ALASKA'S BILINGUAL EDUCATION POLICY

Principal Investigator: Ramona N. Suestopka-Duerre
University of Alaska
Arctic Environmental Information and Data Center
Anchorage, Alaska

Amount Funded: \$23,710

The study will analyze the implementation of Alaska's bilingual education policy in the Lower Kuskokwim School District. The intent of the research will be to pinpoint problems, suggest reasons for the problems and offer suggestions for improvement in the district's bilingual education programs. The research will include examination of documents pertinent to the programs under study, observation, and interviews. It will also examine the reasons for the increased difficulty in determining the impact of education policies from one program to another and why a single policy produces varying results in various program locations.

ARCTIC RESEARCH SHIP DESIGN (Phase III)

Principal Investigator: Robert Elsner
Institute of Marine Science
Fairbanks, Alaska

Amount Funded: \$161,933

Earlier design work for an arctic research ship established the requirements for national polar research vessel operations in terms of geographic regions, environmental conditions and scientific capabilities. The design envisages a ship having characteristics of 225' water line length, 2900 tons displacement, twin rudder and diesel propulsion.

This proposal is to continue the design effort to solve technical problems which remain and which require resolution before further development work can begin. These problems concern sea ice resistance and propulsion and include design improvements such as: modification of hull lines; diesel, reduction gear, nozzled, variable pitch propeller propulsion, and reduction of frictional resistance in ice by air-water lubrication.

A model will be constructed suitable for the installation of self-propulsion equipment and testing. Model tests in ice will be performed at various ice thicknesses to determine the resistance of the ship and to observe the flow of ice around the hull. Modification of hull lines and lubrication techniques will be studied for effectiveness in reducing ice compression, resistance, and ice flow under the hull.



THE ALASKA COUNCIL ON SCIENCE AND TECHNOLOGY

November 30, 1982

Jerry Wilkerson
Director
Legislative Budget & Audit
Alaska State Legislature
Juneau, Alaska 99811

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RE: Interim Letter #1, Carol Carroll, Auditor

Dear Mr. Wilkerson:

The Alaska Council on Science and Technology (ACST) appreciates the receipt of your interim audit findings dated November 8, 1982. In our meeting of November 17-18 the Council reviewed your findings and offers the following comments for your consideration.

Generally speaking, we agree with some of your substantive conclusions but question the rationale from which they are derived. In other cases we believe either the legislative history or the actual statute governing ACST operations has been misconstrued, at least in part.

As a place of beginning it is of basic importance to examine your statements: a) "The primary legislative goals were to coordinate and centralize research information in order to ----" (page 1, last paragraph) and b) several statements implying that the Council is mandated to "coordinate" state funded research, per se. An examination of the statute indicates that the word "coordinate" or its derivatives is used only in the following statutory references:

1. In Section 1. LEGISLATIVE FINDINGS "(3) expenditures are not adequately coordinated in the state to achieve the highest and best use of research dollars" (emphasis added).
2. In Section 44.19.182 (c) "8. coordinate its data and information needs with other research organizations in order to avoid unnecessary duplication;" (emphasis added).

By way of additional comment on the "coordination" role, it is well to be aware that an early draft of the ACST bill drew particularly strong opposition from state agency and university leaders. The context of this draft was that "state money may not be spent for research projects, unless, before commencing the research, the agency or person responsible for conducting the research submits to the council for its review and comment a scope of work proposal----". Consequently, the legislature rejected ear'v the idea that the Council should "coordinate" research through any measure of review or sanction.

Broadly speaking, the legislative background of the establishing statute led the Council to consider its general mandates as being to survey research needs, to recommend research priorities, to award research grants and to provide advice to the governor and legislature upon request. In these general mandates, the Council asserts that it has, in fact, derived its research needs statements and data and information needs in a "coordinated" fashion with other research organizations, state and federal agencies, and the private sector. The proof of this statement is twofold: a) the Council drew expert membership for all its research needs committees from those agencies having cognizance and from involved university and private sector research or management organizations. (By this means coordination of research needs assessment by the Council was definitely achieved.); b) informational needs of ACST have also involved a large interagency and interorganizational coordinative network including particular relationship with the information transfer expertise of the state, federal and university library systems, the Arctic Environmental Information and Data Center (AEIDC), and the federal-state interagency Committee on Natural Resource Information Management (CONRIM); and c) in addition to meeting the informational needs of the Council itself (the statutory mandate), ACST has also vigorously supported the information transfer and dissemination function through grants, publications, and the support of numerous conferences. All of these contacts and activities, we believe, belie your comment that, "interaction with state agencies has been limited".

Much of your interim report dwells on your interpretation that the Council has a mandate to coordinate statewide research. This assumption, as earlier pointed out, has no statutory basis. Nevertheless, further comment is still appropriate, particularly on your conclusion drawn from questionnaires, that "the Council has had little effect on State research programs". Through our research needs reports, activities concerned with U.S. Arctic and Alaska science policy and legislative committee contacts we have had direct impact on several state research programs, including the following examples:

- * The seismology program of the Division of Geological and Geophysical Surveys of DNR;
- * The development of programs within ADF&G for the economic appraisal of fish and wildlife resources;
- * The establishment of the Alaska Climate Center within the Arctic Environmental Information and Data Center, University of Alaska.
- * The establishment of the airport weather program in Alaska rural villages within the DOTPF;

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- * The resolution of the rural village smoke/fire safety program within the Department of Public Safety;
- * The acceleration of mineral mapping programs within DGGs;
- * The general research programs conducted by the University of Alaska notably in the biological, geological, agricultural, atmospheric sciences;

and other examples of longer term impact such as the very large influence on public health research, both state and national.

Letters of testimony on these examples can be made available.

The implication of state sponsored research duplication also requires comment. The ACST, after considerable investigation, is unaware of any specific cases of research duplication, nor does your audit report identify any. Moreover, in scientific inquiry duplication is not necessarily bad. Redundant research is practiced in all fields of scientific or engineering endeavors as a means of conclusion verification. It is not bad, per se. More to the point of duplication in state government may be the practice whereby more than one agency investigates or analyzes a particular problem, e.g. the current studies of the so-called "All Alaska gas pipeline". Nevertheless, here again, there may be valid state purposes served by duplicative efforts.

Finally, your comment under A3, page 2, is, in our opinion, particularly lacking in comprehension. This commentary makes two points. They are:

1. That the Council has been "ineffective in gathering research available to them through departmental budget documents, session laws, and various reports required by the legislature."; and
2. That the Council has limited itself to coordination of its own research budget----. When compared with the University of Alaska research budget it is clear that the Council has had little statewide effect on research coordination or on reduction of unnecessary duplication".

On the first point: germane session laws and legislative reports are reviewed by Council members and staff. Departmental budget documents, based upon our experience, are worthless as sources of information on research. A much greater comprehension of research activity can be ascertained from other sources previously mentioned. On the second point: our position is that the size of current budgets available to any organization is unrelated to either "research coordination" or reduction of unnecessary duplication. In discussion with you, we would be pleased

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to point out the general sources of approximately 200 million dollars of research expenditures in Alaska, but the issue of coordination is primarily related not to the totality or share of these expenditures, but rather to specific problems and the means whereby they may be solved. It is with regard to achieving coordinated mechanisms for solving research problems that the Council members have spent so much effort on the introduction and passage of S.1562, the Arctic Research and Policy Act, in the Congress and also on the introduction in the upcoming state legislature of an Alaska science policy resolution.

In summary, the Council believes your first interim finding that ACST "has been ineffective in coordinating statewide research information" is inappropriate on the grounds that you have misinterpreted the statute and legislative history and have not fully comprehended the "coordinating" mechanisms which, on the record, the Council has utilized to meet its statutory requirements and service to the State generally.

Your second interim finding B. (page 2) was that "the Council has not complied with the intent of AS44-.21.242 (c) 3 requiring comment on significant research activities funded by the state during the preceding year" (emphasis added). Your narrative with this finding makes three points: a) the implication that comment upon significant research was not included in our annual report; b) that the Council lacks the knowledge on the type and cost of research funded by state agencies; and c) that this alleged lack of our knowledge is due to the appropriation of research funds to agencies without requiring coordination through the Council or reports to the Council. The Council's response to this interim finding is as follows:

1. In our 1981 Annual Report (pages 8-14) the Council made specific comment on areas of state research, or the lack thereof, which in our view were most significant.

2. The Council absolutely rejects the notion that it is lacking in knowledge on the type of research pursued by state agencies, including the University of Alaska. Through its interdisciplinary membership, the involvement of state and university scientific personnel in Council affairs and reports and particularly close relationships with AEIDC and CONRIM, the Council as a body has a greater and broader understanding of state funded research as pertains to subject, type, and who is doing research than any other group of people in Alaska. We do, however, acknowledge that only partial information is available to the Council (or for that matter, anyone) on the costs of such research. On this point we agree that there is no requirement for state or university reporting on this subject. Thus, the only cost data available are furnished to the Current Research Profile (CRP) maintained by AEIDC through a voluntary response questionnaire system. A basic problem in this regard is that while cost information on particularly designated

projects sometimes appears in budgetary documents, it is often augmented with other funds from various agency sources. Furthermore, research funded from operational budgets is often undesignated, except in the CRP, after the fact, and again total costs from one or more sources may not be reported.

In summary, there is a dichotomy between knowledge of who is conducting research on what subjects and how much it may cost.

On page 3 of your interim report, under C., you raise the review of State research needs. It is the view of the Council that research needs in functional areas of activity (i.e., transportation, living resources, etc.) can be prioritized. This we have endeavored to do at minimum costs, a process largely involving the voluntary committee apparatus of cognizant experts. The Council is of the opinion that scientific or engineering expertise cannot, nor is it appropriate to, prioritize research needs between functional or subject areas because societal aspirations between, e.g. health needs research on one hand or natural hazard research on another, can only be prioritized in the political arena. Science and engineering expertise can properly indicate the gaps of knowledge needed for research attention to solve certain problems. The determination of society's priority to solve particular problems must be a reflection of the relative worth of the endeavor as determined by representatives of the people in the political process.

Point D (page 3) of your interim report is, we suggest, not wholly or directly related to the Council's administration of research grants. The administration of research grants by the Council began as a legislative response to our early research needs reports. Research funds were not initially requested by the Council for Council administration. Rather, it was perceived by the legislature that the Council could perform this task most effectively. A technique involving nationally accepted peer review processes was initiated and received national recognition in Science as a model of efficient and qualitative review of research proposals. As a deliberative body with scant staff the Council turned to the peer review process in order to evaluate the efficacy of scientific or engineering propositions advanced for research funding. Early on, during the receipt of proposals for research funding, several Council members went on the record over the problem of research advantage to University of Alaska proposers over the private or governmental sectors. As you are aware, University research organizations are only funded between 25 and 30 percent by direct state appropriation, although the total authorized appropriation by the legislature is 100 percent. Thus, when University research is authorized at about 48 million dollars by the legislature only about 14 million dollars represent direct state fiscal outlays of money. The remaining 34 million dollars authorized is expected to come from federal, state, and private grants and contracts. This situation forces University proposers to be highly experienced and capable competitors for research funds. Indeed by peer review standards their proposals to the

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Page 6

Council were generally superior to others received. This of course resulted in the high percentage of Council grant awards to University researchers.

The next part of your discussion on research grants involves University overhead charges. As you should realize, overhead charges in the University accounting procedure are real costs of performing research. They greatly transcend "administrative" costs. University overheads conform to audits conducted under federal regulations to all universities receiving federal dollars. Internal audits by the University and the state are cognizant of this fact, and those responsible in the University administration and the State Department of Administration are aware of this overhead audit procedure. There simply is no relationship between University "overhead" charges and the administrative costs of less than 10 percent experienced by the Council in the execution of research grant awards. The Council takes the position that a 10 percent cost for the processing of grant or contract awards will compare favorably with any similar state or federal activity.

Your point E (page 4) again, in our view, illustrates certain misconceptions. You state that "the primary objectives of the Council are duplicative of functions presently performed by AEIDC. This is not the case. As indicated earlier, the Council's primary functions are the ascertainment of research needs, the recommendation of research priorities, the awarding of research grant funds and the providing of scientific or technological advice to the executive or legislative branches upon request.

AEIDC's primary missions are scientific and technological information transfer and referral, information dissemination, and the execution of interdisciplinary problem solving research and investigations, primarily but not wholly in developing areas of new science and technology.

The Council has coordinated its informational needs with AEIDC and has cooperatively utilized their resources in information transfer and dissemination. AEIDC has no primary objectives in determining or prioritizing state research needs, commenting upon state policy in scientific or technological matters, or advising either the executive or legislative branches on state research programs. While AEIDC does have a major role in channeling research information to various public, governmental, and private sector users, AEIDC does not aspire to, nor is it equipped, as a University organization, to "coordinate" statewide research, per se.

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Page 7

From the foregoing comments the Council asserts that your interim report conclusions cannot be substantiated in logic, by the record, or by statutory reference. In summary, the Council has not coordinated State funded research on an a priori basis because it is not mandated to do so, nor was it ever conceived that it do so. Research grants of the Council, we believe, have been efficiently administered. The Council's primary functions are not duplicative of AEIDC.

Now, having, we believe, refuted most of your interim report analysis within this response, the Council nevertheless can agree with some of your conclusions and recommendations. We direct the following commentary towards your recommendations since we believe that the Alaska apparatus concerned with state science and technology policy and the administration of research grants can be improved.

Commentary on Recommendation No. 1

Leaving aside our rejection of your rationale on the Council's information base, the Council does believe it is a salutary recommendation that all research contracted or performed by state agencies be reported to a central informational entity. The Council could be this entity or the existing arrangements between the Council and AEIDC could be strengthened or any other appropriate unit of state government, including AEIDC, could be so designated.

Commentary on Recommendation No. 2

The Council believes it has, subject to the limitations imposed by staff resources, met its statutory obligations. In order to be effective the Council requires a much closer relationship to both the Executive and Legislative branches on policy issues of concern. The Council can respond in research priorities to specific policy issues. It cannot prioritize research needs across policy issues which are a reflection of societal aspirations.

Commentary on Recommendation No. 3

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Again, setting aside the rationale for this recommendation, the Council agrees that the granting of research funds by a deliberative body may not be appropriate. Indeed, if you will go back into the legislative history of the Council you will find that the three rather disparate functions of the Council generally, i.e., policy advice, research funding, and technical subject problem analysis, were first proposed in three distinct bodies. These were: governmental policy assistance through a Council apparatus such as ACST; research funding through a line organization paralleling national and other state entities, in effect an Alaska Science Foundation; and technological subject expertise application through a private sector organization such as the newly formed Alaska Academy of Engineering and Sciences which could assemble expertise through Academy committees. The experience of the past four years reinforces the efficacy of this original conception.

Commentary on Recommendation No. 4

We agree and have endeavored to do so.

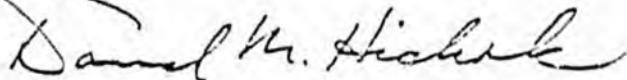
Other Recommendations to be Considered

The Council is in effect a voluntary organization. Members have devoted a great deal of their time to its deliberations. The staff is very small and is more administratively than scientifically oriented. An expansion of staff resources may be a consideration of merit. We should discuss this with you.

By way of conclusion to this response, the Council is attaching its own analysis of the questionnaire results it received from you. The analysis was done by Council member Neil Davis. We hope that this analysis may be useful to you.

Despite our disagreements with you on several points we have offered our comments in a constructive sense and hope we can share with you further dialogue eliminating our differences and which will be reflective of both the Council's strengths and weaknesses. Thank you for the opportunity to respond to your report.

Sincerely,



David M. Hickok
Chairman

DMH/pp

Enclosure

I

Legislature of the State of Alaska

Testimony of
Dr. Edward Wenk, Jr.

It is quite a privilege to testify on new legislation regarding the Alaska Council of Science and Technology. In my view, this proposition may be one of the most crucial to come before this session. By updating an important aid to state decision making, continuity of the ACST would represent a small investment today that should pay off handsomely tomorrow --- providing sharp and objective information on Alaska's opportunities and problems so as to foster development with the least disappointments or unwitting economic and social costs. I hope that these brief remarks may be helpful in your deliberations.

By way of introduction, a word or two about your witness. Over the last 24 years, I have been a participant in or analyst of advisory apparatus related to the making of technology-intensive policy. Although trained as an engineer and engaged as a practitioner for 18 years, I became the first science advisor to the U.S. Congress in 1959, then served on the science policy staffs of Presidents Kennedy, Johnson and Nixon. In 1970, I was appointed to the faculty at the University of Washington, where I have taught, conducted research, and continued in advisory capacities, especially to the Congress.

Over this last decade, I have periodically visited Alaska where I learned firsthand about its people, its economy, its challenges and its dilemmas. I soon understood why Alaska's future is a special case so that whatever steps are taken in science and technology policy must be carefully matched with the unique characteristics of geography, economy, history, hopes and dreams of its citizens.

As legislators, you have a powerful vantage point on Alaska's agenda so much of which depends on science and technology. These issues and corresponding initiatives, to name just a few, would:

- Increase efficiency, economy and productivity in state government by strengthening information resources, communication linkages and use of technological aids;
- Foster development of Alaska's natural resources, by understanding their distribution, richness and accessibility, by enhancing techniques of management in the public interest to assure a competitive position in world markets;

- Evaluate the future supply and demand of energy, state and global, considering indigenous sources of hydroelectricity and natural gas, their transportation and distribution;
- Provide new opportunities for employment through technological innovation, linking university R and D with industrial and state requirements, attracting diversified industry, facilitating capital formation, promoting long term investments and stimulating economic vitality in rural areas;
- Consider new rail networks that would improve interior transport, considering geology, climate and state of the art of hardware;
- Evaluate the impact of new technologies unfolding in the lower 48 to map dependencies and constraints that may influence the future of the state;
- Expand knowledge of high latitude phenomena, for example of electromagnetic effects that may impair pipelines, disrupt electrical power or radio transmissions, and of frozen soil that must be considered in construction or maintenance of highways, large buildings, railroads, and underground utilities;
- Strengthen meteorological reporting and forecasting as it affects agricultural development, stream flow, and hydroelectric capacity, glacial behavior, outdoor recreation, aviation and maritime safety, etc.;
- Extend capabilities for health maintenance and disease prevention so as to prolong and improve quality of life and to contain rising costs of medical care;
- Meet needs of a growing population for highways, water supply, sewerage, fire and police protection;
- Help manage state funding of research and development, which is a greater proportion of the total conducted in Alaska than in any other, to assure its focus on interests of the state, promote high standards in its conduct, and the effective utilization of products.

Although these examples cover a wide range of topics, they reveal significant common features:

- All these key decisions, consistent with Alaska's Constitution, are matters of public policy,
- Options depend critically on research results from natural and social sciences and engineering, and on alert inquiry as to future technological and social developments,
- Substantial public investments are involved,
- Issues are both technically and institutionally complex and require heightened initiative for public understanding and acceptance,
- Consequences of error are likely to be costly, politically difficult to correct, ecologically irreversible, or marked by shortfall in goal achievement,
- Implementation requires balanced partnership between public and private sectors,
- Public responsibilities for implementation, monitoring, or regulation cross agency boundaries so as to require an unusual degree of coordination,
- The past no longer provides a guide for the future, thus requiring new levels of foresight and impact analysis.

Put another way, these technology-laden issues involve high stakes for Alaska. Moreover, their satisfactory resolution depends on a base of sound information and analysis, and on keen public management. Because of Alaska's special situation, research conducted elsewhere may not suffice.

All of which adds up to the need for Alaska to equip itself with technical advisory apparatus that can provide essential facts and objective interpretations, focused on policy questions, prompt, free of advocacy, future oriented, drawing on a wide range of expertise, clearly and concisely presented. For only after the crucial data base is developed can options be examined and rational choices made that reflect economic, social, legal and political considerations that must be blended in democratic process.

In short, we find that both policies and policymaking that depend on science and technology are substantially different from others. So what do we do?

It is here that such steps may be easiest visualized with a nautical metaphor. Science advisory apparatus is like having a

navigator on a ship's bridge. It's function is an adjunct to that of the captain; it does not replace the crew in the engine room tasked with smooth operations. Navigation involves defining a course to reach a distant and future destination, with a careful watch for obstacles and hazards--early warning of storms, other vessels, reefs--utilizing all available charts, radio, radar and electronic location devices. Otherwise, if these functions are carried out by the ship operator, they are in competition for time and attention, may be terribly distracting--like running from wheel to radar scope--or they may be entirely neglected, with increased risk of collision, damage, delay or failure to achieve goals.

To strengthen the policy making capacity of the state, various instruments are available:

- Modify and strengthen the role for ACST,
- Expand roles of other governmental apparatus,
- reinforce functions in existing staff agencies,
- create a small specialized staff,
- appoint ad hoc advisory committees,
- use private consultants,
- develop systematic citizen consultation.

In considering relative merits of alternatives, and in recognizing that effective functioning may involve several in concert and not just one the following criteria should be considered. The unit should:

- facilitate role of governor as Chief Executive,
- demonstrate credibility and freedom from advocacy,
- assure access to diversity of expertise and of data banks,
- display low cost and structural simplicity,
- impart long range perspective and foresight capacity,
- respond with fast reaction time when needed,
- provide balanced representation of various disciplines and professions,
- demonstrate familiarity with policy process,
- foster interagency coordination and articulate with bodies

at other governmental levels,

- communicate effectively in and outside of government,
- be backed by legislative mandate.

As an aside, while the federal experience is not directly applicable, it may be instructive because exactly the same types of policy predicaments had to be met. Beginning in 1957, the incumbent President and his successors created and utilized four interrelated instruments:

- an advisory committee of outsiders,
- an advisory committee of insiders,
- a science advisor directly on the White House Staff,
- and a small specialized staff office.

With different administrations, these units have undergone major changes to strengthen or to divest tasks, depending upon wishes of the Chief Executive; but except for a 1973-76 hiatus, core functions have continued now for 25 years.

Congress, too, has acted. In 1958, it created a post of science advisor in the Legislative Reference Service, Later, they expanded it to a diversified staff of experts; then in 1972 created an entirely separate Office of Technology Assessment by legislation. Also about 1977, it authorized a science policy unit in the GAO.

States have also established analogous advisory apparatus. They are highly varied; they change in structure and style with new administrations; they range widely in mission and effectiveness. Most have a role in economic development, and these are being reexamined and revitalized as most states respond to the seduction of the hi-tech frontier. The National Governors Association has completed three studies in this area, treating prospects and comparative mechanisms.

To return to Alaska, as was said before, whatever is established here should be custom designed for the State's special needs and situation. As a first step, I strongly support new legislation in relation to the Alaska Council on Science and Technology.

Such a measure should focus more on a policy advisory role and less on managing grants; its mission should reflect:

- the need for acquiring and interpreting technical information in SandT policymaking,

- the potential of scientific and technological research in Alaska's future,
- the obligation to spend public research funds prudently and without unnecessary duplication,
- the benefit of effective information transfer,
- the requirement for central integration of research results,
- the capacity to look ahead and build a future orientation into the advisory function.

I also believe it essential to clarify the organizational arrangements by establishing the ACST in the Office of the Governor. This erases existing ambiguity as to structure, and best assures effective utilization and communication of this resource by linkage between advisor and advisee. Additionally, roles and missions of ACST should be spelled out to meet general criteria for functioning that I listed previously. And finally, the bill should contain an action-forcing provision through a requirement for a biannual report, dealing with the state of SandT, issues deserving research, recommendations for additional research and a summary of significant accomplishments.

In summary, this proposal is derived from what I perceive as needs of the state; it meets a test of soundness, using the criteria for such advisory apparatus. Finally, it would be built on an existing body that, while having a different scope and direction, has a track record of accomplishment that should reduce uncertainties as to performance if it were an entirely new entity. For the ACST has earned recognition and praise in a national scientific journal, almost unprecedented in activities of this kind.

What is important to your deliberations is that this proposal has a high prospect of success. It does mean that the members of the ACST will have a very demanding challenge ahead. But in my discussions with them, they appeared to share objectives and possible changes in legislative mandate that I have repeated here. This step might also correct what seemed to be substantial underutilization by the preceding administration.

I do not believe that this is the last word on what the state may ultimately decide is necessary to fulfill its opportunities involving science and technology. But in my judgment, it is the best possible first step.

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Testimony of Mr. David Hickok, Chairman, Alaska Council on Science
and Technology before the joint Senate and House State Affairs
Committee-Alaska State Legislature

Mr. Chairman, my name is David Hickok, the current chairman of ACST. With me is Chris Noah, Executive Director to the Council and Dr. Edward Wenk.

For four years we have been involved with an experiment unique to Alaska government experience. An experiment which has involved an extremely high level of volunteer participation and commitment from individuals within the Alaskan engineering and science community. This volunteer effort has been made primarily to make available Alaskan expertise in the sciences and engineering to the legislature and the executive branch as they considered policies and programs requiring such advisory input. Additionally, the Council has prepared research needs reports on subjects applicable to state interests, disseminated science and engineering information on a variety of subjects and in a variety of media and administered grant funds for the support of technology and research grant programs established by the legislature and given to the Council for administration.

Like many experiments our experience has been only partly successful. But we have learned something of both the strengths and weaknesses of a science organization in and for Alaska. I, and the members of the Council welcome this hearing and a candid discussion of the Council's record together with an evaluation of its responsibilities and duties. Since inception we have been engaged in our own self analysis but particularly over the past 1-1/2 years have sought better approaches or ways to alleviate the deficiencies in the ACST structure which we have observed. We brought three distinguished men of science in Alaskan and ocean affairs--Drs. George Rogers, Joseph Fitzgerald and Edward Wenk in to assist us in this evaluation. Dr. Wenk is here today to offer some observations from his lengthy experience in federal science and other state organizations.

With that introduction aside I'd like to briefly summarize some salient points of our own self-analyses. Where we are weak, where we are strong and why.

1. The Councils' authorizing legislation provided for an organizational relationship to both the governor and the legislature. This dichotomy of responsibility to both branches is perhaps the reason why neither has used the broad expertise available through the Council - extant in hundreds of Alaskan scientists and engineers available to assist government in appropriate ways -- to the extent possible.

Even so the legislature and the governor have called upon the Council for advice on numerous and various matters. The legislature has used the Council much more than the past executive branch with particular contacts involving several legislative committees: agriculture, telecommunications, natural resources and state affairs. As you will recall it was the Council who first furnished the legislature through this committee information on the impacts of federal budgetary cutbacks.

The authorizing legislation for the Council called for its placement within the Office of the Governor. However, we were never really welcomed there in the past administration and were transferred first to DEC and later to Administration by executive order.

2. Patterned after the federal experience in science organizations the 1979 draft legislation originally called for three separate entities: an advisory body to the executive branch on policy matters involving science and technology; the chartering of an independent private sector organization - e.g. Alaska Academy of Engineering and Sciences;

and, a third organization to grant funds for the support of scientific and technological research applicable to solving state needs and problems.

During the legislative process all three of these above functions were combined in the ACST. Experience has shown that this was a mistake. A small (seven person) volunteer Council simply cannot perform in both the policy advisory function and the granting of support funds for science and technology.

3. Experience has shown that the membership (7) is too small to effectively represent the expertise necessary to consider the range of scientific and engineering issues brought before the Council. Even though we have a rapid response system at hand to involve hundreds of diverse experts we are hindered in the deliberative and voting process. At least two more members from the private sector would make for a more effective operation.
4. Particularly difficult and time consuming for the Council has been the granting of funds for Northern Technology and Applied Research. In part the criteria for these grants have been vague in the legislation, but more importantly it is extremely difficult for a deliberative body, representing different scientific or engineering disciplines and interests to vote on the propriety of a broad spectrum of research proposals -- even though well screened by reviewing experts prior to Council vote. Incidentally, this review process itself has been most effective scientifically and financially and has been applauded nationally in SCIENCE magazine.

Comments:

Take Away

Grant Authority

5. Despite some of these difficulties we have produced, in our view, with only volunteer help--a rather impressive record of research needs reports, support of meetings and conferences, and dissemination of information in a variety of media: publications, radio and T.V.
6. On the subject of research needs reports and their prioritization we have only made priorities within each subject or function. We have not felt it appropriate to prioritize between research needs in health vs agriculture or natural resources vs transportation, etc. Instead we have held that this prioritization between functions was a matter for elected representatives. Even so if asked our opinion we would have responded.
7. Similarly we have been criticized for not coordinating all science in Alaska. In response to this we have pointed out that the legislative history for the ACST specifically said not to do so, and in any event it would be a mistake to put the Council in a "big brother" role for all Alaska science. Instead, we have pursued the goal of improved coordination in research through indirect means of workshops, conferences and information exchange. In this way--ie communications and involvement--coordination of state interests on many subjects has been achieved.
8. Finally, I would like to point out that we believe it has been in the policy area that the Council has been particularly effective and in an important sense. We have sought the development of research partnerships between the federal government, the state government, universities and private industry. To this end we wrote the report

U.S. Arctic Science Policy, assisted Senator Murkowski in the drafting of his legislation, the Arctic Research and Policy Act, formulated the state's position on this legislation and influenced the national scientific community to support its enactment in the U.S. Congress.

At this point in time the future of this legislation is our greatest concern and highest priority. We feel most strongly that if state and national goals in resource development, human health, environmental protection and national defense are to be achieved in the U.S. Arctic--Alaska and adjacent waters, then the combined forces of science and engineering expertise from government, from academia and private industry must work cooperatively in the greatest partnership possible.

What you decide to be the fate of the ACST or a similar science body in Alaska will have a direct effect on this effort. Unless Alaska continues an interest in science policy and research planning the United States Congress is unlikely to do so.

Thank you for this opportunity to appear before you I'd be pleased to answer any questions.

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Alaska State Legislature

REPRESENTATIVE
BARBARA LACHER
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(907) 376-4215



WHILE IN JUNEAU
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House of Representatives

MEMORANDUM

TO: Members of the House State Affairs Committee

FROM: Representative Barbara Lacher *[Signature]*

DATE: May 23, 1983

RE: Amendment to SB 294

The attached amendments are intended to permit legislators to provide an example to their constituents and to the citizens of this state as a whole. In a time of declining oil revenue it is necessary for us to make major cuts in many state and regional projects and programs. It is only fair that we, as Legislators, demonstrate our willingness to tighten our own belts, in light of the fact that we have asked the citizens of this state to do the same.

AMENDMENT NUMBER ONE

Amendment number one places legislative pay raises in the public eye, where they belong, and not hidden behind the cloak of other state employee's pay raises. This amendment adds a new Section to SB 294 that amends AS 24.15.020 such that Legislator's pay raises are subject to separate legislation. The effect of this amendment would be to leave Legislator's salaries at the current level and require legislation should we collectively choose to give ourselves a raise. I urge you to adopt this amendment.

AMENDMENT NUMBER TWO

Amendment number two is an alternative, should this Committee find amendment number one unacceptable. This amendment defers the issue until next Session, at which time we can more openly address the issue in light of HB 310.

A M E N D M E N T # 1

Offered in the HOUSE

By Lacher

TO: SB 294

Page 2, following line 25, insert a new section to read:

"* Sec. 4. AS 24.15.020 is amended to read:

Sec. 24.15.020. SALARY OF LEGISLATORS. The monthly salary for each member of the legislature is \$1,673 [EQUAL TO STEP A, RANGE 10 OF THE SALARY SCHEDULE IN AS 39.27.011(a) FOR JUNEAU, ALASKA]. The president of the senate and the speaker of the house of representatives are each entitled to an additional \$500 a year during tenure of office."

Renumber succeeding sections accordingly.

AMENDMENT # 2

OFFERED IN THE HOUSE:

BY: LACHER

To: _____ HOUSE BILL No. _____

SENATE BILL No. 294

PAGE: 2

LINE: 29

Following AS 01.10.070(c), Add new language to read:

however the salary increases for legislators made in sec. 1 of this Act through the operation of AS 24.15.020 take effect when the fourteenth State Legislature takes office following the 1984 elections.

S

B

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Alaska State Legislature

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ADELHEID HERRMANN

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CHAIRMAN
SPECIAL COMMITTEE
ON FISHERIES

MEMBER
TRANSPORTATION
COMMITTEE

House of Representatives

DISTRICT 26

ADAK
AKUTAN
ALEKNAGIK
ATKA
BELKOFSKI
CLARK'S POINT
COLD BAY
DILLINGHAM
DUTCH HARBOR
EGEGIK
EKUK
EKWOK
FALSE PASS
IGIUGIG
ILIAMNA
KING COVE
KING SALMON
KOKHANOK
KOLIGANEK
LEVELOCK
MANOKOTAK
NAKNEK
NELSON LAGOON
NEWHALEN
NEW STUYAHOK
NIKOLSKI
NONDALTON
PEDRO BAY
PILOT POINT
PORT ALSWORTH
PORT HEIDEN
PORT MOLLER
PORTAGE CREEK
SAND POINT
SOUTH NAKNEK
SQUAW HARBOR
ST. GEORGE
ST. PAUL
TOGIAK
TWIN HILLS
UGASHIK
UNALASKA

MEMORANDUM

TO: All Representatives

FROM: Representative Adelheid Herrmann

DATE: April 9, 1984

SUBJECT: ASRAA Pin

Enclosed is a pin from the Association for Stranded Rural Alaskans in Anchorage (ASRAA). ASRAA provides services to rural Alaskans who have migrated to Anchorage unprepared for the dangers looming there, often becoming the victims of crime or abuse. A lieutenant from the Anchorage Police Department recently attributed ASRAA's services to a decline in the City's crime in certain neighborhoods.

AH/g/ml
Enclosure

APRIL 11, 1984 (Continued)

SUBJECT TO CHANGE

FIRST READING AND REFERENCE OF SENATE RESOLUTIONS

SCR 45

SENATE CONCURRENT RESOLUTION NO. 45 by the Judiciary Committee:

Suspending Uniform Rule 41(b) of the
Alaska State Legislature concerning
Senate Bill No. 347.

was read the first time and referred to the Finance Committee.

MITCH...

Wednesday, April 11, 84

CSSE 347 (Fin)

"An Act authorizing the use of Alaska permanent fund income to pay longevity bonuses; amending the longevity bonus program and the permanent fund dividend distribution program; and providing for an effective date."

There is a Draft CS from State Affairs before the Committee. You may wish to comment on whether the subcommittee appointed for this has any input, or perhaps you just want to comment the draft was put together at your direction.

There is an updated Fiscal Note from Administration on this, Dated April 4, 1984. This fiscal note should apply to the proposed House State Affairs Committee substitute drafted dated April 9, 84 by Lynn Asper, Legislative Counsel, but you might wish to ask Lou Keller to clarify this.

A copy of the Alaska Supreme Court decision of April 6, 84 is on top.

Lynn Asper, the Legislative Counsel who drew up the bill and all subsequent revisions including the proposed CS from State Affairs, will be here to answer any questions. I also asked him to draw up a Sectional Analysis, which should be available to the Committee in time for the meeting. He just finished revising the bill to delete all references to the pending Alaska Supreme Court decision, so it's the draft copy dated 4/9/84.

Ron Lorensen, Deputy Attorney General, will be here to provide testimony and answer questions. He and Lynn between them can answer questions about various changes made to date in the proposed CS.

There is a Proposed Amendment to the proposed CS, which is in your backup on the top. This has been drafted by Lorensen, who will discuss it at length, but it is a change in the CS to allow the Alaska Supreme Court decision to be appealed to the U.S. Supreme Court. It is a policy question to be decided by Committee.

Also on top of the backup pile is a copy of the Senate Concurrent Resolution #45 which allows for a title change in the bill itself. This Resolution passed the Senate this morning 18-0 (2 absent), and was passed on and received by the Chief Clerk of the House at 11:24 this morning, April 11, 1984

Lou Keller, Director of Pioneer Benefits for the Dept. of Administration, will be here to answer questions, as the administration's authority on the longevity bonus program.

DRAFT

PROPOSED AMENDMENT

HOUSE CS FOR SENATE BILL NO. 347 (STATE AFFAIRS)

(SEE ATTACHED)

BASICALLY, THIS PAGE AMENDS THE LANGUAGE OF THE HOUSE CS TO MAKE ADJUSTMENTS AND REPEALS TO THIS ACT IF THE U.S. SUPREME COURT REVERSES THE DECISION OF THE ALASKA SUPREME COURT OF APRIL 6, 1984 REGARDING THE CASE OF SHAFER AND THE STATE OF ALASKA VS. VEST.

* Sec. 7. (a) A person who was qualified to receive a monthly longevity bonus under AS 47.45 on March 30, 1984 is presumed to be qualified to receive a monthly bonus under AS 47.45 as amended by this Act. Payments under AS 47.45 as amended by this Act may be made to that person as long as the person continues to qualify for payments under those provisions.

(b) A person who (1) is eligible to receive a monthly longevity bonus under AS 47.45 as amended by this Act for which that person was not eligible under AS 47.45 on March 30, 1984; and (2) whose application for a longevity bonus for a month beginning on or after May 1, 1984 is received by July 1, 1984 may be paid for each month for which that person is qualified and for which such an application was filed, notwithstanding any other provision of law to the contrary.

* Sec. 8. (a) The amendment to AS 47.45.010(a) made by sec. 1 of this Act, the adoption of AS 47.45.150(3) made by sec. 4 of this Act, the repeal of AS 47.45.150(2) and 47.45.170 made by sec. 5 of this Act, and the repeal of AS 47.45 made by sec. 6 of this Act are repealed if the United States Supreme Court reverses, in whole or in part, the decision of the Alaska Supreme Court in the case of Marian Schafer and State of Alaska v. Rodney Vest, Alaska Supreme Court No. S-289, on the constitutionality of the Alaska longevity bonus program (AS 47.45) as it read immediately before the effective date of this Act.

(b) In the event that the Alaska Supreme Court is reversed, in whole or in part, by the United States Supreme Court, the provisions repealed by (a) of this section are repealed on the day following the day on which the decision of the United States Supreme Court takes effect and, notwithstanding the provisions of AS 01.10.100(c), the provisions of AS 47.45.010(a) and 47.45.150, as they read immediately before the effective date of this Act are revived.

* Sec. 9. This Act applies only to longevity bonus payments for months of qualified residence beginning on or after May 1, 1984.

* Sec. 10. This Act takes effect immediately in accordance with AS 01.-10.070(c).

{36 MR. CHAIRMAN, I REQUEST THAT SB 347 BE ALLOWED TO STAY IN SUBCOMMITTEE UNTIL TUESDAY'S MEETING WHEN A RECOMENDATION WILL COME FORWARD AT THAT TIME. THE SUBCOMMITTEE WILL CONTACT THE PRIME SPONSORS SEN. RAYE AND AL ADAMS AND THE GOV'S OFFICE AND THE GENTLEMAN FROM THE DEPT OF LAW. OBJECTION WAS MADE BY LARSON FOR THEPURPOS OF A QUESTION. MILLER MAINTAINED HIS OBJECTION

A handwritten mark, possibly a signature or initials, consisting of several overlapping curved lines, located in the right-center area of the page.

STATE OF ALASKA
THE LEGISLATURE

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

April 11, 1984

SUBJECT: Sectional analysis of HCS CSSB 347
(State Affairs) (4/9 Draft)

TO: Representative Mitch Abood
Chairman, House State Affairs Committee

FROM: *he* Linn H. Asper
Legislative Counsel

You have asked for a sectional analysis of the latest version of a proposed State Affairs Committee substitute for SB 347.

You should note that the title of this bill is different than the title of the Senate-passed version. It is my understanding that efforts will be made to waive the provisions of legislative rule 41(b) regarding title changes in the other house. If this is not done the proposed committee substitute will be invalid because of the violation of Rule 41(b).

Section 1 amends the residence requirements for the longevity bonus program so that any one-year resident who is 65 or older may receive the bonus payments. This is the heart of the bill.

Section 2 makes technical changes in the provision of AS 47.45 relating to the effect of an absence from the state by a longevity bonus recipient.

Section 3 adds a new provision to allow the commissioner of administration access to state records under limited circumstances to obtain information needed to make eligibility determinations for the longevity bonus program.

Section 4 provides a definition of "resident" to supplement the changes made to the eligibility requirements by section 1.

Section 5 repeals the following sections:

AS 47.45.150(2); the definition of "domicile", a word no longer used in the chapter.

AS 47.45.170; the purpose and intent language from the original program.

Sec. 2, ch. 205, SLA 1972; the section from the original longevity bonus Act that would operate to invalidate the entire program if any part of it is held to be invalid.

Section 6 repeals the longevity bonus program on July 1, 2000.

Section 7 indicates that the eligibility of a person who is eligible for a longevity immediately before the effective date of the Act is not affected by the amendments made by the Act.

Section 8 restricts the operation of the Act to payments for May, 1984 and thereafter.

Section 9 provides for an immediate effective date.

LHA:lmb
L3/043

[April 6 Order of Supreme Court, as received by telephone]

State v. Vest

The judgment of the Superior Court, holding that Alaska's Longevity Bonus Program 1/ violates the Fourteenth Amendment of the Constitution of the United States is AFFIRMED. An opinion will follow.

IT IS SO ORDERED.

1/ AS 47.45.010-.170

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date: April 4, 1984

REQUEST

Bill/Resolution No.: CSSB 347 (Fin)
Title: Permanent Fund/Longevity Bonus

Sponsor: Ray
Requestor: Mulcahy
Date of Request: _____

FISCAL DETAIL

Agency Affected: Administration
Program Category Affected: Social Services

BRU, Program or Subprogram(s) Affected:
Longevity Bonus Program

TABLE OF CONTENTS

Fiscal Note	Page 1 of 6
Fiscal Note Analysis	Page 2 of 6
Analysis of Additional Costs	Page 3 of 6
Permanent Funds Available	Page 4 of 6
Costs of Program (By Year)	Page 5 of 6
Grants (Bonus) Budget Projections	Page 6 of 6

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date: April 4, 1984

Page 1 of 6

REQUEST

Bill/Resolution No.: CSSB 347(Fin)
Title: Permanent Fund/Longevity Bonus

FISCAL DETAIL

Agency Affected: Administration
Program Category Affected: Social Services

Sponsor: Ray
Requestor: Mulcahy
Date of Request: February 24, 1984

BRU, Program or Subprogram(s) Affected:
Longevity Bonus Program

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
OPERATING						
100 PERSONAL SERVICES	11.8	49.9	28.7	28.7	28.7	28.7
200 TRAVEL						
300 CONTRACTUAL	9.5	56.9	57.9	58.9	59.9	60.9
400 SUPPLIES	.5	1.5	1.0	1.0	1.0	1.0
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS	2,076.0	12,456.0	12,096.0	11,736.0	11,376.0	11,016.0
800 MISCELLANEOUS						
TOTAL OPERATING	2,097.8	12,564.3	12,183.6	11,824.6	11,465.6	11,106.6
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	2,097.8	(26,335.7)	(33,116.4)	(35,275.4)	(37,434.4)	(39,593.4)
FEDERAL FUNDS						
OTHER		38,900.0	45,300.0	47,100.0	48,900.0	50,700.0
TOTAL	2,097.8	12,564.3	12,183.6	11,824.6	11,465.6	11,106.6

POSITIONS:

FULL-TIME (FTE)	.2	1.0	1.0	1.0	1.0	1.0
PART-TIME (FTE)	.3	1.0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL: In FY 85 there would be an expenditure of \$38,900.0 in Permanent Fund Distributable Income and a reduction in the Longevity Bonus General Funds Budget of \$26,335.7. In succeeding years Permanent Funds would increase and General Funds would decrease.

ANALYSIS: Attach a separate page for analysis

Prepared By: E. Lewis Keller, Director Phone: (907) 465-4400
Division: Pioneers' Benefits Date: April 4, 1984

Approved by Commissioner: Lisa Rudd Date: 4/5/84
Agency: DEPARTMENT OF ADMINISTRATION

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

CSSB 347 (Fin)
Fiscal Note Analysis
Prepared By Division of Pioneers' Benefits
Department of Administration
April 4, 1984

This bill would increase the number of persons eligible for the Longevity Bonus Program.

This fiscal note was requested to be prepared using the following assumptions:

- a. All persons who are age 65 and older who have been residents of Alaska for at least one year would be eligible.
- b. On February 22, 1984, the Senate Finance Committee received information from the Department of Revenue that there are 14,500 Alaskans over age 65, based on verified 1983 Permanent Fund applications.

There will be approximately 10,348 persons on the Longevity Bonus program by July 1, 1984. Therefore, it is assumed, as requested using the February 22 information, that an additional 4,152 persons will be enrolled on the program in FY 85 under the bill.

- c. The amount of the bonus would be \$250 per month. According to calculations of Permanent Fund Distributable Income issued by the Department of Revenue in January of 1984, only \$38.9 million would be available for credit to the Longevity Bonus account in FY 85. This amount would fund only 12,967 persons, rather than 14,500. Therefore, the additional \$4.6 million needed to fund 14,500 persons would have to be obtained from another source.
- d. No retroactive payments would be paid.
- e. There may be a much larger rate of growth in this program with new legislation. We do not know what the rate of growth will be, but we assume that there will be an increased cost for grants over the next six years. The FY 87 budget preparation will reflect the first full year of experience on which to base more specific figures.
- f. All administrative expenses (program management and operating costs, exclusive of bonus payments) would be paid from the General Fund. Bonus payments would be paid from the Longevity Bonus Account established from earnings of the Permanent Fund, except for all expenses in FY 84 and the additional \$4.6 million in grants needed in FY 85, which would be paid from the General Fund.
- g. An increase in the Longevity Bonus staff would be needed to process the flood of new applications.
- h. The Act would become effective on May 1, 1984.

CSSB 347 (Fin)
 Fiscal Note Analysis
 Prepared By Division of Pioneers' Benefits
 Department of Administration
 April 4, 1984

Additional funds needed for FY 84 are computed as follows:

	<u>Annual Cost</u>
Personal Services	\$ 11,836
Clerk V, PFT (2 months)	\$4,785
Clerk II, PPT (2 positions, 2 months)	7,051
Contractual Services	
Added postage, bonus warrants, printing of new regulations and application forms and increased telephone tolls	9,492
Commodities	500
Office supplies	
Grants	
Additional funds needed for Bonus payments to additional persons who will be eligible (4,152 x 2 x \$250)	2,076,000
Total additional funds required for FY 84	\$ 2,097,328

Additional funds needed for FY 85 are computed as follows:

Personal Services	\$ 49,862
Clerk V, PFT	\$28,710
Clerk II, PPT (2 positions, 6 months)	21,152
Contractual Services	
Added postage, bonus warrants, printing of new regulations and application forms and increased telephone tolls	56,950
Commodities	1,500
Office supplies and file cabinets for application and recipient files	
Grants	
Additional funds needed for Bonus payments to additional persons who will be eligible (4,152 x 12 x \$250)	12,456,000
Total additional funds required for FY 85	\$12,564,312

November 9, 1983

Permanent Funds Available for
Longevity Bonus Grants
CSSB 347 (Fin)

FY 85	-	\$37,400,000	+	\$1,500,000 (interest)	=	\$38,900,000
FY 86	-	\$48,900,000	+	\$1,960,000 (interest)	=	\$50,860,000
FY 87	-	\$60,500,000	+	\$2,420,000	=	\$62,920,000
FY 88	-	\$68,400,000	+	\$2,740,000	=	\$71,140,000
FY 89	-	\$75,900,000	+	\$3,040,000	=	\$78,940,000
FY 90	-	\$85,600,000	+	\$3,420,000	=	\$89,020,000
FY 91	-	\$97,200,000	+	\$3,888,000	=	\$101,088,000
FY 92	-	\$108,435,000	+	\$4,337,400	=	\$112,772,400
FY 93	-	\$120,481,000	+	\$4,819,250	=	\$125,300,250
FY 94	-	\$133,280,000	+	\$5,331,200	=	\$138,611,200

March 29, 1984

Total Longevity Bonus Program Costs

CSSB 347 (Fin)

FY 84	Administration	\$ 248,000	GF
	Additional Administration	21,828	GF
	Grants (10,000 x 10 x \$250)	25,000,000	GF
	(14,500 x 2 x \$250)	7,250,000	GF
	Total	<u>\$32,519,828</u>	
FY 85	Administration	\$ 269,400	GF
	Additional Administration	108,312	GF
	Grants (14,500 x 12 x \$250)	38,900,000	PF
		4,600,000	GF
	Total	<u>\$43,877,712</u>	
FY 86	Administration	\$ 269,400	GF
	Additional Administration	87,600	GF
	Grants (15,100 x 12 x \$250)	45,300,000	PF
	Total	<u>\$45,657,000</u>	
FY 87	Administration	\$ 269,400	GF
	Additional Administration	88,600	GF
	Grants (15,700 x 12 x \$250)	47,100,000	PF
	Total	<u>\$47,458,000</u>	
FY 88	Administration	\$ 269,400	GF
	Additional Administration	89,600	GF
	Grants (16,300 x 12 x \$250)	48,900,000	PF
	Total	<u>\$49,259,000</u>	
FY 89	Administration	\$ 269,400	GF
	Additional Administration	90,600	GF
	Grants (16,900 x 12 x \$250)	50,700,000	PF
	Total	<u>\$51,060,000</u>	

Grants Budget
If Longevity Bonus Program Is Unchanged
(based on growth of 60 per month
over present enrollment)

FY 85	10,348 persons @ \$250/mo.	=	\$31,044.0
FY 86	11,068 persons @ \$250/mo.	=	33,204.0
FY 87	11,788 persons @ \$250/mo.	=	35,364.0
FY 88	12,508 persons @ \$250/mo.	=	37,524.0
FY 89	13,228 persons @ \$250/mo.	=	39,684.0
FY 90	13,948 persons @ \$250/mo.	=	41,844.0
FY 91	14,668 persons @ \$250/mo.	=	44,004.0
FY 92	15,388 persons @ \$250/mo.	=	46,164.0
FY 93	16,108 persons @ \$250/mo.	=	48,324.0
FY 94	16,828 persons @ \$250/mo.	=	50,484.0

1.	POSITION TITLE Clerk V				RANGE/STEP 11B	BARG. UNIT G	FORM 12 PAGE/LINE	COY.	APPROV.	DISAPP.	
2.	TYPE OF POSITION PFT	STAFF MONTHS 12	RP NUMBER	PCN NUMBER	BRU PRIORITY 1	LOCATION Juneau	ELECTION DISTRICT 4	LEG.			
3.	CONTINUATION LEVEL				JUSTIFICATION						
4.	TYPE OF EXPENDITURE			AMOUNT							
	1	2	3								
	PERSONAL SERVICES										
5.	Salary	1,914/mo.	22,968								
6.	Benefits		1,454								
7.	Supplemental Benefits		1,408								
8.	Fixed Benefits		2,880								
9.	TOTAL PERSONAL SERVICES	01	28,710								
10.	Travel	02									
11.	Contractual	03									
12.	Commodities	04									
13.	Equipment	05									
14.	Other										
15.	TOTAL COST		28,710								
	RECEIPT CODE	FUNDING SOURCE									
16.		Federal Receipts	1002								
17.		G.F. Match	1003								
18.	100	General Funds	1004	28,710							
19.		1-A Receipts	1005								
20.		Program Receipts	1028								
21.		Other									
FOR B&M USE ONLY											
4A KEY NUMBER _____											

The program expects to receive applications from 4,152 persons who will meet the new eligibility requirements when the bill is effective. A Clerk V position is required to supervise two PPT Clerk II positions, who will be required to process the volume of applications. In addition, the Clerk V will be responsible for calculation of any retroactive benefits which may be due.

At the end of eight months, it is expected that the receipt of applications will level off and the Clerk V position will then be required to assist with actions necessary for continuing eligibility of increased number of recipients, and added volume of data input.

13 REQUEST FOR
NEW POSITION

AGENCY Administration
Social and Economic Assistance
PROGRAM for the Aged
BRU Longevity Bonus Program
COMPONENT _____

FY 85

Page _____ of _____
Revised Date _____

1.	POSITION TITLE Clerk II				RANGE/STEP 7B	BARG. UNIT G	FORM 12 PAGE/LINE	GOV.	APPROV.	DISAPP.					
2.	TYPE OF POSITION PPT	STAFF MONTHS 8	RP NUMBER	PCN NUMBER	BRU PRIORITY 2	LOCATION Juneau	ELECTION DISTRICT 4	LEG.							
3.	CONTINUATION LEVEL				JUSTIFICATION										
4.	TYPE OF EXPENDITURE				<p>The program expects to receive applications from 4,152 persons who will meet the new eligibility requirements when the bill is effective. Prior to approval, each application received must be date-stamped, registered, scrutinized for completeness, acknowledged and filed. In addition, documentation verifying applicant's completion of the requirements will be requested if not received with the application.</p> <p>Two permanent part time Clerk II positions will be required to process the volume of applications in a timely manner. It is expected that the large volume of applications will level off at the end of eight months and the additional positions will no longer be required.</p>										
	1	2	3												
	PERSONAL SERVICES														
5.	Salary	1,510/mo.		12,080											
6.	Benefits			2,022											
7.	Supplemental Benefits														
8.	Fixed Benefits														
9.	TOTAL PERSONAL SERVICES		01	14,102											
10.	Travel		02												
11.	Contractual		03												
12.	Commodities		04												
13.	Equipment		05												
14.	Other														
15.	TOTAL COST			14,102											
	RECEIPT CODE	FUNDING SOURCE													
16.		Federal Receipts 1002													
17.		G.F. Match 1003													
18.	100	General Funds 1004			14,102										
19.		I-A Receipts 1005													
20.		Program Receipts 1028													
21.		Other													
FOR BSM USE ONLY															
4A KEY NUMBER _____															

13 REQUEST FOR
NEW POSITION

AGENCY Administration
Social and Economic Assistance
PROGRAM for the Aged
BRU Longevity Bonus Program
COMPONENT _____

Page _____ of _____
Revised Date _____

FY 85

1.	POSITION TITLE Clerk II			RANGE/STEP 7B	BARG. UNIT G	FORM 12	PAGE/LINE	GOV.	APPROV.	DISAPP.
2.	TYPE OF POSITION PPT	STAFF MONTHS 8	RP NUMBER	PCN NUMBER	BRU PRIORITY 3	LOCATION Juneau	ELECTION DISTRICT 4	LEG.		
3.	CONTINUATION LEVEL			ADDITION	JUSTIFICATION					
4.	TYPE OF EXPENDITURE			AMOUNT	<p>The program expects to receive applications from 4,152 persons who will meet the new eligibility requirements when the bill is effective. Prior to approval, each application received must be date-stamped, registered, scrutinized for completeness, acknowledged and filed. In addition, documentation verifying applicant's completion of the requirements will be requested if not received with the application.</p> <p>Two permanent part time Clerk II positions will be required to process the volume of applications in a timely manner. It is expected that the large volume of applications will level off at the end of eight months and the additional positions will no longer be required.</p>					
	1	2	3							
	PERSONAL SERVICES									
5.	Salary	1,510/mo.	12,080							
6.	Benefits		2,022							
7.	Supplemental Benefits									
8.	Fixed Benefits									
9.	TOTAL PERSONAL SERVICES		01	14,102						
10.	Travel		02							
11.	Contractual		03							
12.	Commodities		04							
13.	Equipment		05							
14.	Other									
15.	TOTAL COST			14,102						
	RECEIPT CODE	FUNDING SOURCE								
16.		Federal Receipts 1002								
17.		G.F. Match 1003								
18.	100	General Funds 1004		14,102						
19.		I-A Receipts 1005								
20.		Program Receipts 1028								
21.		Other								
FOR B&M USE ONLY										
4A KEY NUMBER										

13 REQUEST FOR
NEW POSITION

AGENCY Administration

Social and Economic Assistance

PROGRAM for the Aged

BRU Longevity Bonus Program

COMPONENT _____

FY 85

Page _____ of _____

Revised Date _____

Lawmakers try to fix bonus ills

by Dean Fosdick
Associated Press

Juneau — Legislators trying to cure constitutional problems with Alaska's Longevity Bonus Program were scrambling Friday to find compromises in two backup bills so the \$250 a month checks could continue going out to the state's pioneer residents.

But it appears the House passed a "stair-stepping" approach for phasing out the plan is the biggest obstacle standing in the way of quick passage.

Moments after the Alaska Supreme Court upheld a lower court ruling that the payments were discriminatory and illegal because of residency requirements, legislative leaders reiterated their pledge to keep the cash flowing without interruption.

"The bottom line . . . is that the old-timers will get their checks this month," said Senate President Jay Kerttula, D-Palmer and a co-sponsor of the Senate measure. "We'll get the program in place well before the end of the month. If anything's a fact, that's a fact."

Under various rulings, the courts had effectively ended the payments with the checks issued at the end of March.

The program had been open to citizens 65 years of age or older who have lived in Alaska since before statehood and for 25 years.

The high court heard arguments Thursday from a lawyer representing Rodney Vest, 69, of Anchorage, who contends the residency requirement violates the constitutional rights of other Alaska senior citizens.

In a one-line decision Friday, the high court agreed. The court affirmed a December ruling by Superior Court Judge Walter Carpeneti of Juneau.

Few people in the Capitol were expressing any surprise at the decision — especially in light of advice to legislators from the Attorney General's office last spring that the program's residency requirement could not be defended.

"The attorney general had advised us earlier that we had about a 20 percent chance of winning," said House Speaker Joe Hayes, R-Anchorage.

At Thursday's high court hearing, the justices questioned arguments presented by Assistant Attorney General Deborah Vogt, and their queries showed skepticism similar to that exhibited by Carpeneti during Superior Court arguments last year.

Vogt argued that the payments to pioneer senior citizens recognized their hardships as territorial citizens and also made it affordable for them to remain in the state after the oil boom drove up the cost of living.

The program was as defensible as the benefits paid military

veterans, she said.

But Mark Sandburg, an attorney representing Vest, contended the provision could not withstand court scrutiny.

On a social level, "There can be a sourdough aristocracy," Sandburg said. But legally, length of residency "cannot be a badge of worth."

Vest, who attended the hearing, said he was disgusted that the case has gone this far, saying state legislators "could have settled it amicably three years ago, but a few political hacks wanted to drag it through the courts."

Spurred by Friday's decision, legislators were predicting that a new program could be in place by the end of the month. Rep. Al Adams, D-Kotzebue, and Senate Floor Leader Bill Ray, D-Juneau, were already at work Friday, trying to refine compromises in the measures which passed their respective houses on March 6.

The Senate bill, sponsored by Kerttula and Ray, would establish a one-year residency requirement for people over age 65 and tap 12.5 percent of the earnings from the Alaska Permanent Fund. It would reduce fund dividend payments by 25 percent to support the \$250 a month checks to the state's pioneers.

It would be effective 30 days after the court's decision and would end the program on the year 2000.

The House measure includes an automatic phase-out provision, would attach one-year residency minimums to Alaskans over age 65 and be paid out of the state's treasury.

The "stair-stepping" phase-out would begin in 1990. Under the bill's formula, the eligibility age for the program would be increased every year, or go from age 65 in 1990, to 66 in 1991, 67 in 1992 and so on.

Kerttula, however, has problems with that concept.

"In a few years, residents aged 64 will not be able to participate," he said. "But a new resident aged 65 will be."

"We've given a lot from our original concept," Kerttula said. "We did not provide for stair-stepping. We did provide a cut-off. We've also provided for income from the general fund rather than the permanent fund."

"It's our intention to continue the program, but the way to do it is still undecided," Adams said.

"They would like to cut out the program in the year 2000," he said.

ALASKA
HAT

Supreme court upholds rule against longevity program

Associated Press

4/7
Juneau — It cost the state approximately \$60,000 to defend the residency requirements in Alaska's unconstitutional Longevity Bonus Program — a case its attorney general had said from the onset it probably couldn't win.

The Alaska Supreme Court ruled Friday that Alaska's practice of rewarding the pioneers who have lived in the state since territorial days is discriminatory and illegal.

The panel based its decision on the 14th amendment to the Constitution.

The program had been open to residents 65 years or over who have lived in Alaska since before statehood and for 25 years.

But Rodney Vest, 69, of Anchorage, sued, contending the residency requirement was un-

fair. The action later was expanded to include all people 65 years of age or older who have lived in Alaska for at least a year, but who have not received the \$250 monthly payments.

The outcome was almost a foregone conclusion from the beginning. Last spring, the attorney general's office advised legislators that the program's residency requirement could not be defended.

"The attorney general advised us earlier that we had about a 20 percent chance of winning," House Speaker Joe Hayes, R-Anchorage, said Friday.

Deborah Vogt, the assistant attorney general who argued the case, said the \$60,000 was mostly for in-house costs, although \$7,800 went for a legal consultant, a constitutional specialist who helped prepare the case.

"That includes litigation ef-

orts, some of the legislative appearances, briefs before the Supreme Court . . . Superior Court, appeal papers and motions," she said. "It also includes some of our efforts from two years ago when we filed for 1,800 affidavits, plus some paralegal work."

Attorney General Norm Gorsuch said the case was "relatively inexpensive" because most of the work was handled in-house. And he acknowledged remarks about the state having thought it had a weak case.

"We have consistently addressed the legislature, particularly in hearings, that the matter is unconstitutional," said Gorsuch, who indicated he had rated the chances of winning the suit anywhere from 5 to 20 percent.

"But that doesn't mean you don't answer the case and continue to fight it, because you might win," he said.

COPY

ANCH. DAILY NEWS
April 1, 1984

Lawmakers hasten work

By DEAN FOSDICK
The Associated Press

JUNEAU — Legislators trying to cure constitutional problems with Alaska's Longevity Bonus Program were scrambling Friday to find compromises in two backup bills so the \$250-a-month checks could continue going out to the state's pioneer residents.

But it appears the House passed "stair-stepping" approach for phasing out the plan is the biggest obstacle standing in the way of quick

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on longevity bonus bill

ment violates the constitutional rights of other Alaska senior citizens.

In a one-line decision Friday, the high court agreed. The court affirmed a December ruling by Superior Court Judge Walter Carpenetti of Juneau.

Spurred by Friday's decision, legislators were predicting that a new program could be in place by the end of the month. Rep. Al Adams, D-Kotzebue, and Senate Floor Leader Bill Ray, D-Juneau, were already at work Friday,

trying to refine compromises in the measures which passed their respective houses on March 6.

The Senate bill, sponsored by Kerttula and Ray, would establish a one-year residency requirement for people over age 65 and tap 12.5 percent of the earnings from the Alaska Permanent Fund. It would reduce fund dividend payments by 25 percent to support the \$250 a month checks to the state's pioneers.

It would be effective 30 days after the court's decision

and would end the program on the year 2000.

The House measure includes an automatic phase-out provision. It would attach one-year residency minimums to Alaskans over age 65 and be paid out of the state's treasury.

The "stair-stepping" phase-out would begin in 1990. Under the bill's formula, the eligibility age for the program would be increased every year, or go from age 65 in 1990, to 66 in 1991, 67 in 1992 and so on.

State paid \$60,000 to defend bonuses

ANCH.
D.M.
April
7, 87

By DEAN FOSDICK
The Associated Press

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The Alaska Supreme Court ruled Friday that Alaska's practice of rewarding the pioneers who have lived in the state since territorial days is discriminatory and illegal.

The panel based its decision on the 14th amendment to the U.S. Constitution, which extends equal protection to all citizens.

The outcome was almost a foregone conclusion from the

beginning. Last spring, the attorney general's office advised legislators that the program's residency requirement could not be defended.

"The attorney general advised us earlier that we had about a 20 percent chance of winning," House Speaker Joe Hayes, R-Anchorage, said Friday.

Deborah Vogt, the assistant attorney general who argued the case, said the \$60,000 was mostly for in-house costs, although \$7,800 went for a legal consultant, a constitutional specialist who helped prepare the case.

"That includes litigation efforts, some of the legisla-

See Back Page, STATE

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Continued from Page A-1

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Attorney General Norm Gorsuch said the case was "relatively inexpensive" because most of the work was handled in-house. And he acknowledged remarks about the state having thought it had a weak case.

"We have consistently addressed the Legislature, particularly in hearings, that the

matter is unconstitutional," said Gorsuch, who indicated he had rated the chances of winning the suit anywhere from 5 to 20 percent.

The Longevity Bonus program has been open to residents 65 years or over who have lived in Alaska since before statehood and for 25 years.

But Rodney Vest, 69, of Anchorage, sued, contending the residency requirement was unfair. The action later was expanded to include all people 65 years of age or older who have lived in Alaska for at least a year, but who have not received the \$250 monthly payments.

Longevity pay ruled illegal

ANCH
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NEWS
April 7,
1984

By HAL SPENCER
The Associated Press

The Alaska Supreme Court on Friday said Alaska's practice of rewarding senior citizens who have lived here since territorial days is discriminatory and illegal.

The ruling means the Alaska Legislature must act to revise the Longevity Bonus Program if pioneer senior citizens are to continue receiving their \$250-a-month payments.

Sen. Bill Ray, D-Juneau, said Thursday the legislature fully intends to revise the program, and vowed the checks will continue.

"Obviously the heat's on now for a solution. We'll be trying to work up something with the legislature. That'll be a top priority," said Pete Spivey, Gov. Bill Sheffield's press secretary.

The program is open to senior citizens 65 or older who have lived in Alaska since before statehood and for 25 years.

The high court Thursday

□ The Supreme Court decision prompted Alaska lawmakers to work on a compromise to House and Senate versions of a new longevity bonus program. Story in Metro, Page B-1.

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But the House and Senate failed to agree on an alternative plan. House Speaker Joe Hayes, R-Anchorage, insisted

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Longevity bonus ruled illegal by Alaska Supreme Court

Continued from Page A-1

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At Thursday's high court hearing, the justices picked apart arguments presented by Assistant Attorney General Deborah Vogt and their questions contained the same measure of skepticism exhibited by Carpenetti during Superior Court arguments last year.

Vest, who attended the Thursday hearing, said he was disgusted that the case had gone this far, saying state legislators "could have had set-

tled it amicably three years ago, but a few political hacks wanted to drag it through the courts."

One of his attorneys, Mark Sandburg, argued the program's residency requirement could not possibly survive legal scrutiny.

On a social level, "There can be a sourdough aristocracy," Sandburg said. But legally, length of residency "cannot be a badge of worth."

Sandburg represented Ron and Patricia Zobel in their 1980 battle against residency requirements in the Permanent Fund dividend distribution program. That program initially was designed to reward long-term residents with

larger payments than newcomers.

The case went to the U.S. Supreme Court, which ruled unanimously that the approach was unconstitutional.

Mrs. Vogt argued that the payments to pioneer senior citizens recognized their hardships as territorial citizens and also made it affordable for them to remain in the state after the oil boom drove up the cost of living. She said the program was as defensible as the benefits paid to military veterans.

Two backup bills are currently in the legislative hopper.

A Senate-passed bill would establish a one-year residency

requirement for people over age 65 and tap 12.5 percent of the earnings from the Alaska Permanent Fund. It would reduce fund dividend payments by 25 percent to support the \$250-a-month checks.

The House version, which includes an automatic phase-out provision, would attach one-year residency minimums to Alaskans over age 65 and be paid out of the state's treasury.

It would use a "stairstepping" approach to begin phasing out the program in 1990.

Under that formula, the eligibility age for the program would be increased every year, or go from age 65 in 1990 to 66 in 1991, 67 in 1992 and so on.

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