

LEG. FINANCE - BILLS 1983 - 1984 2078

SB 272 cont. - SSSB 277 2078

cost of oil heat in Kotzebue is around \$12.62 per MBtu, or \$.043 per kw-hr. It can be seen that no geothermal district heat system can match this price, except by postulating a 6 MW average power (vs 2.2 MW at present), 8.5% money, and a district heat system costing half as much or less per Btu delivered than as estimated by John. It also assumes the well costs already explained.

It seems that both the well cost, and the district heat cost are obstacles to an economic system. The figures for cost per kw-hr span the range of estimated future oil costs, and only in optimistic cases are they as low as the present cost of oil. If you played the game for 20 years you might break even. You need something more than economics to justify the system.

Discussion of District Heat

Wood is an alternative for the villages around Kotzebue. There are six villages that can harvest wood at \$50-65 a cord, at sustained yield. This is vs. \$125 per 55 gal drum of oil. (Though wood stoves are 15% less efficient). Mauneluk is developing a wood management plan for these villages. People are returning to wood heat. The money stays in the community. Coal is being looked at seriously. There is no active mining now, but in the past it was used for whaling vessels and mining. You get tired of chopping wood and stoking the fire.

One advantage of district heat is that it can be supplied by waste heat.

There are lots of other fuels for district heat. The wells look bad. The pumps are 2000 ft. down. They would be hard to maintain.

Would the salinity of the water cause problems with the heat exchanger?
No, you can use a flat-plate exchanger and disassemble it once in awhile for cleaning.

The projected electricity use by downhole pumps is comparable to what would be used by household heat pumps working off of 110° water delivered by the present water system. The cost of household heat pumps would be about \$1.7 million. This would probably overload both the electrical distribution system and the water supply system.

Within 3 days the Department of Housing and Urban Development is going to announce funds for scoping studies of geothermal district heat systems. Eric Peterson is the person at the Division of Geothermal Energy to contact. After the scoping study is done, HUD will provide \$2-300,000 for design. In fact, the whole system can be designed using HUD money. Do scoping studies on all the options. You should also look for ways to reduce the size of the mains.

The town of Pagosa Springs, Colorado, has gone a long way in getting a geothermal district heat system and in inducing people to connect. The town has a local advisory committee that has developed local enthusiasm. Fred Eberling has worked with them. Local improvement districts can also be used to induce people to connect. What are the Alaska statutes on local improvement districts?

How did the Public Health Service induce people to connect? They didn't tell them what it cost! It was much more convenient to have public water and sewer. It is easier to turn a tap than to chop and

melt ice. People would have connected even if they had known the cost. District heat is no different. If it is more convenient and available, people will connect.

There is a fish coop in Kotzebue. They are thinking about a freezing plant.

Can money be spent on regional projects? There is an unexplored geothermal resource south of Ambler, in the Purcell Mountains, that may have electrical potential. Flows of a thousand gpm are reported. It is 150 miles from Kotzebue.

Arler Ehm - Geological Consultant

I'll go over the regional geology, the well tests, and something about what it means about temperatures, depths, and costs for geothermal energy.

The Kotzebue geologic province is bounded on the north and south by mountains, representing faulting and thrusting. To the north of Kotzebue the surface rocks and mountains are predominantly sedimentary, to the south they are more igneous and clastic. The Baldwin Peninsula, on which Kotzebue lies, is in the Hope Basin, a geologically recent (tertiary and cretaceous) basin, a straightforward petroleum province. There is no similarity between the geology of the Seward Peninsula and Kotzebue.

The best indication of what is under Kotzebue comes from the Nimiuk Point well, 17 miles SE of Kotzebue. The only probable difference between Kotzebue and Nimiuk is the thickness of the volcanic rocks (see

Figure 10, p. 44) and the depth to "basement". The temperature gradient is slightly higher than normal, as in the entire North Slope of Alaska.

The olivine basalt, at about 6000 ft. in the Nimiuk well, was extruded into water, where it cooled immediately and has been cooling ever since. For geothermal, we would be looking for intrusive rocks. The relationship between the basalt and the underlying carbonates and schist is unknown. The basalt, schists and carbonates below 6000 ft. do not represent the basement for the Hope Basin. There are additional sediments at depth greater than the well. The sandstones penetrated by the well, from approximately 300-6000 ft., have around 35% porosity and are probably very permeable. Beyond the bottom of the well the porosity and permeability probably decline. There probably isn't much water or fracture permeability below 6000 ft. The carbonates below 6000 ft. are mid Paleozoic. The petroleum targets were in the Tertiary section. The petroleum company stopped drilling both wells in the schists, dolomites, and limestones, of probable paleozoic age. They evidently thought they wouldn't find hydrocarbons or porosity at greater depth. The well was tested in the 3755-3537 ft. interval, and a column of salt water and drilling fluid rose 2190 feet in the drill stem (to within about 1350 ft. of the top of the hole). (See Figure 10).

The Cape Espenberg well, 40 miles SE of Kotzebue, Figure 10, was tested from a zone that included sandstone, clastics, and carbonates. We can't say which zone produced the water, but saltwater rose from 8000 ft. to within 500 ft. of the surface. Again, the pressure buildup

suggests the column of saltwater and mud is a true indicator of the formation pressure. The three tests above in the well seem to be mechanical failures. We would expect to get water from each zone tested.

There is a correspondence between the geological sections in the Cape Espenberg and Nimiuk Point wells. The volcanic section, which is 40 ft. thick in the Nimiuk well, is 3000 ft. thick in the Espenberg well. The "basement" schists are around 6150 ft. in the Nimiuk well and at 8200 ft. in the Cape Espenberg well.

The electric logs for the two wells, self potential and resistivity, indicate that the formations encountered by the wells are saturated with salt water, and have thick sections of high porosity, 20-35%. They are good geothermal wells (except for pressure) but poor petroleum wells.

There are three sources of temperature measurement. Everytime a sonde is put into the hole maximum reading thermometers are taped on. A complete temperature profile is made after the well drilling has been completed. A temperature guage is placed at the top of the tested formation (in the fluid stream) during drill stem tests.

The process of drilling cools the rock. The mud must be left in the hole 60-70 days before it reaches temperature equilibrium. Drilling activities cool the rock by means of mud invasion and other convection, more rapidly than conduction can rewarm it. Not enough water is produced in the drill stem tests to get water far from the well bore.

The temperature gradient seems about normal for sedimentary rocks. The two wells have about the same measured bottomhole temperature (162°F) but the Nimiuk Point well is 6311 ft. deep, vs. 8373 ft. for the Cape

Espenberg well. The Nimiuk Point well has a relatively higher gradient at the bottom. I guess you would have to add 18°F to the measured bottomhole temperatures (162 and 163°F) to get the true formation temperature. Apparently the "basement" itself, rather than its depth, determines the temperature at depth. But this is a generalization. There seems to be little vertical water convection. Apparently, there isn't much connection with the sea. The rock is saturated with ancient formation water.

How much water can we get? There is no real information. The only way to find out is to pump test. We have high porosity, but permeability and longevity cannot be predicted. There is apparently lots of water, but it must be tested. If the formations extend unbroken, as we expect, water would flow into the well from all of Hope Basin.

The gravity map shows a high at Espenberg and a low at Nimiuk, but the depth to equivalent "basement" is greater at Espenberg than Nimiuk. Kotzebue itself is a small local "high". Apparently the gravity measurements are influenced by the density of the surface rocks. The equivalent depth to "basement" at Kotzebue is an important piece in the puzzle, because apparently the temperature gradient is more strongly influenced by the formation than its depth, and we need to know how deep to drill. We also need to determine that the formations encountered at Nimiuk and Espenberg are continuous. The most unambiguous source of this information, other than a well, is the seismic data that was collected by NANA and Chevron. Because of the mutual confidentiality agreement, between

NANA and Chevron, we will have to make a written request to both. Purchasing the raw seismic data or reacquiring it is prohibitively expensive. There is seismic data for sale, but you have to buy it all, you can't get pieces of it. There undoubtedly is a seismic line near Kotzebue, because wells like the Nimiuk well are almost always drilled at an intersection of seismic lines. Because of the agreement between NANA and Chevron, other companies are not interested in the area. We also need the water chemistry information.

Vic Mittach estimates he could drill a 6000-8000 ft. production well at Kotzebue, using a truck mounted rig, for \$800,000 to \$1.2 million. This is with a 6 in. casing. The rig is limited by the casing weight. Kotzebue is a relatively easy drilling situation. The rig itself costs \$2 million to \$6 million. A 250 HP downhole pump requires an 8 in. diameter casing. At Raft River, the 250 HP pump did not give adequate flow. They had to use a 600 HP pump, which required 13 5/8 in. diameter casing.

State Division of Geological and Geophysical Surveys - John Reeder

In our paper ("Alaska Geothermal Implementation Plan," Reference 17) we tried to envision how a geological and geophysical investigation of Kotzebue should be conducted. The printed investigation was for a convective system, which we now realize is not the case. Hence our plans do not fit the site.

It is hard to detect an aquifer at great depth, by any technique. It isn't impossible to detect a saltwater aquifer at depth. We are

looking at a structural approach. We need the seismic information most of all. We should also locate aeromagnetic data. Shallow temperature gradient holes will not do any good, because of the permafrost. They must be at least 1000 ft. deep. If the "basement" is shallower than 4000 ft, we may as well give up. I have reservations about trying to drill a well with an inadequate budget. We may spend too much money and not get a good well.

In this case, the geology is known well enough that you pretty much have to decide whether you are going to drill a production well or not. To find what you need to know, you have to make a pump test. The difference between an exploratory well and a production well, particularly the cost, would be pretty small.

With a small drilling rig you can afford to test as you drill.

It seems that most of the relevant additional geological information can be obtained from Chevron.

University of Alaska Geophysical Institute - Gene Wescott

I looked at the resistivity data from the Nimiuk Point well and used it to calculate the results that can be expected using magnetotellurics. The model I used is shown below.

<u>Depth</u>	<u>Resistivity</u>
0	
300'	1000 Ω -m
700'	20 Ω -m
	.8 Ω -m

From 0-300 ft. we have $1000\Omega\text{-m}$ sediments, from 300-700 ft. we have $20\Omega\text{-m}$ sediments, and thereafter the resistivity is $.8\Omega\text{-m}$.

The base of permafrost should be easily detected by dipole-dipole or audio frequency magnetotellurics. We will probably see the "basement," assuming they are dense rocks that are not salt-water saturated. The technique should show the limestone layer, if it is present. The error in depth to the limestone, assuming 6000 ft. depth, would be $\pm 5\%$. The cost would be about \$50,000. The survey would have to start at the Nimiuk Point well. Since Kotzebue is not, probably, a series of pancake layers, we would have to use a 2-dimensional interpretation. We can also use the phase data in the interpretation. The best stratigraphic information can be obtained from a seismic survey, but if that can't be obtained, the only way to get the information, with a \$600,000 budget, is magnetotellurics. It will show presence or absence of saltwater at depth before you drill a \$2,000,000 well.

In the past, magnetotelluric results have been so ambiguous that it wouldn't stop you from drilling a well. It would sure make you pause, though, if the magnetotelluric results showed an absence of saltwater at interesting depths.

Are we being misled because there are wells with warm water at Cape Espenberg and Nimiuk Point? There wasn't any geothermal interest in Kotzebue until the wells were drilled. Could Kotzebue be totally different? Yes, and that is another argument for looking at the seismic data. Kotzebue is of critical interest, because it is a case study of a normal gradient system. If geothermal won't work at Kotzebue, there are a lot of other sedimentary areas where it won't work.

It would cost a lot to reopen the Nimiuk Point well. It wasn't entirely cased. Thus, there is cement in an open hole.

Discussion

We should look at the demographic changes in Kotzebue, and also the potential of conservation, wood heat, heat pumps, and a dual purpose (heat, electricity) coal fired plant. There is a coal study being done by James and Moore. Kotzebue wants to do something to change its dependence on oil.

A consideration in any design for a district heat system is whether it is supplied with coal or geothermal. There are different design factors.

Senator Ferguson needs to know whether geothermal is feasible or not. We seem to be spending some of the \$600,000 to make the non-geothermal options look better.

In spite of past overoptimism about the value of magnetotellurics, there has been, in the past 9 months, some serious progress in 3 dimensional interpretation of the results. We ought to get together with another expert on magnetotellurics to get a better grip on what results we can expect. It seems like good insurance to do an electrical survey before drilling a \$4,000,000 well.

We will pursue the HUD solicitation. District heat looks good for Kotzebue. John Reeder will contact Art Grants about some other seismic data.

A heat flow well might help by giving information on conductivity and temperature gradient. But what does it mean in a water filled medium? A well at Kotzebue is not a rank wildcat, it is a stepout wildcat. A slimhole won't allow you to pump test, which is the most important thing you will need to do. The petroleum industry does not use slim holes. If they found something interesting, they would not be able to pursue it without a bigger rig.

If we can't make normal gradient geothermal energy work at Kotzebue, we can't make it work anywhere. Maybe, but remember that the district heat system was as big a factor, economically, as the wells. If Kotzebue was one big building, things would look a lot different.

Some Tentative Conclusions

No-one has said the whole thing is ridiculous.

We need to get the seismic and water chemistry information. After that is done, we ought to integrate it with the logs and surveys we already have. We may then want to go one step up and use electrical methods.

The projected heat distribution costs are sufficiently attractive that some effort should be made to reduce their uncertainty, and other heat supplies, particularly coal, should be considered, as well as some more detailed consideration of the engineering problems. We should get together again to consider the results.

The Department of Housing and Urban Development should be contacted about funding a scoping study for district heat, and some of these other

options should be integrated into the study.

After the above things have been done, we had better do a little more talking.

If the economics seem to work out after the above is done, there seems to be no other step except to find a way to drill a hole.

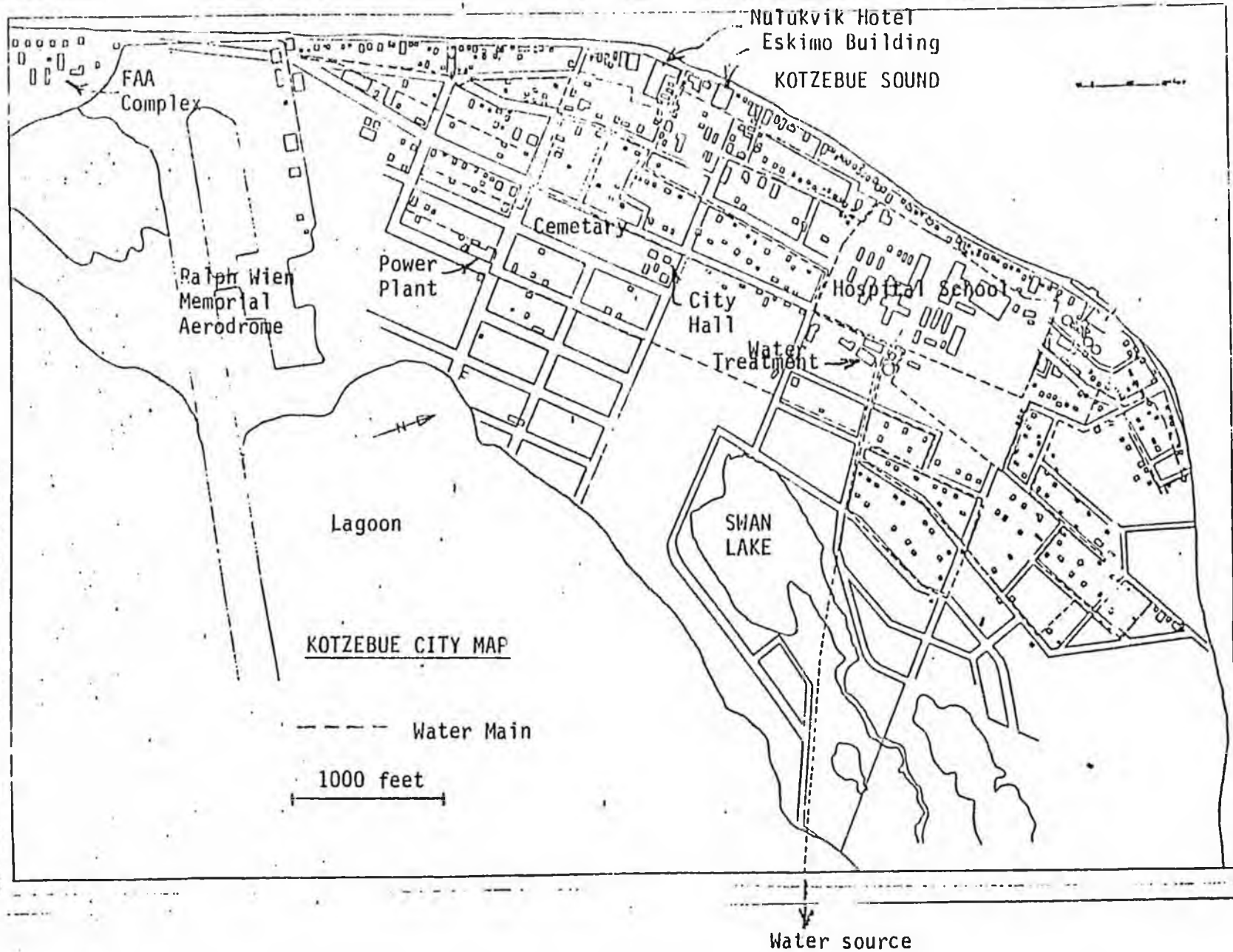


Figure 2
KOTZEBUE, ALASKA

1980 ANNUAL ENERGY INVENTORY

	<u>Retherford(1)</u>	<u>Other Studies</u>	<u>ESI Analysis</u>
Residential Space Heating	0.91x10 ¹¹ BTU(13)	0.37x10 ¹¹ BTU(5)	0.37x10 ¹¹ BTU(8)
Commercial Space Heating	-----	0.35x10 ¹¹ BTU(5)	0.35x10 ¹¹ BTU(9)
Total Oil Space Heating	1.1x10 ⁶ Gal(2)	0.875x10 ⁶ Gal(5)	0.875x10 ⁶ Gal(5)(14)
Electric Energy	4x10 ¹⁰ BTU	3.7x10 ¹⁰ BTU(5) (25% Efficiency)	4x10 ¹⁰ BTU(1)
Total Oil Used for Electrical	1.16x10 ⁶ Gal (25% Efficiency)	1.088x10 ⁶ Gal(5)	1.16x10 ⁶ Gal(1) (25% Efficiency)
Total Oil Consumption	2.26x10 ⁶ Gal(2)	2.786x10 ⁶ Gal(5)	2.04x10 ⁶ Gal
Fuel Cost for Electrical Generation	\$1.16x10 ⁶ (3)	\$1.237x10 ⁶ (6)	\$1.32x10 ⁶ (10)
Residential Cost of Electricity	18.2¢/KWh(4)	24¢/KWh(7)	20.26¢/KWh(11)
Cost of Residential Heating Oil	\$1.1x10 ⁶ (3)	-----	\$0.546x10 ⁶ (12)
Total Fuel Cost Space Heating	-----	-----	\$1.07x10 ⁶ (10+12)

- (1) R.W. Retherford Assoc., "Assessment of Power Generation Alternatives for Kotzebue", June 1980.
- (2) Does not include commercial space heating requirements (schools, jail, hospital, business).
- (3) \$1.00/Gal from Ref. (1).
- (4) Retherford uses 18.2¢/KWh for all electrical usage (therefore, \$2.148x10⁶/yr).
- (5) Louis Berger & Associates, Inc. "Western and Arctic Alaska Transportation Study-Fuel Consumption Working Paper", July 1980. Based on Mauneluk house-to-house fuel use survey and building square feet to 60% efficiency.
- (6) Ref. (5) and Arctic Lighterage records of \$1.137/Gal.
- (7) 24¢/KWh est. by Division of Energy and Power Development, "1979 Community Energy Survey", (therefore, \$2.6x10⁶/yr).
- (8) Based on 467 residences and .0573 gal/deg-day/residence for 16039 deg-days.
- (9) Ref. (2) for oil consumption of 427,000 Gal.
- (10) Arctic Lighterage Records of contract fuel at \$1.137 per gallon.
- (11) 20.26¢/KWh for 467 residences at 448 KWh/mo usage-Supplied by Kotzebue Electric Association records (\$0.51x10⁶).
- (12) Arctic Lighterage Cost of non-contract fuel at \$1.22/Gal.
- (13) Based on 467 houses, 900 SF each, R-11 insulation, 16,039 deg. days.
- (14) Arctic Lighterage estimates 1.2 million gallons were used for space heating in 1980.

Figure 3

HEATING OIL COSTS

- (a) 1980 fuel cost is \$1.22/gal.
- (b) Oil cost per gallon increases at 5% (1) per year.
- (c) 1980 heating oil required = 0.875 million gal.
- (d) Total oil use for heat increases 7% (2) per year.
- (e) 1980 dollars.

<u>Year</u>	<u>Cost/Gal.</u>	<u>M Gal.</u>	<u>Cost(M\$)</u>	<u>SUM</u>
1981	\$1.28	0.936	\$1.20	1.20
1982	1.35	1.0	1.35	2.55
1983	1.41	1.07	1.51	4.06
1984	1.48	1.15	1.70	5.76
1985	1.56	1.22	1.90	7.66
1986	1.64	1.31	2.15	9.81
1987	1.72	1.41	2.43	12.24
1988	1.80	1.5	2.70	14.94
1989	1.89	1.61	3.04	17.98
1990	1.99	1.72	3.42	21.40
1991	2.09	1.84	3.85	25.25
1992	2.19	1.97	4.31	29.56
1993	2.30	2.11	4.85	34.41
1994	2.42	2.26	5.47	39.88
1995	2.54	2.41	6.12	46.00
1996	2.66	2.58	6.86	52.86
1997	2.80	2.76	7.73	60.59
1998	2.94	3.04	8.94	69.53
1999	3.08	3.25	10.00	79.53
2000	3.24	3.48	11.28	90.81

After 20 years, total heating oil expenditure is $\$180 \times 10^6$

- (1) Review of Price Projections for Traditional Space Heating Fuels, Johns Hopkins University, Applied Physics Laboratory, GEMS-007, QM-80-070, MCGER-80-001, APRIL 1980.
- (2) Assessment of Power Generation Alternatives for Kotzebue, Robert W. Retherford Associates, June 1980. The Retherford study argued a 7% per year increase in the number of consumers.

Figure 3 (Cont.)

In (b) above, the assumption of a 5% increase per year for residential fuel costs is supported by the renormalized price projections made by the Energy Information Administration and reported in the Johns Hopkins University publication. Projections were made for every fifth year from 1979-2000. All projections indicated increases between 2% and 8% per year and were made before the energy supply problems and price increases of 1979. Thus, they are definitely too conservative. Readjusted scales appear to support an 8% to 15% increase. However, projections are not intended to predict actual prices prevailing at a future date, but to indicate "overall" trends. Therefore, this analysis was made for an assumption of 5% real growth.

The problem in (d) above, of estimating the growth in numbers of consumers was solved by reasoning that:

1. The Alaska Department of Labor shows that the Kotzebue population has increased by 4% per year since 1970.
2. Kotzebue presently has about 5.5 people per residence, with houses around 900 square feet. It is assumed the first number will decrease, the second number will increase, and that conservation measures will have a strong effect.

Figure 4

ESTIMATE OF POTENTIAL
FOR DISTRICT HEAT

Estimate for 1980 heating requirements: $.72 \times 10^{11}$ Btu

Use a figure of 1.16×10^{11} Btu to size the mains.

This figure was chosen rather arbitrarily and is a compromise between the estimated 1990 demand of 1.41×10^{11} Btu and the 1980 demand of 72×10^{11} Btu. A more detailed analysis would have to consider how many houses can economically be connected to the system.

Record F degree day = 117

Average F degree day = 44

97.5% of the degree days are less than 101

Use a peak to average ratio of 2.3

Average use = 1.16×10^{11} Btu/yr \div 365 days/yr \div 24 hrs/day =
 1.32×10^7 Btu/hr.

Peak use = 1.32×10^7 Btu/hr \times 2.3 = 3.03×10^7 Btu/hr.

Assume a sendout temperature of 150°F for the mains.

Assume a useful temperature drop of 40°F.

These last two assumptions are based on the expectation of getting a 158°F geothermal supply. The 40°F temperature drop in the district heat system would require very large radiators and heat exchangers. On the other hand, assuming a more reasonable 20°F drop results in larger mains and higher pumping costs. It would be very advantageous to the system if nature provided 200°F water. The power of the system is controlled primarily by the water sendout temperature rather than by varying the flow.

$$3.03 \times 10^7 \text{ Btu/hr} = 1 \text{ Btu/lb/F}^\circ \times 62 \text{ lbs/ft}^3 \times 40^\circ\text{F} \times Q \text{ (ft}^3\text{/sec)} \times \\ 60 \text{ min/hr} \times 60 \text{ min/sec.}$$

$$Q = \text{peak fluid flow} = 3.39 \text{ ft.}^3\text{/sec.}$$

A flow of 3.39 ft.³/sec. = 1,523 gpm. This corresponds, at 6 ft/sec. flow velocity, to a main with an inside radius of 5.09 in. We will assume a 10 in. diameter main.

Kotzebue has a water distribution system at present. The water is collected at the reservoir and heated just enough to ship it 8000 ft. into town. Here it is heated further with waste heat from

Figure 5

the power plant and distributed to the customers through 4 loops, with lengths of 7,500 ft, 10,000 ft, 11,000 ft, and 12,000 ft. The water in the loops circulates constantly. The 4 in. diameter pipe is inside a 12 in. casing, with insulation between. Such pipe, with a normal number of fittings, installed, cost \$60-70/ft. The pipes are shallow buried, to minimize the heat they add to the ground, which has permafrost. The system, including collection site, cost about \$5,000,000.

For this analysis of a district heat system, I will assume that the mains are layed out like the water system, with the wells at the site of the water collection system. This is the basis for estimating the piping requirements.

8000 ft of 2-way 10 in. main at \$200/ft =	\$1,600,000
40,500 ft of 1-way 6 in. main at \$100/ft =	4,050,000
Heat exchanger 1500 gpm =	120,000
400 house connections at \$1000 each =	400,000
400 house heating system retrofits at \$1000 each =	400,000
Miscellaneous buildings, circulation pumps, controls, etc. at 5% =	330,000
Engineering at 10% of cost =	690,000
Cost of district heat system =	7,590,000
2 1/2 wells at \$5,000,000 per well	12,500,000

This is based on 2 wells, each 6,000 ft deep and capable of producing 70°C water at a combined flow of 1500 gpm. It is assumed we need one 3,000 ft injection well.

2 downhole pumps, 250 HP each at \$400/HP =	\$200,000
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This is calculated by assuming each pump must produce $3.39 \div 2 = 1.7$ cu ft/sec against a 1000 ft head at 75% efficiency. If P is the pump power in HP, then $P = 1.7 \text{ ft}^3\text{sec} \times 1000 \text{ ft} \times 62 \text{ lbs/ft}^3 \div 550 \text{ ft-lbs/sec-HP} \div .75 = 255.5$ HP

Total cost of wells and pumps =	\$12,700,000
Total cost of system =	20,290,000

Cost of system amortized for 20 years at 7% =	1,915,000/yr.
Operation and maintenance (5% of District heat net) =	380,000/yr.
Cost of electricity for downhole pumps at \$.125/kw-hr =	205,000

Assume that, on the average, there is 250 HP on line:

$C = \$.125/\text{kw-hr} \times 250 \text{ HP} \times .75 \text{ kw/HP} \times 24\text{hr/day} \times 365 \text{ day/yr} =$	\$205,000
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Total annual cost:	\$2,500,000
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Figure 6

It appears that if the District heat system had gone on line today, with all of the favorable characteristics above, and replaced all of the oil used today for heating, and if it could expand to meet the future demand, then it would provide heat competitive with oil in 1987-1988.

Figure 7

OTHER FACTORS AFFECTING A KOTZEBUE DISTRICT HEAT SYSTEM

1. Permafrost, high water table, and poor soils (compared to the outside world). The system must be insulated from the ground.
2. Likelihood of extremely low temperatures at a time of system failure. The system must be protected from freezing.
3. The ratio of peak to average demand is over 2.
4. There are about 16000 F degree days.
5. There is a low heat density. See comparison below with Reykjavik.
6. Most residences must be retrofitted for hot water heat.
7. High cost of electricity (\$.125/kwh for large users) must be considered in system design.
8. The elevation of Kotzebue is only about 10 feet above sea level. Subsidence would be intolerable.
9. There is a lot of local concern about fish and wildlife, and this probably means spent brine must be reinjected.
10. District heat would provide the opportunity to use other locally available fuels, most notably coal.
11. Geothermal district heat would create a few local jobs, but it is definitely capital intensive.

COMPARISON WITH REYKJAVIK

	Reykjavik	Kotzebue
Population	72,000	2500
Degree days	8700	16000
Area	130,000,000 sq ft	15,000,000 sq ft
Heat consumption	41.2 trillion Btu	.116 trillion Btu
Heat density	31,900 Btu/sq ft	7,733 Btu/sq ft
Peak power/average	2.3	2.6
Geothermal supply temperature	220 F	158 F

Figure 8

Parametric Projections of Geothermal Energy Cost

Well Depth	Temp(F)	DT(F)	Demand Power	Flow(Gal/Min)	Pumping Depth	N ¹	Y(\$) ²	Z(\$) ³	R ⁴	\$/KWH ⁵
4500	119.15	9.155	3000	2234	2000	4	2000000	8000000	.15	.136
5000	128.28	18.28		1119		5				.148
6000	146.53	36.53		560		2				.100
7000	164.78	54.78		373		3				.113
8000	183.03	73.03		280		2				.097
10000	219.53	109.53		187		1				.082
8000	203.03	93.03		220		2				.098
6000	166.53	56.53		362		2			.085	.0995
5500	157.40	47.40		432		2				.104
5000	148.28	38.28		535		2				.070
5500	167.40	57.40		356		2				.067
5000	158.28	48.28		424		2				.065
42 4000	140.03	30.03		681		2				.065
5500	157.40	47.40		356		2				.064
				432		2				.065
			6000	864		2				.065
						3				.037
						3	4000000			.025
						3		16000000		.038
					4500	3				.066
					1000	3				.072
					2000	3				.064
			3000	432	2000	2	2000000	8000000		.052
4000	150.03	40.03		511	2000	2		8000000		.065
5500	157.40	47.40	6000	864		2				.065
			3000	432		3				.063
						2				.032
						2				.051
						2				.037

- (1) Number of Wells
- (2) Well Cost Parameter
- (3) District Heat Cost
- (4) Rate of Return
- (5) Energy Cost

Figure 9

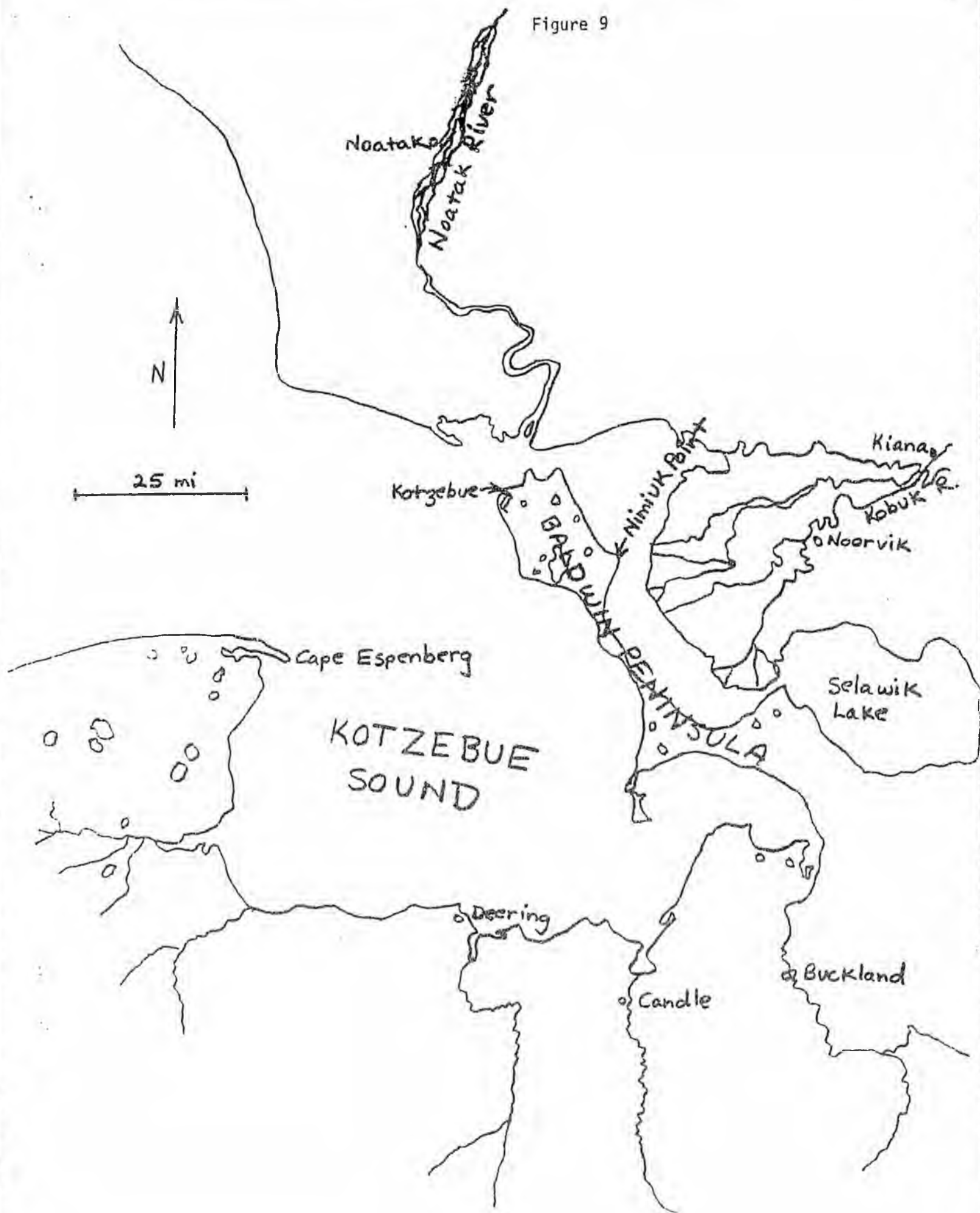


Figure 10

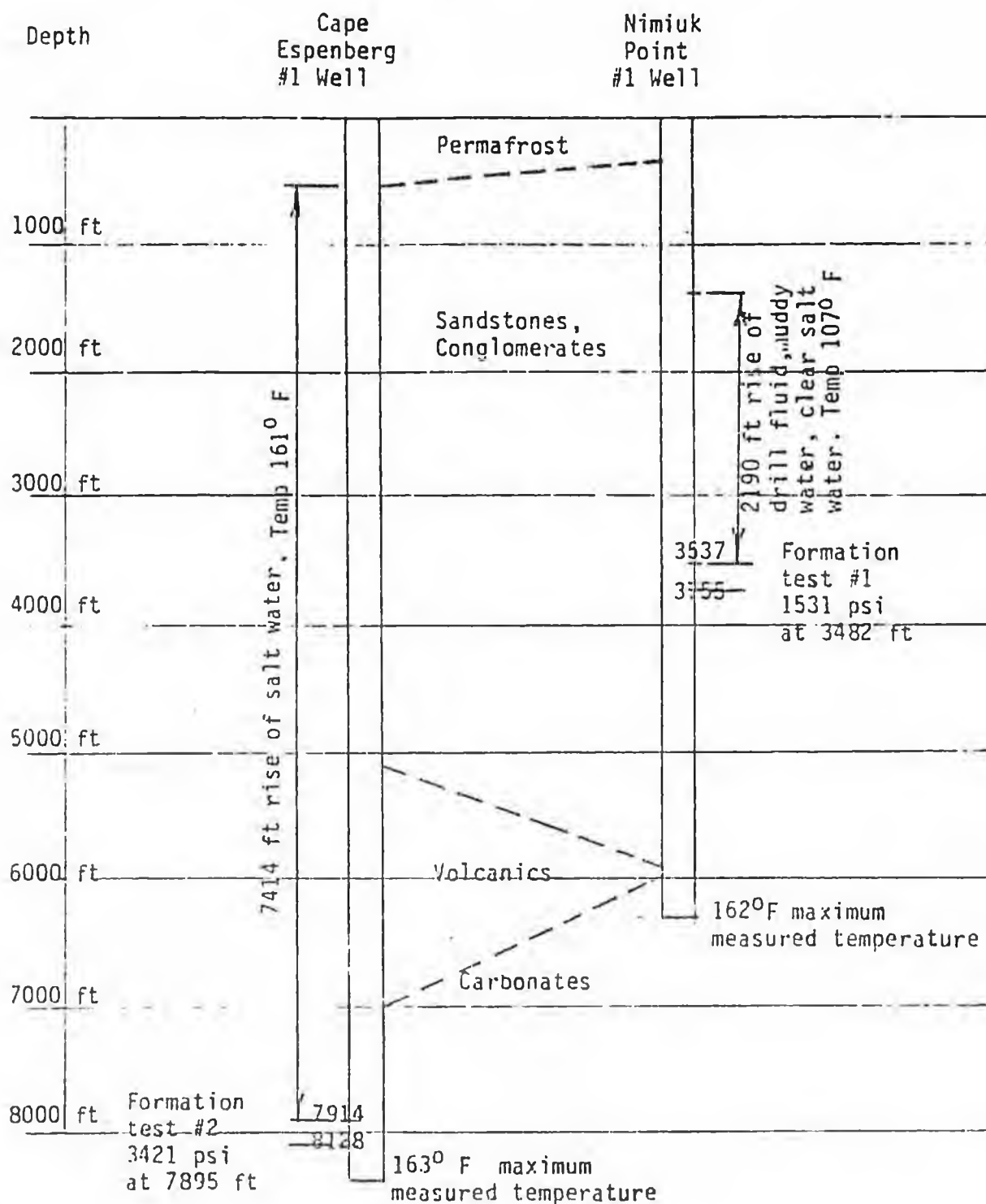


DIAGRAM OF CAPE ESPENBERG AND NIMIUK POINT WELLS, SHOWING GENERAL ROCK TYPES, DEPTHS, AND RESULTS OF FORMATION TESTS. (The well logs show this in more specific detail.)

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 - Borehole Compensated Sonic
 - Compensated Neutron Formation Density
 - Lithology
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Offered: 5/19/83
Referred: Finance

Original sponsors: Faiks, V.Fischer,
Bennett and Josephson

Funding Information
General Fund \$37,400,000
Other Funds -0-
\$37,400,000

1 IN THE SENATE BY THE RESOURCES COMMITTEE

2 CS FOR SENATE BILL NO. 272 (Resources)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations for payment as
7 grants to the Municipality of Anchorage for expansion
8 of the Ship Creek Treatment Plant, phase II design
9 and construction of the Eklutna Water Project and the
10 purchase of the Central Alaska Utility; and providing
11 for an effective date."

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

13 * Section 1. The sum of \$7,400,000 is appropriated from the general
14 fund for payment as a grant to the Municipality of Anchorage for expansion
15 of the Ship Creek Water Treatment Plant to 24 million gallons per day.

16 * Sec. 2. The sum of \$25,000,000 is appropriated from the general fund
17 for payment as a grant to the Municipality of Anchorage for phase II design
18 of all the Eklutna Water Project and construction of the Anchorage to Eagle
19 River segment of the Eklutna Water Project.

20 * Sec. 3. The sum of \$5,000,000 is appropriated from the general fund
21 for payment as a grant to the Municipality of Anchorage for purchase of the
22 Central Alaska Utility.

23 * Sec. 4. The appropriations made by this Act shall be disbursed in
24 accordance with AS 37.05.315.

25 * Sec. 5. This Act takes effect immediately in accordance with AS 01.-
26 10.070(c).

As (some) Not adopted by (some) the

Folta
3/27/84

Original sponsors: Faiks, V.Fischer,
Bennett and Josephson

<u>Funding Information</u>	
General Fund	\$41,956,000
Other Funds	-0-
	<u>\$41,956,000</u>

1 IN THE SENATE

BY THE FINANCE COMMITTEE

2 CS FOR SENATE BILL NO. 272 (Finance)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations for payment as
7 grants to the Municipality of Anchorage for the
8 Eklutna Water Project and to the City of Kotzebue for
9 drilling geothermal wells; and providing for an
10 effective date."

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

12 * Section 1. The sum of \$34,000,000 is appropriated from the general
13 fund for payment as a grant to the Municipality of Anchorage for phase III
14 final design of the Eklutna Water Project, including design of the water
15 treatment plant and lake intake structure; construction of pipeline
16 segment p-2 from Eagle River to Peters Creek and pipeline segment p-3 from
17 Peters Creek to the Eklutna River; and miscellaneous costs of permitting
18 and right-of-way acquisition.

19 * Sec. 2. The sum of \$7,956,000 is appropriated from the general fund
20 for payment as a grant to the City of Kotzebue for drilling exploratory
21 geothermal wells.

22 * Sec. 3. The appropriations made by this Act shall be disbursed in
23 accordance with AS 37.05.315.

24 * Sec. 4. This Act takes effect immediately in accordance with AS 01.-
25 10.070(c).

Original sponsors: Faiks, V.Fischer,
Bennett and Josephson

Funding Information

General Fund	\$41,956,000
Other Funds	-0-
	<u>\$41,956,000</u>

1 IN THE SENATE

BY THE FINANCE COMMITTEE

2 CS FOR SENATE BILL NO. 272 (Finance)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations for payment as
7 grants to the Municipality of Anchorage for the
8 Eklutna Water Project and to the City of Kotzebue for
9 drilling geothermal wells; and providing for an
10 effective date."

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

12 * Section 1. The sum of \$34,000,000 is appropriated from the general
13 fund for payment as a grant to the Municipality of Anchorage for phase II
14 design of the entire Eklutna Water Project and construction of the
15 Anchorage to Eagle River segment of the Eklutna Water Project.

16 * Sec. 2. The sum of \$7,956,000 is appropriated from the general fund
17 for payment as a grant to the City of Kotzebue for drilling exploratory
18 geothermal wells.

19 * Sec. 3. The appropriations made by this Act shall be disbursed in
20 accordance with AS 37.05.315.

21 * Sec. 4. This Act takes effect immediately in accordance with AS 01.-
22 10.070(c).

INDIVIDUALS WISHING TO TESTIFY

REGARDING SB 200 - Sewer

DATE	NAME	TITLE	AGENCY
3/28/84	CHARLEY BRYANT	Project Manager Klutwa Water Project	AWWU Munic. of Hrvch

SENATE FINANCE COMMITTEE

DATE: _____

PLEASE SIGN YOUR NAME, TITLE, AND AGENCY FOR THE RECORD
 THIS SHEET IS FOR ATTENDANCE PURPOSES ONLY

NAME	TITLE	AGENCY
Janet Clark Keel	Budget Analyst	OMB
Sandy Stone	Staff	Zeiks
Harley Bryant	Project Manager	AWR U/M of A
Tyler Jones	SWP	Munic. of Anchorage
P. Macklin	Legis. Liaison	Legislator
	SEN. RODEY'S STAFF	

10

Introduced: 4/21/83
Referred: Community and Regional
Affairs, Resources and
Finance

Funding Information
General Fund \$45,400,000
Other Funds -0-
\$45,400,000

BY FAIKS, V. FISCHER,
BENNETT AND JOSEPHSON

1 IN THE SENATE

2 SENATE BILL NO. 272

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making a special appropriation for payment as
7 a grant to the Municipality of Anchorage for expansion
8 of the Ship Creek Treatment Plant and phase II
9 design and construction of the Eklutna Water Project;
10 and providing for an effective date."

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

12 * Section 1. The sum of \$10,400,000 is appropriated from the general
13 fund for payment as a grant to the Municipality of Anchorage for expansion
14 of the Ship Creek Water Treatment Plant to 24 million gallons per day.

15 * Sec. 2. The sum of \$35,000,000 is appropriated from the general fund
16 for payment as a grant to the Municipality of Anchorage for phase II design
17 of all the Eklutna Water Project and construction of the Anchorage to Eklutna
18 River segment of the Eklutna Water Project.

19 * Sec. 3. The appropriation made by this Act shall be disbursed in
20 accordance with AS 37.05.315.

21 * Sec. 4. This Act takes effect immediately in accordance with AS 01
22 10.0206(a).

COMMITTEE REPORT
HOUSE

(11)

FURTHER:

5/24/83

Date: 5/31/83

Mr. Speaker:

The Committee on FINANCE has had CSSSSB 277 (L&C) an
"An Act relating to benefits under the public employees' retirement
system; and providing for an effective date."

under consideration and reports it back as follows:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for _____ same title
 new title
- and recommends _____
- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation Zero Fiscal Note Attached
- referred to the _____ Committee

MEMBERS SIGNING
DO PASS

Robert R. Collins

Samuel P. ...

...

...

...

...

...

...

...

MEMBERS HAVING
OTHER RECOMMENDATIONS:

...

...

...

...

...

Robert R. Collins
CHAIRMAN

Offered: 5/13/83
Referred: Finance

Original sponsor: Kerttula

1 IN THE SENATE

BY THE LABOR AND
COMMERCE COMMITTEE

2 CS FOR SPONSOR SUBSTITUTE FOR SENATE BILL NO. 277 (L&C) am

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to benefits under the public em-
7 ployees' retirement system; and providing for an
8 effective date."

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

10 * Section 1. AS 39.35 is amended by adding a new section to read:

11 Sec. 39.35.527. ELECTION TO TERMINATE COVERAGE AS A PEACE OFFI-
12 CER OR FIREMAN. (a) Any active member may elect to irrevocably
13 relinquish peace officer or fireman status with the system and to
14 retain all credited service as if it had been acquired as a member
15 other than a peace officer or fireman.

16 (b) In order to relinquish peace officer or fireman status with
17 the system, a person must be an active member and must file a written
18 request with the administrator by July 1, 1984, or within six months
19 after employment as a peace officer or fireman, whichever occurs
20 later. No person has more than one opportunity to exercise this
21 option.

22 (c) As soon as possible after the relinquishment, the adminis-
23 trator shall refund to a person who relinquishes peace officer or
24 fireman status under this section a refund equal to the amount by
25 which the balance of the person's accumulated mandatory contributions
26 plus interest exceeds the balance which would exist if all service
27 credit had been acquired as a member other than a peace officer or
28 fireman.

29 (d) A written request to relinquish peace officer or fireman

1 status is irrevocable upon filing with the administrator.

2 * Sec. 2. AS 39.35.680(27) is amended to read:

3 (27) "peace officer" or "fireman" means an employee occupy-
4 ing a position as a peace officer, chief of police, correctional
5 officer, correctional superintendent, [QUALIFIED EMPLOYEE OF THE DE-
6 PARTMENT OF FISH AND GAME,] fireman, or fire chief;

7 * Sec. 3. AS 39.35.680(32) is repealed.

8 * Sec. 4. A person holding a position as a "qualified employee of the
9 Department of Fish and Game" on the effective date of this Act, continues
10 to accrue service credit as a peace officer under AS 39.35 until

11 (1) that person's employment is terminated with the Department
12 of Fish and Game; or

13 (2) that person elects to irrevocably relinquish peace officer
14 status under AS 39.35.527.

15 * Sec. 5. A person who has not elected to relinquish peace officer
16 status under AS 39.35.527 retains all accrued credit as a peace officer for
17 retirement purposes and accrues retirement credit if employed as a peace
18 officer under AS 39.35.680(27) after the effective date of this Act.

19 * Sec. 6. This Act takes effect immediately in accordance with
20 AS 01.10.070(c).

State of Alaska

Fiscal Note

CSSSSB 277 (L&C)

IV. Analysis:

In this Fiscal Note, with an immediate effective date on the bill, it is assumed that it would affect 300 vacancies for FY 84.

The present value of the projected savings to the State over the next 17 years is \$30 million.

Note:

If there were 400 vacancies affected, the cost savings (in thousands) would be as follows:

<u>FY 84</u>	<u>FY85</u>	<u>FY80</u>	<u>FY87</u>	<u>FY88</u>
\$1031.0	\$1369.0	\$1759.0	\$2209.0	\$2725.0

SENATE LETTER OF INTENT

on CSSSSB 277(L&C) am

The intent of the committee in passing out SSSB 277 is to contain retirement system costs by preventing further proliferation of the police and fire coverage in the Public Employees Retirement System. The additional benefits provided to employees with peace officer coverage, a 20-and-out provision and an enhanced benefit multiplier after ten years of service, do not squarely address the issue of hazardous duty. The 20-and-out provision encourages employees to leave state service earlier and defeats one of the primary objectives of a retirement system. The current peace officer occupational death and disability benefits are the same as for all other employees.

In removing peace officer coverage for future employees of the Department of Fish and Game, this committee does not intend that these employees be deprived of reasonable compensation for hazards undergone in the line of duty. The committee is relying on assurances that the administration will bargain for hazard pay in good faith for all employees, regardless of department, at the table. Additional compensation should be paid only for the time hazard is actually present.

By the Senate Finance Committee.

Adopted in the Senate, May 23, 1983.

The following individuals may testify on SB 277:

Ken Humphries, Director, Division of Retirement &
Benefits, Department of Administration

FISCAL NOTE

REQUEST

Bill/Resolution No.: SSSB 277
 Title: An Act Relating to Benefits Under PERS
 Sponsor: Senator Kerttula
 Requestor: _____

II. FISCAL DETAIL

Agency Affected: Fish & Game
 Program Category Affected: _____
 BRU, Program of Subprogram(s) Affected _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES		(232.0)	(510.5)	(842.3)	(1,175.4)	(1698.7)
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING		(232.0)	(510.5)	(842.3)	(1235.4)	(1698.7)
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	(180.3)	(396.7)	(654.5)	(959.9)	(1319.9)
FEDERAL FUNDS	(31.5)	(69.4)	(114.5)	(168.0)	(231.0)
OTHER (Specify Source) (Fish & Game Fund)	(20.2)	(44.4)	(73.3)	(107.5)	(147.8)

POSITIONS:

FULL-TIME					
PART-TIME					
TEMPORARY					

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

The present value of the projected savings to

ANALYSIS: the State over the next 17 years is \$25 million.

Prepared By: J.K. Humphreys, Director Phone: 465-4460
 Division: Retirement & Benefits Date: 5-5-83

Approved by Commissioner: Lisa Rudd, Commissioner Date: 5-5-83
 Department: Administration

STATE OF ALASKA
FISCAL NOTE

Revision Date 1983

I. REQUEST

Bill/Resolution No.: CCSSSB 277 (L&C) am
 Title: An Act Relating to Benefits Under PERS
 Sponsor: Senator Kerttula
 Requestor: _____

II. FISCAL DETAIL

Agency Affected: Fish & Game
 Program Category Affected: _____
 BRU, Program or Subprogram(s) Affected: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES		(773.0)	(1090.0)	(1458.0)	(1884.0)	(2374.0)
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING		(773.0)	(1090.0)	(1458.0)	(1884.0)	(2374.0)
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	(600.6)	(846.9)	(1132.9)	(1463.9)	(1844.6)
FEDERAL FUNDS	(105.1)	(148.3)	(198.3)	(256.2)	(322.9)
OTHER (Specify Source) (Fish & Game Fund)	(67.3)	(94.8)	(126.8)	(163.9)	(206.5)

POSITIONS:

FULL-TIME					
PART-TIME					
TEMPORARY					

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: J.K. Humphreys, Director
 Division: Retirement & Benefits

Phone: 465-4460
 Date: 5-5-83

Approved by Commissioner: Lisa Rudd, Commissioner
 Department: Administration

Date: 5-5-83

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State of Alaska

Fiscal Note

CSSSB 277 (L&C)

IV. Analysis:

In this Fiscal Note, with an immediate effective date on the bill, it is assumed that it would affect 300 vacancies for FY 84.

The present value of the projected savings to the State over the next 17 years is \$30 million.

Note:

If there were 400 vacancies affected, the cost savings (in thousands) would be as follows:

<u>FY 84</u>	<u>FY85</u>	<u>FY80</u>	<u>FY87</u>	<u>FY88</u>
\$1031.0	\$1369.0	\$1759.0	\$2209.0	\$2725.0

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF ADMINISTRATION

POUCH C (MS 0200)
JUNEAU, ALASKA 99811
PHONE: (907) 465-2200

OFFICE OF THE COMMISSIONER

(907) 465-2200

May 13, 1983

Honorable Ramona Barnes
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Representative Barnes:

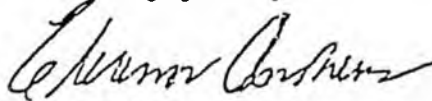
This is in reply to your letter of May 1 regarding peace officer retirement for employees of the Department of Fish and Game.

As you know, two bills (SB 277 and HB 394) have been introduced this session which would foreclose peace officer coverage for future fish and game employees. The Sheffield administration strongly supports these bills and feels that we should close the door on special retirement coverage on the basis of hazardous duty, regardless of the degree of exposure. Hazard pay which is negotiated and monitored continuously along with insurance coverage addresses this situation more appropriately than early retirement with an inducement to leave state service.

The Department of Administration intends to amend the regulation if the legislature does not pass a bill which settles the question. However, even if standards under the regulation were raised drastically it would still leave the question of applying those standards to employees in other departments and granting peace officer coverage in new areas.

I appreciate your concern and ask that you support the bills introduced by Representative Hayes and Senator Kerttula.

Sincerely yours,


for
Lisa Rudd
Commissioner

LR/jb
cc: Representative Joe Hayes
Speaker of the House

SENATE LETTER OF INTENT

on CSSSSB 277(L&C) am

The intent of the committee in passing out SSSB 277 is to contain retirement system costs by preventing further proliferation of the police and fire coverage in the Public Employees Retirement System. The additional benefits provided to employees with peace officer coverage, a 20-and-out provision and an enhanced benefit multiplier after ten years of service, do not squarely address the issue of hazardous duty. The 20-and-out provision encourages employees to leave state service earlier and defeats one of the primary objectives of a retirement system. The current peace officer occupational death and disability benefits are the same as for all other employees.

In removing peace officer coverage for future employees of the Department of Fish and Game, this committee does not intend that these employees be deprived of reasonable compensation for hazards undergone in the line of duty. The committee is relying on assurances that the administration will bargain for hazard pay in good faith for all employees, regardless of department, at the table. Additional compensation should be paid only for the time hazard is actually present.

By the Senate Finance Committee.

Adopted in the Senate, May 23, 1983.

Offered: 5/13/83
Referred: Finance

Original sponsor: Kerttula

1 IN THE SENATE

BY THE LABOR AND
COMMERCE COMMITTEE

2 CS FOR SPONSOR SUBSTITUTE FOR SENATE BILL NO. 277 (L&C) am

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to benefits under the public em-
7 ployees' retirement system; and providing for an
8 effective date."

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

10 * Section 1. AS 39.35 is amended by adding a new section to read:

11 Sec. 39.35.527. ELECTION TO TERMINATE COVERAGE AS A PEACE OFFI-
12 CER OR FIREMAN. (a) Any active member may elect to irrevocably
13 relinquish peace officer or fireman status with the system and to
14 retain all credited service as if it had been acquired as a member
15 other than a peace officer or fireman.

16 (b) In order to relinquish peace officer or fireman status with
17 the system, a person must be an active member and must file a written
18 request with the administrator by July 1, 1984, or within six months
19 after employment as a peace officer or fireman, whichever occurs
20 later. No person has more than one opportunity to exercise this
21 option.

22 (c) As soon as possible after the relinquishment, the adminis-
23 trator shall refund to a person who relinquishes peace officer or
24 fireman status under this section a refund equal to the amount by
25 which the balance of the person's accumulated mandatory contributions
26 plus interest exceeds the balance which would exist if all service
27 credit had been acquired as a member other than a peace officer or
28 fireman.

29 (d) A written request to relinquish peace officer or fireman

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3 (27) "peace officer" or "fireman" means an employee occupy-
4 ing a position as a peace officer, chief of police, correctional
5 officer, correctional superintendent, [QUALIFIED EMPLOYEE OF THE DE-
6 PARTMENT OF FISH AND GAME,] fireman, or fire chief;

7 * Sec. 3. AS 39.35.680(32) is repealed.

8 * Sec. 4. A person holding a position as a "qualified employee of the
9 Department of Fish and Game" on the effective date of this Act, continues
10 to accrue service credit as a peace officer under AS 39.35 until

11 (1) that person's employment is terminated with the Department
12 of Fish and Game; or

13 (2) that person elects to irrevocably relinquish peace officer
14 status under AS 39.35.527.

15 * Sec. 5. A person who has not elected to relinquish peace officer
16 status under AS 39.35.527 retains all accrued credit as a peace officer for
17 retirement purposes and accrues retirement credit if employed as a peace
18 officer under AS 39.35.680(27) after the effective date of this Act.

19 * Sec. 6. This Act takes effect immediately in accordance with
20 AS 01.10.070(c).

Offered: 5/13/83
Referred: Finance

Original sponsor: Kerttula

1 IN THE SENATE

BY THE LABOR AND
COMMERCE COMMITTEE

2 CS FOR SPONSOR SUBSTITUTE FOR SENATE BILL NO. 277 (L&C)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to benefits under the public em-
7 ployees' retirement system; and providing for an
8 effective date."

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18 officer under AS 39.35.680(27) after June 30, 1983.

19 * Sec. 6. This Act takes effect immediately in accordance with
20 AS 01.10.070(c).

Introduced: 4/30/83
Referred: Labor and Commerce
and Finance

1 IN THE SENATE

BY KERTTULA

2 SPONSOR SUBSTITUTE FOR SENATE BILL NO. 277

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 THIRTEENTH LEGISLATURE - FIRST SESSION

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17 retirement purposes and accrues retirement credit if employed as a peace
18 officer under AS 39.35.680(27) after June 30, 1983.

19 * Sec. 6. This Act takes effect July 1, 1983.

COMMITTEE REPORT

SENATE

FURTHER:

5/13/83

Date: 5/16/83

Mr. President:

The Committee on FINANCE has had SS SB 277

Benefits under the public employees' retirement system; eff. date.

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for SS SB 277 (LFC) same title
 new title
- and recommends to DUBS
- AND attaches a "Letter of Intent" New Fiscal Note
5/5/83 (773.0)
- reports it back without recommendation
- referred to the _____ Committee

MEMBERS SIGNING
DO PASS

[Signature]

[Signature]

MEMBERS HAVING
OTHER RECOMMENDATIONS:

[Signature]

[Signature]

[Signature]

CHAIRMAN

[Signature]

Offered: 5/13/83
Referred: Finance

Original sponsor: Kerttula

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BY THE LABOR AND
COMMERCE COMMITTEE

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19 * Sec. 6. This Act takes effect immediately in accordance with
20 AS 01.10.070(c).

Draft Letter of Intent on SSSB 277

Senate Finance Committee

The intent of the committee in passing out SSSB 277 is to contain retirement system costs by preventing further proliferation of the police and fire coverage in the Public Employees Retirement System. The additional benefits provided to employees with peace officer coverage, a 20-and-out provision and an enhanced benefit multiplier after ten years of service, do not squarely address the issue of hazardous duty. The 20-and-out provision encourages employees to leave state service earlier and defeats one of the primary objectives of a retirement system. The current peace officer occupational death and disability benefits are the same as for all other employees.

In removing peace officer coverage for future employees of the Department of Fish and Game, this committee does not intend that these employees be deprived of reasonable compensation for hazards undergone in the line of duty. The committee is relying on assurances that the administration will bargain for hazard pay in good faith for all employees, regardless of department, at the table. Additional compensation should be paid only for the time hazard is actually present.

5/16/83

STATE OF ALASKA
FISCAL NOTE

Revision Date 1983

I. REQUEST

Bill/Resolution No.: CCSSSB 277 (L&C)
Title: An Act Relating to Benefits Under PERS
Sponsor: Senator Kerttula
Requestor: _____

II. FISCAL DETAIL

Agency Affected: Fish & Game
Program Category Affected: _____
BRU, Program of Subprogram(s) Affected: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES		(773.0)	(1090.0)	(1458.0)	(1884.0)	(2374.0)
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING		(773.0)	(1090.0)	(1458.0)	(1884.0)	(2374.0)
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	(600.6)	(846.9)	(1132.9)	(1463.9)	(1844.6)
FEDERAL FUNDS	(105.1)	(148.3)	(198.3)	(256.2)	(322.9)
OTHER (Specify Source) (Fish & Game Fund)	(67.3)	(94.8)	(126.8)	(163.9)	(206.5)

POSITIONS:

FULL-TIME					
PART-TIME					
TEMPORARY					

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

J. K. Humphreys

IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: J.K. Humphreys, Director Phone: 465-4460
 Division: Retirement & Benefits Date: 5-5-83
 Approved by Commissioner: Lisa Rudd, Commissioner Date: 5-5-83
 Department: Administration

Distribution:

- Original to Legislative Finance
- Copy to Office of Management and Budget (for Legislature introduced bills)
- Copy to Department (for Governor introduced bills)
- Copy to Sponsor
- Copy to Requestor (if different from Sponsor)

State of Alaska

Fiscal Note

CSSSSB 277 (L&C)

IV. Analysis:

In this Fiscal Note, with an immediate effective date on the bill, it is assumed that it would affect 300 vacancies for FY 84.

The present value of the projected savings to the State over the next 17 years is \$30 million.

Note:

If there were 400 vacancies affected, the cost savings (in thousands) would be as follows:

<u>FY 84</u>	<u>FY85</u>	<u>FY80</u>	<u>FY87</u>	<u>FY88</u>
\$1031.0	\$1369.0	\$1759.0	\$2209.0	\$2725.0

STATE OF ALASKA

DEPARTMENT OF ADMINISTRATION

DIVISION OF RETIREMENT & BENEFITS

POUCH CR

JUNEAU, ALASKA 99811

Public Employees' Retirement System
Teachers' Retirement System
Judicial Retirement System
Elected Public Officers Retirement System
National Guard Retirement System
Territorial Retirement System
Retirees' Voluntary Dental-Vision-Audio Plan
Supplemental Benefits System
Group Health/Life Insurance Benefits
Deferred Compensation Plan
Public Employees Social Security Contributions

Bill Sheffield, Governor

907 (455-4462)

March 21, 1983

Honorable Richard I. Eliason
Alaska State Legislature
Pouch.V
Juneau, AK 99811

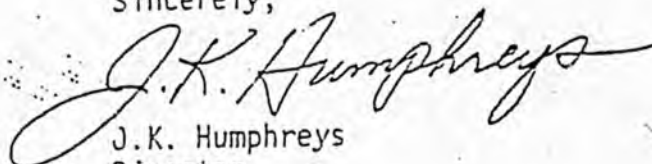
Dear Senator Eliason:

This is in response to your conversation of March 14, 1983 with John Logan, Deputy Director of the Division of Retirement and Benefits, in which you asked for specific information regarding peace officer coverage in the Public Employees' Retirement System (PERS) for Department of Fish and Game Employees.

1. How many positions are in the Department of Fish and Game? 1827.
2. How many positions in the Department of Fish and Game have peace officers coverage in PERS? Approximately 1500.
3. How many positions in the Department of Fish and Game had peace officer coverage prior to the promulgation of 2 AAC 30.010, Qualified Fish and Game Employees? Approximately 750.
4. Since March 21, 1982, the effective date of the regulation, how many requests for peace officer coverage under the regulation have been received from the Department of Fish and Game? The Department of Fish and Game have sent six memorandums requesting that peace officer coverage be granted to approximately 1400 positions. This figure includes most of the positions that already had peace officer coverage.
5. Since the effective date of the regulation, how many positions have been denied the coverage? One.

If you have additional questions, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "J.K. Humphreys". The signature is written in dark ink and is positioned above the typed name and title.

J.K. Humphreys
Director

JKH/sd

cc: Eleanor Andrews




Alaska Public
Employees Association

APEA

State Headquarters: 340 N. Franklin, Juneau, AK 99801 (907) 586-2334

TO: Senator Eliason, Chairman
Labor and Commerce Committee

FROM: Cherie Shelley 
Executive Director

SUBJECT: SSSB 277

DATE: May 10, 1983

The Alaska Public Employees Association opposes the provision of SSSB 277 which would remove qualified employees of the Department of Fish and Game from eligibility in the peace officers retirement system. As a group, these employees have one of the highest on-the-job fatality counts of any group of employees currently covered by the system.

The Division of Retirement and Benefits has the authority to establish eligibility guidelines for Fish and Game employees. If the current guidelines are viewed as too liberal, the Division of Retirement can propose changes to conform to the legislative intent of the law.

The elimination of the peace officer retirement system option from all Fish and Game employees is not warranted. The duties associated with many of these positions involve a substantial degree of risk under hazardous conditions.

This provision of the retirement code was intended to acknowledge those occupations which involve hazardous conditions and life-threatening situations. The stressful nature and physical demands of these positions limit the length of service which can reasonably be expected from an employee.

Participation in the peace officers retirement system is a well deserved acknowledgement for a job well done.

CS/rb

Fairbanks Field Office
825-D College Road
Fairbanks, AK 99701
Telephone: (907) 456-5412

Anchorage Field Office
833 Gambell Street, Suite A
Anchorage, AK 99501
Telephone: (907) 274-1688

Juneau Field Office
227 4th Street
Juneau AK 99801
Telephone: (907) 586-6305

PEACE OFFICER AND FIREMAN

Benefits Payable Under Pre-July 1, 1976 Law

1. Benefits payable if member was hired prior to 7/1/76 and surviving spouse elects pre-7/1/76 coverage.
2. The Base Benefit is equal to monthly compensation of the deceased member at the time of death.
3. Benefits commence the first of the month following the death of the employee.
4. The Cost of Living Allowance, if applicable, is equal to \$50.00 or 10% of the monthly base benefit, whichever is greater.
5. If surviving spouse remarries or dies, benefit is paid to eligible dependent children.
6. The benefit changes to normal retirement benefit on the date the deceased member, had he lived, would be eligible for a normal retirement benefit, 20 years credited service or age 55.
7. The survivor's benefit is offset by any Workers' Compensation benefits which are payable to the survivors and attributable to the employer.

ALL OTHER CATEGORY

1. Benefits payable if member was hired prior to 7/1/76 and surviving spouse elects pre-7/1/76 coverage.
2. The Base Benefit is equal to a 75% Joint and Survivor Benefit, based on the credited service that the member would have accrued through age 60, (age 55 if hired on or after 7/1/75).
3. Benefits commence the first of the month following the death of the employee.
4. The Cost of Living Allowance, if applicable, is equal to \$50.00 or 10% of the monthly base benefit, whichever is greater.
5. If surviving spouse remarries or dies, benefit is paid to eligible dependent children.
6. The benefit changes to normal retirement benefit on the date the deceased member, had he lived, would be eligible for a normal retirement benefit, 30 years credited service or age 60 (55 if hired on or after 7/1/75).
7. The survivor's benefit is offset by any Workers' Compensation benefits which are payable to the survivors and attributable to the employer.

PEACE OFFICER, FIREMAN & ALL OTHER CATEGORY

Benefits Payable Under Post-July 1, 1976 Law

1. To be eligible, the surviving spouse must be named as the sole primary beneficiary.
2. Base Benefit is equal to 40% of monthly compensation at the time of death.
3. Benefits commence the first of the month following the death of the employee.
4. The Cost of Living Allowance, if applicable, is equal to \$50.00 or 10% of the base benefit, whichever is greater.
5. The surviving spouse may remarry and still continue to receive benefits.
6. If the surviving spouse dies, the benefit is paid to eligible dependent children.
7. The survivor's benefit changes to a normal retirement benefit on the date the deceased member, had he lived, would be eligible for a normal retirement benefit, 20 years or age 55.
8. The survivor's benefit is not offset by Workers' Compensation benefits.
9. If there is no surviving spouse, benefits as listed in numbers 2, 4 and 7 would be payable to the dependent children.
10. If there is no dependent children, or if the member named someone other than the surviving spouse or dependent children to receive benefits, then a lump sum death benefit is payable, which is:

Refund of Contributions & Interest
Refund of Indebtedness Principle & Interest, if any
Lump Sum benefit of \$1,000.00
\$100 X total years of credited service

STATE OF ALASKA
THE LEGISLATURE

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

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

April 30, 1983

SUBJECT: Retirement
(SB 277)

TO: Senator Richard I. Eliason
Chairman, Senate Labor and
Commerce Committee

FROM: Billy G. Berrier *BGB*
Director
Division of Legal Services

You have asked whether in our opinion SB 277 poses constitutional questions. In my opinion it does not.

The effect of the bill is to narrow coverage of the special peace officer and fireman provisions of the Public Employees Retirement System (AS 39.25) for persons employed after the effective date of the Act and to allow persons who are eligible for those benefits to termination at their election.

These special provisions offer additional benefits and require higher contributions.

Section 7 of Article XII of the Constitution of the State of Alaska Provides:

RETIREMENT SYSTEM. Membership in employee retirement systems of the State or its political subdivisions shall constitute a contractual relationship. Accrued benefits of these systems shall not be diminished or impaired.

This contractual right arises however only on employment (State ex rel Hammond v. Allen, 625 P.2d 844 (Alaska 1981); and Hammond v. Hoffbeck, 327 P.2d 1052 (Alaska 1981)).

Hammond v. Hoffbeck involved amendments to the peace officer and fireman provision of PERS which the peach officers alleged were unconstitutional. In that case the Court held:

We therefore hold that benefits under PERS are in the nature of deferred compensation and that the right to such benefits vests immediately upon an employee's enrollment in that system.

and went on to elaborate holding:

These principles require division of all public safety employees into three distinct groups: those who were employed before the effective date of the legislation in issue here and whose rights to benefits were diminished by the changes made; those who were employed before that date but who elect to be covered by the new legislation; and those who began their employment only after this legislation became effective. It is clear that the changes made in PERS did not unconstitutionally diminish any vested rights of the members of the third group; as appellants point out, repeal of the old provisions made it impossible for the rights of employees hired on or after July 1, 1976, to vest under those provisions. As to the third group, then, the changes made in PERS are not violative of Art. XII, sec. 7. We therefore reverse the superior court insofar as it held that the 1976 amendments were prospectively invalid. We also hold that, as to the second group -- which includes those public safety employees enrolled before July 1, 1976, who wish to be covered by the new legislation -- the 1976 amendments were valid. Our interpretation, then, renders the 1976 amendments considered here constitutional except as to public safety employees hired before July 1, 1976, who opt to receive benefits under the system in effect at the time they were hired.

SB 277 has provisions for continuing in the system of all employees who were eligible on the effective date of the Act. It therefore only affects people hired after the effective date of the Act (the third category in the Court's analysis) and those who elect to change coverage (the second category).

In my opinion under the case law no constitutional question arises since there is no effect on vested rights.

BGB:ljb
17/011

20-year rule may be on way out

Fish and Game employees may lose early state retirement plan

By DEBBIE REINWAND ROSE
Empire Staff Reporter

It's an ideal retirement program. A qualified Department of Fish and Game employee works for 20 years, retires and receives a hefty state retirement check each month.

If this retirement plan sounds too good to be true, don't be surprised. It may be just that, if lawmakers and the Sheffield administration push through proposed changes to limit the program.

In a letter to Administration Commissioner Lisa Rudd, Sen. Don Bennett, R-Fairbanks, laid out the concerns of a Finance subcommittee regarding the cost of this program.

The legislative intent of the plan, commonly known as "20 years-and-out," was to cover peace officers who find themselves in "hazardous conditions" daily.

It was also intended that a "limited number" of Fish and Game employees, who face hazardous conditions, be included in the plan, Bennett said.

Currently, about 70 percent of the 800 full-time Fish and Game employees and another 800 seasonal employees are in the 20 years-and-out system because of regulations put together by the Department of Administration approximately a year ago.

To qualify for the peace officer benefits plan, which Bennett said now covers "virtually every non-clerical employee" in the

department, a person must perform a "significant amount of field work, travel or exposure to hazardous working conditions."

However, the regulations define a "significant amount" as 5 percent or more of the employee's time — a definition some lawmakers have termed "a joke."

Hazardous working conditions are further defined as aerial surveys in small aircraft, working on vessels on the open sea, travel in small skiffs over open water and conducting stream surveys "or other work where contact with dangerous wild animals is likely."

"If the last three conditions of the regulation were applied to Alaskans who engage in subsistence activities, or who hold hunting and fishing licenses, virtually all would be eligible for coverage in the peace officers retirement system," Bennett said.

Bennett contends the program cost to

the state in the long term could be "astronomical."

Commissioner Rudd agrees with Bennett.

"The program has gotten far out of hand," she said. "We hope to seek legislation to limit membership in the retirement plan."

The Alaska Public Employees Association is in staunch opposition to lightening the regulations, said Executive Director Cherie Shelley. The program, which covers employees beginning at Range 9, does so "rightfully," she said.

"A Range 9 can die just like a Range 10 while working," Shelley said. "If all departments choose to have people flying over streams taking salmon counts, then those people should be covered. If they don't choose to do that, then they don't have to be covered."

Despite a downswing in state revenues,

Continued on Page 2

20 years...

Continued from Page 1

Shelley said APFA would lobby against changing the program and in fact will push

legislation to add more employees to the peace officer retirement plan.

"We have legislation pending to include probation officers and park rangers," she said.

The way the retirement figure is

reached, according to ADFG Director Administration Bev Reaume, is by averaging an employee's salary for the last three years of work, taking 2½ percent of it average, then multiplying that by the number of years employed.

Juneau Empire 3/22/83

Retirement: Hazards key to changes

By DEBBIE REINWAND ROSE
Empire Staff Reporter

Attempts by the administration and Legislature to streamline the Fish and Game Department employee retirement program will focus on how workers encountering hazards will be handled, state officials said today.

Officials would like to address the question of hazardous conditions "through hazard pay at the bargaining table," said Ken Humphries, director of the Division of Retirement and Benefits.

"Looking at the amount of time an employee spends in "hazardous conditions"

Continued on Page 2

Retirement...

Continued from Page 1

is not really a valid criteria for evaluating death or disability provisions," Humphries said. "The death benefits are the same as the regular system."

Officials hope to meet with Fish and Game employees and members of the Alaska Public Employees Association this month to work out a compromise aimed at scaling down the Fish and Game retirement plan.

"The program we have looks good, and I'm sure most state employees would like to be in it," but unless checked, the "20-years and out" plan could end up as a

millstone around the state's neck, said Humphries.

Regulations put together one year ago opened up the 20-years and out plan, which was originally intended for peace officers who are placed in dangerous situations nearly every day.

Currently, nearly 1,400 Fish and Game full-time and season employees qualify for retirement after 20 years under the peace officer retirement plan. The normal retirement age for state employees is 55.

What state officials fear because of the broad eligibility requirements are employees who join the department out of college at age 21, work for 20 years, retire at age 41 and receive full benefits for a

number of years while pursuing another career.

"This Cadillac type of system could get out of control. We have to stop it from spreading," Humphries said. "The state has an ample retirement program for all employees. ... As long as the state's ability to pay these retirement benefits is there, the system can stay healthy. If not, the such programs become a burden on the state, which is indirectly passed on to taxpayers through budget cuts."

As it now stands, any Fish and Game employee who spends 5 percent or more of the time in "hazardous working conditions" can qualify for peace officer benefits.

Juneau Empire 3/23/83

Alaska State Legislature

Advisory Council Members

Senator Kerttula, Chairman
Senator Bennett
Senator Vic Fischer
Senator Fahrenkamp



Pouch V
State Capital
Juneau, Alaska 99811
Phone: (907) 465-3114

SENATE ADVISORY COUNCIL

MEMORANDUM

To: Pete Jeans THRU: David Rogers
From: Katherine Brown
Date: March 15, 1983
Subj: Research request

Today I received, through David Rogers, a research request from Senator Eliason regarding peace officer coverage under PERS, of Dept. of Fish and Game employees who are exposed to hazardous working conditions.

2 AAC 30.010 defines "qualified employees" as those ". . . certified by the Commissioner of Fish and Game and approved by the Commissioner of Administration as having duties which necessitate a significant amount of field work, travel, or exposure to hazardous working conditions." (Emphasis added)

Subsection (d)(1) of this section defines "a significant amount" as involving ". . . at least five percent of an individual's working time." "Field work," "travel," and "exposure to hazardous working conditions," are defined in this section rather extensively.

Senator Eliason is concerned that the departments' interpretation of the enabling legislation is far too liberal, including more employees than was intended by the authors of the legislation. He has requested that we locate the original bill and research the legislative intent.

I will contact Billy Berrier to see if he can help me locate the original legislation and then research legislative intent by reviewing committee tapes on file at the state library.

Alaska State Legislature

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Juneau, Alaska 99811
Phone: (907) 465-3114

SENATE ADVISORY COUNCIL

MEMORANDUM

To: Pète Jeans, Director
Senate Advisory Council

THRU: David Rogers

From: Katherine Brown

Date: March 21, 1983

Subj: Research request from Senator Eliason regarding
peace officer coverage through PERS for DF&G
employees.

Prior to 1976, only Fish and Game field biologists and technicians were afforded peace officer coverage under PERS.

The amendment which extended coverage to "qualified employees of the Department of Fish and Game" (as reflected in present statute) was the result of a Rules Committee Substitute to Senate Bill 222 which passed the House May 29, 1976, was approved by the Senate on May 31, and became law on July 1, 1976 without the Governor's signature.

There is no intent language regarding Fish and Game employees in the journal or committee records. However, in Finance Committee discussion of inclusion of other employees in the bill, it was decided to leave the language "unrestricted" because eligibility limitations would have also restricted all other employee classifications unless this was undertaken separately by section.

2/22

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STATE OF ALASKA
FISCAL NOTE

Revision Date 5/5/83

I. REQUEST

Bill/Resolution No.: SSSB 277
 Title: An Act Relating to Benefits Under PERS
 Sponsor: Senator Kerttula
 Requestor: _____

II. FISCAL DETAIL

Agency Affected: Fish & Game
 Program Category Affected: _____
 BRU, Program of Subprogram(s) Affected: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES		(232.0)	(510.5)	(842.3)	(1235.4)	(1698.7)
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING		(232.0)	(510.5)	(842.3)	(1235.4)	(1698.7)
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	(180.3)	(396.7)	(654.5)	(959.9)	(1319.9)
FEDERAL FUNDS	(31.5)	(69.4)	(114.5)	(168.0)	(231.0)
OTHER (Specify Source) (Fish & Game Fund)	(20.2)	(44.4)	(73.3)	(107.5)	(147.8)

POSITIONS:

FULL-TIME					
PART-TIME					
TEMPORARY					

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: J.K. Humphreys, Director Phone: 465-4460
 Division: Retirement & Benefits Date: 5-5-83

Approved by Commissioner: Lisa Rudd, Commissioner Date: 5-5-83
 Department: Administration

Distribution:

- Original to Legislative Finance
- Copy to Office of Management and Budget (for Legislature introduced bills)
- Copy to Department (for Governor introduced bills)
- Copy to Sponsor
- Copy to Requestor (if different from Sponsor)

3/8/83

State of Alaska

Fiscal Note

SSSB 277

IV. Analysis: The present value of the projected savings to the State over the next 17 years is \$25 million.

CHAPTER 30.
PUBLIC EMPLOYEES' RETIREMENT
SYSTEM

Section

10. Qualified fish and game employees

2. AAC 30.010. QUALIFIED FISH AND GAME EMPLOYEES: (a) Any person who is a permanent, full-time employee (including a seasonal employee) of the Department of Fish and Game, who fills a position which has been certified by the commissioner of fish and game and approved by the commissioner of administration as having duties which necessitate a significant amount of field work, travel, or exposure to hazardous working conditions, is a "qualified employee of the Department of Fish and Game" under AS 39.35.680(32) and will be afforded peace officer coverage in the Public Employees' Retirement System.

(b) Notwithstanding other provisions of this section, any person within the Department of Fish and Game who, before March 21, 1982, filled a position which was treated by the division of retirement and benefits as qualifying for peace officer coverage will continue to be afforded peace officer coverage after March 21, 1982 as long as the person fills that position or any other position within that department that qualifies under this section.

(c) AS 39.35.160 requires each peace officer in the system to contribute five percent of his or her compensation to the Public Employees' Retirement System. Therefore, any person who receives credit as a peace officer for service already rendered must contribute an amount equal to the difference between the contributions which have been made and the contributions that are required for peace officer coverage for the same period of service. Public Employees' Retirement System Board Regulation 81-2 sets the rate of interest to be charged on an indebtedness to the system. Therefore, interest at the rate prescribed by that regulation accrues on any unpaid contributions commencing 90 days after the date of notification of the amount of unpaid contributions.

(d) In this section

(1) "a significant amount" means at least

five percent of an individual's working time;

(2) "field work" means working outside of a permanent structure and does not include work within or in proximity to a permanent residential community;

(3) "travel" means going to and from a place of duty as a passenger or operator in a plane, bus, train, automobile, boat, or any other form of mechanized transportation; it does not include travel primarily for the purpose of going from one established city, town, village, or community to another;

(4) "exposure to hazardous working conditions" means actively engaged in fish and game conservation or protection work which involves a demonstrated high risk of serious bodily injury or death, and includes

(A) aerial surveys in small aircraft;

(B) working on vessels on the open sea;

(C) travel in small skiffs over open water or in remote locations; and

(D) conducting stream surveys or other work where contact with dangerous wild animals is likely. (Eff. 3/21/82, Reg. 81)

Authority: AS 37.05.020

AS 39.35.680(32)

State of Alaska

Fiscal Note

CSSSB 277 (L&C)

IV. Analysis:

In this Fiscal Note, with an immediate effective date on the bill, it is assumed that it would affect 300 vacancies for FY 84.

The present value of the projected savings to the State over the next 17 years is \$30 million.

Note:

If there were 400 vacancies affected, the cost savings (in thousands) would be as follows:

<u>FY 84</u>	<u>FY85</u>	<u>FY80</u>	<u>FY87</u>	<u>FY88</u>
\$1031.0	\$1369.0	\$1759.0	\$2209.0	\$2725.0

COMMITTEE REPORT

SENATE

4/25/83

FURTHER: Finance

Date: 5/12/83

Mr. President:

The Committee on Labor & Commerce has had SS SB 277

Relating to benefits under the public employees' retirement system; and eff. date.

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for SSSB 277 (L+C) same title
- new title

and recommends do pass

- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation
- referred to the _____ Committee

MEMBERS SIGNING DO PASS

1. [Signature]

[Signature]

MEMBERS HAVING OTHER RECOMMENDATIONS:

1. Patrick Bodley no rec.

2. Bob [Signature] no Rec.

[Signature]

CHAIRMAN

FISCAL NOTE

REQUEST

Bill/Resolution No.: SSSB 277
 Title: An Act Relating to Benefits Under PERS
 Sponsor: Senator Kerttula
 Requestor: _____

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POSITIONS:

FULL-TIME					
PART-TIME					
TEMPORARY					

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

The present value of the projected savings to

ANALYSIS: the State over the next 17 years is \$25 million.

Prepared By: J.K. Humphreys, Director Phone: 465-4460
 Division: Retirement & Benefits Date: 5-5-83

Approved by Commissioner: Lisa Rudd, Commissioner Date: 5-5-83
 Department: Administration

Introduced: 4/30/83
Referred: Labor and Commerce
and Finance

1 IN THE SENATE

BY KERTTULA

2

SPONSOR SUBSTITUTE FOR SENATE BILL NO. 277

3

IN THE LEGISLATURE OF THE STATE OF ALASKA

4

THIRTEENTH LEGISLATURE - FIRST SESSION

5

A BILL

6

For an Act entitled: "An Act relating to benefits under the public employees' retirement system; and providing for an effective date."

7

8

9

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

10

* Section 1. AS 39.35 is amended by adding a new section to read:

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Sec. 39.35.527. ELECTION TO TERMINATE COVERAGE AS A PEACE OFFI-

12

CER OR FIREMAN. (a) Any active member may elect to irrevocably relinquish peace officer or fireman status with the system and to retain all credited service as if it had been acquired as a member other than a peace officer or fireman.

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(b) In order to relinquish peace officer or fireman status with the system, a person must be an active member and must file a written request with the administrator by July 1, 1984, or within six months after employment as a peace officer or fireman, whichever occurs later. No person has more than one opportunity to exercise this option.

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(c) As soon as possible after the relinquishment, the administrator shall refund to a person who relinquishes peace officer or fireman status under this section a refund equal to the amount by which the balance of the person's accumulated mandatory contributions plus interest exceeds the balance which would exist if all service credit had been acquired as a member other than a peace officer or fireman.

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(d) A written request to relinquish peace officer or fireman

1 status is irrevocable upon filing with the administrator.

2 * Sec. 2. AS 39.35.680(27) is amended to read:

3 (27) "peace officer" or "fireman" means an employee occupy-
4 ing a position as a peace officer, chief of police, correctional
5 officer, correctional superintendent, [QUALIFIED EMPLOYEE OF THE DE-
6 PARTMENT OF FISH AND GAME,] fireman, or fire chief;

7 * Sec. 3. AS 39.35.680(32) is repealed.

8 * Sec. 4. A person holding a position as a "qualified employee of the
9 Department of Fish and Game" on June 30, 1983, continues to accrue service
10 credit as a peace officer under AS 39.35 until

11 (1) that person's employment is terminated with the Department
12 of Fish and Game; or

13 (2) that person elects to irrevocably relinquish peace officer
14 status under AS 39.35.527.

15 * Sec. 5. A person who has not elected to relinquish peace officer
16 status under AS 39.35.527 retains all accrued credit as a peace officer for
17 retirement purposes and accrues retirement credit if employed as a peace
18 officer under AS 39.35.680(27) after June 30, 1983.

19 * Sec. 6. This Act takes effect July 1, 1983.