ALASKA LEGISLATURE COMMITTEE FILES 1985-1986 8072

3746 HSTA HJR 51 - HJR 52

602

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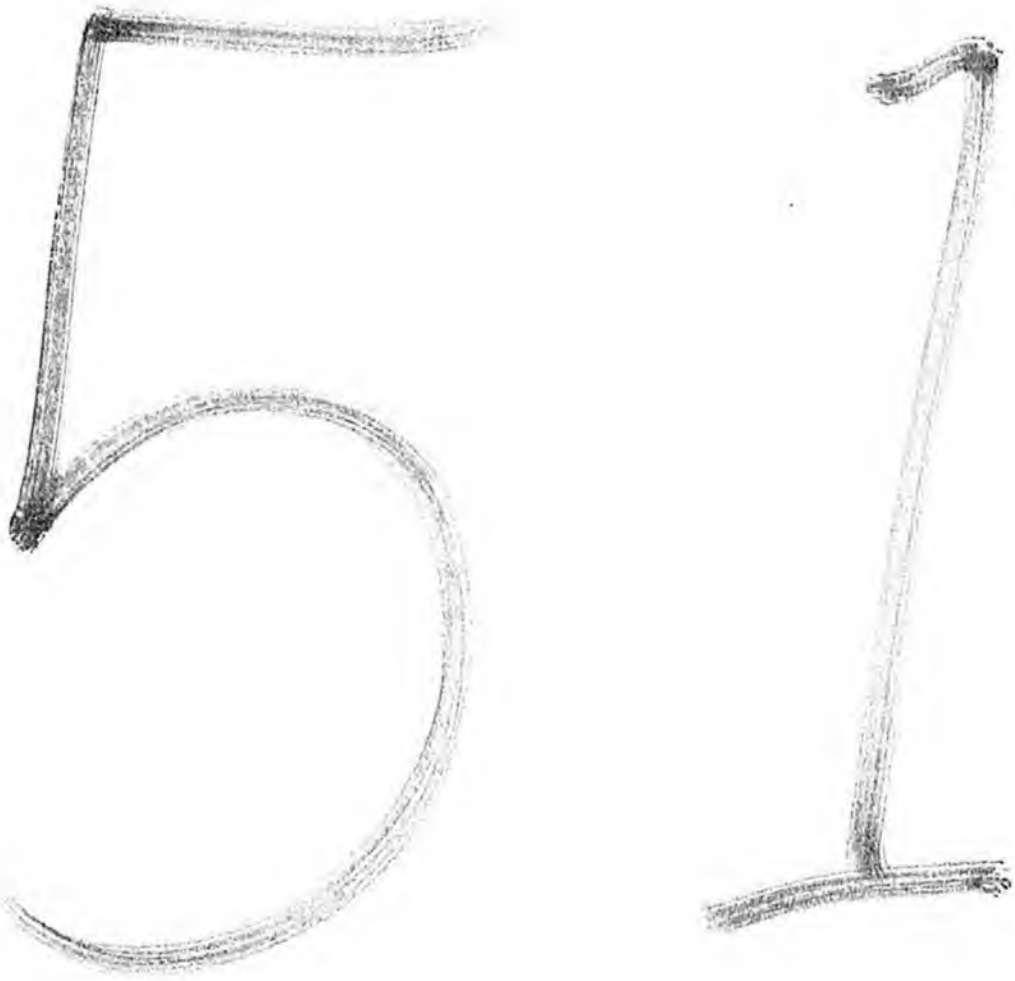
9/11/89
Date

02-519 (REV 8/78)

HJR



HOUSE STATE AFFAIRS COMMITTEE

Date Rec'd _____

Bill Number HJR 51 Title Court Council User Fees

Fiscal Note	Position Paper	Date requested	From	Amount	Date Rec'd Note	Date Rec'd Paper

CONTACTS

Howard in Sinds office x4919

BACKUP LIST

HEARING INFORMATION 2/14/86

NOTES:

FINAL ACTION

STATE OF ALASKA
THE LEGISLATURE

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

LEGISLATIVE AFFAIRS AGENCY

LEGISLATIVE REFERENCE LIBRARY

May, 1986

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS date base CM 14. In order to save space copies of minutes have not been left in the files.

Jeanie Henry

House State Affairs Committee 2/14/1986, 3:00 pm

COMMITTEE REPORT

HOUSE

(7)

5/13/85

FURTHER:

Date: 2/14/86

The Committee on STATE AFFAIRS has had HB 51

Relating to Coast Guard user fees.

under consideration and recommends:

[X] 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 [X] Zero Fiscal Note Attached

[ ] reports it back without recommendation

[ ] referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

_____

CHAIRMAN

when retiring (20 yrs and out) retirement, medical insurance for life, commissary privileges and other benefits. It is not that we are unappreciative of these valiant Coast Guardsmen who risk their lives in rescue work, and the others who work to support our marine navigation systems. But, we aren't interested in paying the excessive costs associated with drug enforcement work, ice breakers, North Atlantic iceberg patrol, hurricane warning systems, or military training trips to Hawaii and such. Besides, the marine fuel tax already goes for support of navigation aids, etc. We are already taxed!

- 70% of the Coast Guard overflights are training flights and will continue.

- Much of the Coast Guard's costs could be reduced by reducing duty stations.

There is no excuse for people lost in the wilderness when the National Guard is called out.

- Furthermore, any type of charge for services is a bad precedent. If you charge for lifesaving, people will be reticent to call for help and may place life and property in jeopardy.

JOHN SUND, REPRESENTATIVE
2505 2nd Avenue
Ketchikan, Alaska 99901
(907) 225-5552

While in Juneau
P. O. Box V
Juneau, Alaska 99811
(907) 465-4919

January 30, 1986

MEMORANDUM

TO: House State Affairs Committee

FROM: Rep. John Sund

RE: HJR 51 - Coast Guard user fees

.....

Enclosed in your packet is a copy of Federal House Bill 1932, schedules of proposed direct and indirect fees, and a summary of the bill's status. Should it pass, this legislation would require Alaskan commercial and sport vessels to pay user fees for the following Coast Guard services:

seaman's documents and licenses
vessel inspection
merchant marine investigations
maintenance for aids to navigation
non-emergency search and rescue

The intent of the proposal is to raise the following revenue during the ensuing three years.

FY 86 - $150 million
FY 87 - $250 million
FY 88 - $350 million

The following is a sample fee breakdown. The lower figure is that suggested by the Senate/White House and the high figure was the original OMB proposal.

Commercial vessels UNDER 5 GROSS TONS - $540 - $720 per year
(this could include skiffs, set net skiffs, handtrollers, etc.)

Commercial vessels between 5 - 99 gross tons - $810 - $1080

Recreational Boats - approximately $23 per boat average.

This information was provided by K.C. Bell of Congressman Young's office and David Dye of Senator Stevens office.

HJR 51 opposes coast guard user fees overall, and specifically opposes the proposed distribution of fees.

February 11, 1986

Please telecopy these four pages to :

Mr. Howard Wayne
Office of Rep. John Sund
telcopy #: 465-4648

Mr. Wayne:

I am sending to you the SAMPLE fee breakdown supplied as part of H.R. 1936. As you can see, it reflects a $23 charge for recreational boaters. It should be noted that the 1987 fiscal year budget presented to Congress still assumes that revenues will be collected through a Coast Guard user fee, although it is NOT factored into the Coast Guard budegt request. The Subcommittee on Cost Guard and Navigation last year made it very clear that it continues to oppose such user fees.

I could not get a copy of S.Con.Res. 32 in time for you, however, I have enclosed a summary of the status of that legislation.

Please let me know if you require further information.

Sincerely,

K.C Bell

K.C. BELL

FULL TEXT RECOVERY

INDIRECT FEES -- SAMPLE RECOVERY SCHEDULE

CLASS	NUMBER VESSELS	AVERAGE [1] ANNUAL FEE $	RECOVERY FY86 $000
A. REC BOATS	6,000,000	23	136,000
B. INLAND SYSTEM [2]			57,000
C. FISHING VESSELS			
US <100GT	119,000	780	93,000
US >100GT	2,200	1800	4,000
FOR<100GT	0	900	0
FOR>100GT	840	2500	2,000
		TOTAL	99,000
D. INTERNATIONAL/COASTWISE COMMERCIAL VESSELS			
TONNAGE FEE [3]			75,000
COASTAL could be as high as 50-80,000	3,600	3,800	16,000
TOWBOATS	2,900	2,400	7,000
BARGES	4,000	2,000	8,000
MODU	300	2,000	600
		TOTAL	107,000
	TOTAL INDIRECT RECOVERY		400,000

[1] Estimated Average annual fee. Actual fees may vary significantly when all computational factors are considered. Figures may not compute exactly due to rounding.

[2] Fees will be approximately 0.25 mills per ton-mile to permit compatibility with the Corps of Engineers fees and collection procedures.

[3] Tonnage fee. This fee schedule will be administered in the same manner as the tonnage fees collected by customs in accordance with Title 19 S 4.20 U.S. Code. It will be approximately 5 times the amount currently assessed by Customs.

[redacted]

DIRECT FEES -- SAMPLE RECOVERY SCHEDULE[1]

DIRECT FEES		RECOVERY FY86 $000
REGATTA PERMITS		200
REGATTA PATROLS		800
DOCUMENTATION OF VESSELS		2,000
ADMEASUREMENT OF VESSELS		2,000
INSPECTION OF VESSELS		36,000
PERSONNEL LICENSING		10,000
TERMINAL INSPECTIONS		24,000
DOMESTIC ICEBREAKING[2]		1,000
	TOTAL	76,000

1 Actual fees will be determined by computed costs of services rendered to specific identifiable users.

2 For specific identifiable users.

STATUS OF MAJOR BILLS—FIRST SESSION

Number of bill	Title	Reported	Passed House	Reported in Senate	Passed Senate	Sent to Conference	Conference report agreed to in—		Date approved	Law No.
							House	Senate		
	LEGISLATIVE BILLS	1985	1985	1985	1985	1985	1985	1985	1985	
H. Con. Res. 152	Budget, First, 1986 (Rept. 99-133)	May 20	May 23							
[redacted]	Budget, First, 1986		May 23	Mar. 20	May 9	May 23 [1]	[2]	Aug. 1 [3]		
H.R. 2100	Food Security Act of 1985 (H. Rept. 99-271)	Sept. 18	Oct. 8		Nov. 23	Dec. 5	Dec. 18	Dec. 18		
H.J. Res. 372	Debt Ceiling Increase		Aug. 1	Sept. 26	Oct. 10	Oct. 15 Nov. 7	[4] [5] Dec. 11	Nov. 1 [6] Dec. 11	Dec. 12	99-177
H.R. 2817	Superfund Amendments of 1985 (H. Rept. 99-253)	Nov. 12	[8]							
H.R. 3500	Budget Reconciliation (H. Rept. 99-300)	Oct. 3	Oct. 24							
H.R. 3838	Tax Reform Act, 1985 (H. Rept. 99-426)	Dec. 7	Dec. 17							
	APPROPRIATION BILLS									
H.J. Res. 342	Supplemental, Agriculture, 1985		July 18		July 19				July 24	99-71
H.R. 1239	Supplemental Appropriations, African Relief (H. Rept. 99-2)	Feb. 21	Feb. 26	Mar. 5	Mar. 20	Mar. 27	Apr. 2	Apr. 2	Apr. 4	99-10
H.R. 2577	Supplemental Appropriations, 1985 (H. Rept. 99-142)	May 22	June 12	June 13	June 20	July 16	July 31	Aug. 1	Aug. 15	99-88
H.R. 2942	Legislative Branch, 1986 (H. Rept. 99-194)	July 10	July 18	July 25	July 31	Oct. 8	Oct. 29	Oct. 29	Nov. 13	99-151
H.R. 2959	Energy and Water, 1986 (H. Rept. 99-195)	July 10	July 16	July 25	Aug. 1	Oct. 1	Oct. 17	Oct. 17	Nov. 1	99-141
H.R. 2965	Commerce, Justice, State, Judiciary (H. Rept. 99-197)	July 11	July 17	Oct. 4	Nov. 1	Dec. 3	Dec. 5	Dec. 6	Dec. 13	99-180
H.R. 3011	Interior, 1986 (H. Rept. 99-205)	July 16	July 31	Sept. 24	[10]					
H.R. 3036	Treasury, Postal, 1986 (H. Rept. 99-210)	July 18	July 30	Sept. 9	Sept. 26	Oct. 8	Nov. 7	Nov. 7	[7]	
H.R. 3037	Agriculture, 1986 (H. Rept. 99-211)	July 18	July 24	Sept. 24	Oct. 16	Dec. 9				
H.R. 3038	HUD, 1986 (H. Rept. 99-212)	July 18	July 25	Aug. 28	Oct. 18	Nov. 6	Nov. 13	Nov. 13	Nov. 25	99-160
H.R. 3067	District of Columbia, 1986 (H. Rept. 99-223)	July 24	July 30	Sept. 9	Nov. 7	Dec. 4				
H.R. 3228	Foreign Assistance (H. Rept. 99-252)	Aug. 1								
H.R. 3244	Transportation, 1986 (H. Rept. 99-256)	Sept. 5	Sept. 12	Oct. 4	Oct. 23	Oct. 30				
H.J. Res. 388	Continuing, 1986 (H. Rept. 99-272)	Sept. 17	Sept. 18	Sept. 24	Sept. 25				Sept. 30	99-103
H.R. 3327	Military Construction, 1986 (H. Rept. 99-275)	Sept. 18	Oct. 17	Oct. 31	Nov. 7	Nov. 13	Nov. 20	Nov. 21	Dec. 10	99-173
H.R. 3424	Labor, Health, Human Services; 1986 (H. Rept. 99-289)	Sept. 26	Oct. 2	Oct. 4	Oct. 22	Nov. 5	Dec. 5	Dec. 6	Dec. 12	99-178
H.R. 3629	Defense, 1986 (H. Rept. 99-332)	Oct. 24	Oct. 30	Nov. 6						
H.J. Res. 441	Continuing, further, 1986		Nov. 12		Nov. 13				Nov. 14	99-154
H.J. Res. 465	Continuing, further, 1986 (H. Rept. 99-403)	Nov. 21	Dec. 4	Dec. 5	Dec. 10	Dec. 11 Dec. 17	[9] Dec. 19	Dec. 19	Dec. 19	99-190
H.J. Res. 476	Continuing, further, 1986		Dec. 12		Dec. 12				Dec. 13	99-179
H.J. Res. 491	Continuing, further, 1986		Dec. 17		Dec. 17				Dec. 17	99-184

[1] S. Con. Res. 32 became the budget vehicle subject to a House-Senate conference. [2] House receded from its amendment and concurred with a further amendment Aug. 1, 1985. [3] Senate concurred in further House amendment Aug. 1 *(Legislative day of July 16)*, 1985. [4] House receded and concurred with amendments in Senate amendments Nos. 1 and 2 Nov. 1, 1985. [5] Senate agreed to House amendments with amendments Nov. 2, 4, 6, 1985. [6] House disagreed to Senate amendments and asked for further conference Nov. 6, 1985. [7] Vetoed Nov. 15, 1985. *In House, referred to Appropriations Nov. 19, 1985.* [8] H.R. 2817 passed House Dec. 10, 1985. Pursuant to H. Res. 331, H.R. 2005 became the vehicle subject to a House-Senate conference. [9] House rejected conference report Dec. 16, 1985. [10] Laid on the table Dec. 4 *(Legislative day of Dec. 2)*, 1985.

HR 1936
S. 1318

D R A F T B I L L

To authorize the Secretary of the department in which the Coast Guard is operating to establish fees for certain Coast Guard services and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Coast Guard User Fee Authorization Act of 1985".

Sec. 2. (a) At the end of part I of title 14, United States Code, add the following new chapter:

"CHAPTER 19 -- USER FEES

"Sec.

"§ 671. Definitions

"In this chapter -

"(1) "associated equipment" -

"(A) means -

"(i) a system, accessory, component, or appurtenance of a recreational boat; or

"(ii) a marine safety article intended for use on board a recreational boat; but

"(B) does not include radio equipment.

"(2) "offshore facility" means any artificial island, installation, or other device permanently or temporarily attached to the seabed of the United States Outer Continental Shelf, which is erected thereon for the purpose of exploring for, developing, or producing resources therefrom.

"(3) "operating expenses" means costs incurred by the Coast Guard as necessary expenses for its operation and maintenance.

"(4) "owner" means a person who claims lawful possession of a vessel, facility, or terminal by virtue of legal title or equitable interest therein which entitles that person to such possession.

"(5) "recreational boat" means any vessel that is operated only for pleasure use.

"(6) "recreational boat and associated equipment manufacturer" means any person engaged in

"(A) the manufacture, construction, or assembly of recreational boats or associated equipment; or

"(B) the manufacture or construction of components for recreational boats and associated equipment to be sold for subsequent assembly; or

"(C) the importation into the United States for sale of recreational boats, associated equipment or components thereof.

"(7) "terminal" -

"(A) means -

"(i) a pier, wharf, dock, similar structure, or area of land to which a vessel is or may be secured;

"(ii) an area of land, water, or land and water under and in immediate proximity to a pier, wharf, dock, similar structure, or area of land to which a vessel is or may be secured;

"(iii) any building on or contiguous to a pier, wharf, dock, similar structure, or area of land to which a vessel is or may be secured;

"(iv) any equipment and materials on a pier, wharf, dock, or similar structure, or area of land to which a vessel is or may be secured, or in a building that is on or adjacent to such a structure or land; and

"(v) a deepwater port; but

"(B) does not include facilities operated by the Department of Defense.

"§ 672. User fee authority

"(a) The Secretary, in consultation with affected Federal agencies, may establish a system of fees to recover that portion of the related operating expenses of services, which primarily benefit the users of the services and are beyond those benefits that accrue to the public at large, that are provided or made available by the Coast Guard to -

"(1) the owners, operators, or persons in charge of -

"(A) vessels,

"(B) terminals, or

"(C) offshore facilities;

"(2) individuals who are licensed, certificated, or issued merchant mariners' documents by the Coast Guard

"(3) recreational boat and associated equipment manufacturers;

"(4) manufacturers of materials and equipment approved by the Coast Guard; and

"(5) other users of Coast Guard services.

"(b) In addition to the operating expenses relating to the services authorized to be recovered under this subsection, the Secretary may also recover reasonable administrative and enforcement costs associated with this chapter.

"(c) The operating expenses of the following Coast Guard programs may not be included in the operating expenses to be recovered -

"(1) Enforcement of Laws and Treaties.

"(2) Polar Ice Operations.

"(3) Defense Readiness.

"(4) Waterways management.

(d) The fee schedule prescribed by this section may not conflict with the international obligations of the United States.

"§ 673. Establishment of fees

"(a) The Secretary shall issue regulations to carry out this chapter, including fee schedules.

"(b) The Secretary shall consider the following factors in establishing fees for Coast Guard services -

"(1) the costs of providing the services, excluding that portion of the costs that primarily benefits the public at large rather than the actual users of the service;

"(2) the number of vessels, terminals, offshore facilities, and persons affected;

"(3) the costs of administering and enforcing the collection of fees; and

"(4) the equity and economic impact of the charges to be imposed.

"§ 674. Collection of fees

"(a) The Secretary may collect fees from:

"(1) the owner, operator, or person in charge of -

"(A) a vessel (other than a public vessel) operating in or on waters subject to the jurisdiction of the United States,

"(B) a terminal, located on or adjacent to waters subject to the jurisdiction of the United States, or

"(C) an offshore facility;

"(2) individuals who are licensed, certificated, or issued merchant mariners' documents by the Coast Guard;

"(3) recreational boat and associated equipment manufacturers;

"(4) manufacturers of materials and equipment approved by the Coast Guard; and

"(5) other users of Coast Guard services.

"(b) The Secretary may employ any federal, state, or local agency or instrumentality, or private enterprise or business, to collect fees established under this section. These fee collection services, which shall not include the institution of litigation, may be provided under such reasonable terms and conditions, including reimbursement with proper accounting to the Secretary, as the Secretary and such agency or business agree.

"§ 675. Treatment of receipts

Amounts collected pursuant to this Act shall be deposited in the general fund of the Treasury as proprietary receipts of the department in which the Coast Guard is operating, ascribed to Coast Guard activities.

"§ 676. Annual search and rescue verification

"There shall be an annual verification by the Secretary that the amounts spent on Coast Guard search and rescue activities are not less that the amounts collected annually for such purposes.

"§ 677. Exemptions

"The Secretary may grant exemptions from any provision of this chapter or any regulations issued under this chapter.

"§ 678. Liability of the United States not altered

"The collection of fees for Coast Guard services shall not alter or expand the duties and liability of the United States under existing law for the performance of functions for which fees are collected, nor shall the collection of fees constitute an express or implied undertaking by the United States to perform any service or activity in a certain manner or to provide any service at a particular time and place.

"§ 679. Penalties

"(a) The owner, operator, or person in charge of a recreational boat who fails to pay a fee prescribed under section 672 of this title is liable to the United States Government for a civil penalty of not more than $5000 for each occurrence, in addition to any fee imposed.

"(b) The owner, operator, or person in charge of a vessel (other than a recreational boat), terminal, offshore facility, any recreational boat or associated equipment manufacturer; manufacturer of materials or equipment approved by the Coast Guard; or other user of Coast Guard services who fails to pay a fee prescribed under section 672 of this title is liable to the United States Government for a civil penalty of not more than $25,000 or two times the fee, whichever is greater, for each occurrence, in addition to any fee imposed.

"(c) Any individual licensed, certificated, or issued a merchant mariners' document by the Coast Guard who fails to pay a fee prescribed under section 672 of this title is liable to the United States Government for a civil penalty of not more than $5000 for each occurrence, in addition to any fee imposed.

"(d) Any person who fails to comply with a regulation prescribed under this chapter is liable to the United States Government for a civil penalty of not more than $5000 for each violation.

"(e) The vessel of any owner, operator, or person in charge who fails to pay a fee or penalty, or who fails to comply with a regulation prescribed under this chapter, also is liable in rem for the fee and any civil penalty assessed under this

section, and may be proceeded against in the United States District Court of any district in which the recreational boat or other vessel may be found.

"(f) A certificate, license, permit, approval, or document issued by the Coast Guard is invalid until all required fees have been paid to the United States Government.

"(g) After notice and an opportunity for a hearing, a person found by the Secretary to have violated this chapter or a regulation prescribed under this chapter for which a civil penalty is provided, is liable to the United States Government for the civil penalty provided. The amount of the civil penalty shall be assessed by the Secretary by written notice. In determining the amount of the penalty, the Secretary shall consider the nature, circumstances, extent, and gravity of the prohibited acts committed and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and other matters that justice requires.

"(h) The Secretary may compromise, modify, or remit, with or without consideration, a civil penalty under this chapter until the assessment is referred to the Attorney General.

"(i) If a person fails to pay an assessment of a civil penalty after it has become final, the Secretary may refer the matter to the Attorney General for collection in an appropriate district court of the United States.

"(j) The Secretary may deny entry to a port or place subject to the jurisdiction of the United States to a vessel if any required fees have not been paid.

"(k) When requested by the Secretary, the Secretary of the Treasury shall deny the clearance required by section 4197 of the Revised Statutes of the United States, as amended, (46 App. U.S.C. 91) to the vessel until the fee assessed for Coast Guard services is paid or until a bond is posted for the payment thereof.".

(b) The analysis of part I of title 14, United States Code, which is located immediately before chapter 1, is amended by adding at the end the following new item:

"19. User Fees.....671".

Sec. 3. Conforming amendments

(a) Subsection I of the Ship Mortgage Act, Sec. 30 of the Act of June 5, 1920, c. 250, 41 Stat. 1002 (46 App. U.S.C. 927), as amended by the Act of September 16, 1966 (Public Law 89-582, 80 Stat. 795) is amended by striking out the third and fourth sentences.

(b) Section 2110 of Title 46, United States Code (P.L. 98-89, August 26, 1983), is repealed.

STATEMENT OF PURPOSE AND NEED

The purpose of this bill is to amend Title 14, United States Code, to authorize the recovery of a proportion of the operating expenses incurred in providing certain Coast Guard services. The recovery of the Federal costs of providing services from those who primarily benefit from them has long been established and accepted as sound public policy.

Two major concepts underlie this cost recovery principle. One concerns fairness and equity in the distribution of the Federal tax burden. Those who obtain special services from the government above and beyond those that accrue to the public at large or who use government funded facilities should pay for them; those who do not should not be expected to share the cost. The second has to do with efficiency. For the market to operate as an efficient allocator of resources, the prices of goods and services should reflect their costs. The basic purpose of this legislation is to allocate the costs of providing certain Coast Guard services to those who primarily benefit from them.

User fees are a widely accepted, equitable means of supporting public programs and services. For many years user fees have been the principal means of supporting other transportation

programs. In the 1986 budget, President Reagan proposed to increase or institute numerous types of user fees, including those for certain Coast Guard services.

This proposal would authorize the Secretary of the department in which the Coast Guard is operating to collect from users the operating expenses proportionately allocable to the users of the following Coast Guard services:

1. Search and rescue;

2. Short range aids to navigation;

3. Radionavigation aids;

4. Domestic icebreaking;

5. Commercial vessel safety;

6. Recreational boating safety;

7. Port and environmental safety;

8. Marine environmental response; and

9. Bridge administration.

User fees would be charged only for Coast Guard services which relate to specific, identifiable persons or classes of users. Among the user groups which would be affected by user fees authorized under this legislation are persons who are issued certificates, permits, approvals, licenses, and documents by the Coast Guard and the owners, operators, and persons in charge of:

1. Commercial vessels, both U.S. and foreign flag;

2. Mobile off-shore drilling units and fixed off-shore structures;

3. Recreational boats that operate on waters subject to the jurisdiction of the United States; and

4. Terminals subject to Coast Guard inspections.

Based on a detailed analysis of the programs for which recovery would be sought, the expenses of the programs would be collected on a proportional basis from the various individual users or user groups, either as a charge for a specific service, when the user of the service is directly identifiable, or by an indirect charge in the form of an annual or biennial fee. Every reasonable effort would be made to make the fee

schedules equitable and reflective of the actual expenses incurred by the Coast Guard to provide a specific service or benefit to a particular user or class of users.

In response to concerns that have been raised about previous Coast Guard user fees proposals, the bill includes an accounting of the amounts collected and spent on search and rescue activities. This is designed to demonstrate that the amounts collected from marine users for this purpose do not exceed the costs of providing the services to those users.

Although all Coast Guard services benefit at least portions of the public at large in one way or another, there are some that clearly contribute to the general welfare, with little or no identifiable benefit to specific users. Those will not be subject to cost recovery. Activities to be excluded under this concept are as follows:

1. Enforcement of laws and treaties;

2. Polar ice operations;

3. Defense readiness;

4. Waterways management.

The Coast Guard currently collects as direct charges for Coast Guard services, or receives from user taxes, approximately $ 16.8 million, less than 1% of its operating budget, from the following sources:

Motorboat fuel tax for recreational boating safety operating expenses	$ 15.0 million
Fees for yacht documentation	1.3 million
Fees for issuing certificates of financial responsibility to vessels	.5 million
Marking wrecks and obstructions to navigation	less than .1 million
Total	16.8 million

In addition to the fees currently generated, the Coast Guard, under section 9701 of title 31, U. S. Code, and sections 3317, 3506, and 7114 of title 46, U. S. Code, is authorized to collect additional user fees for the following Coast Guard services:

1. Permits for private aids to navigation;

2. Domestic icebreaking at the specific request of a user;

3. Inspection and examination of small passenger vessels and sailing school vessels;

4. Issuance of certificates, licenses, or permits related to small passenger vessels and sailing school vessels;

5. Providing required copies of laws to passenger vessels;

6. Material and equipment approvals and factory inspections;

7. Inspection of Outer Continental Shelf facilities;

8. Facility inspections;

9. Cargo of particular hazard inspections;

10. Issuance of regatta permits; and

11. Providing regatta patrols.

The proposed legislation will incorporate the above items and will thus result in all categories of users paying for similar services.

It is the policy of the Coast Guard to encourage private commercial provision of certain services which are currently provided by the Coast Guard. To this end, the Coast Guard has sought to establish formal agreements which would delegate specific authority to discharge certain Coast Guard functions to such organizations as the American Bureau of Shipping and the National Cargo Bureau. Examples of authority which the Coast Guard has delegated or might delegate in the future are new construction plan review and inspection of vessels, vessel measurement, Outer Continental Shelf inspection, load line examinations, and other program responsibilities that would lead to the minimization of direct governmental involvement in the maritime industry. Where delegation takes the place of the authority to provide services which are subject to user fees, the Coast Guard will terminate or reduce those fees when the service is performed and financed by the private sector.

However, it is difficult to shift much of the work to the private sector when the Coast Guard is charged with providing the same service at no cost to the user as a result of the

prohibition against charging fees in section 2110 of title 46, U. S. Code. The elimination of this prohibition would permit the delegation of additional services to the private sector.

An evaluation of Coast Guard programs for which expenses may be assessed under this proposed legislation results in the following estimates:

5 YEAR PROPOSED NET RECEIPTS
BY FISCAL YEAR
(In Millions of 1986 Dollars)

	1986	1987	1988	1989	1990
NET RECEIPTS	236	476	476	476	476

Thus, the expenses for which recovery authority is sought represent approximately 13% of all Coast Guard operating expenses, and 9% of the total estimated Coast Guard budget for FY 1986.

STATE OF ALASKA 1986 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date : _____

REQUEST

Bill Resolution No. : HJR 51
Title : Relating to Coast Guard User Fees

Sponsor : SUND
Requestor : _____
Date of Request : 2/14/86

FISCAL DETAIL

Agency Affected : _____
BRU : _____

Components : _____

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING : (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS :

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

Prepared by : Representative Katie Hurley — Phone : 465-4963
Division : House State Affairs Committee — Date : 2/14/86

Approved by Commissioner/Chair: Katie Hurley — Date : 2/14/86
Agency : House State Affairs Committee //

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10/25/85

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02-519 (REV 8/78)

HJR

52

COMMITTEE REPORT

HOUSE

FURTHER:

Date: 2/2/81

The Committee on _____ has had _____

under consideration and recommends:

[X] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[X] replace with CS for HJR 52 [X] same title [ ] new title

and recommends _____

[ ] AND attaches a "Letter of Intent" [ ] New Fiscal Note

[X] Zero Fiscal Note Attached

[ ] reports it back without recommendation

[ ] referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

_____ CHAIRMAN

STATE OF ALASKA
THE LEGISLATURE

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

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May, 1986

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS date base CM 14. In order to save space copies of minutes have not been left in the files.

Jeanie Henry

House State Affairs Committee 2/21/1986, 3:00pm

Alaska State Legislature

House of Representatives

Committee on State Affairs

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

(907) 465-4983

LETTER OF INTENT
HJR 52

It is the intent of the House State Affairs Committee that the definition of "arctic and subarctic region" includes all areas of the State of Alaska

Katie Hurley

Katie Hurley
Chair, House State Affairs Committee

Alaska State Legislature
Representative Niilo Koponen

Pouch V
Juneau, Alaska 99811
(907) 465-4992

542 4th Avenue, Suite C
Fairbanks, Alaska 99701
(907) 456-8161

CONTENTS
PACKET FOR NUCLEAR FREE ARCTIC AND SUBARCTIC PROPOSAL

Introduced: 5/12/85
Referred: State Affairs

IN THE HOUSE

BY KOPONEN, M.M.MILLER AND GOLL

HOUSE JOINT RESOLUTION NO. 52

IN THE LEGISLATURE OF THE STATE OF ALASKA

FOURTEENTH LEGISLATURE - FIRST SESSION

Relating to a nuclear-free subarctic and arctic.

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

WHEREAS the main purpose of establishing nuclear-free zones, as of all good security policies, is to prevent nuclear war; and

WHEREAS other states, cities, and nations have pursued resolutions establishing nuclear-free zones; and

WHEREAS these zones would add to the likelihood of peace in the world; and

WHEREAS the Soviet Union has deployed nuclear missiles capable of hitting Alaska and Western Canada, and the resultant escalation may further endanger the lives of the state's population; and

WHEREAS nuclear weapons are themselves nuclear targets, and to remove the targets will reduce the risk of destruction to the territory in which they were located in case of nuclear war; and

WHEREAS the radioactive contamination of the region above the arctic circle from the previous use and testing of nuclear weapons has caused the permanent inhabitants of the arctic region to carry body-burdens of long-lived, biologically dangerous radionuclides in amounts in excess of all the world's people except for the victims in Hiroshima and Nagasaki during August, 1945; and

WHEREAS any further deposition of nuclear materials in the food-chain of the arctic and subarctic regions will result in biologically unacceptable radiation standards for people and ecosystems; and

WHEREAS the Inuit Circumpolar Conference passed a resolution

restricting the arctic region to uses that are peaceful and environmentally safe, and prohibiting the use of, testing of, storage of, and exploration for materials related to nuclear devices; and

WHEREAS the people of Alaska desire to continue to live in freedom in a world that is at peace and safe from nuclear pollution;

BE IT RESOLVED by the Alaska State Legislature that the Governor and Alaska congressional delegation are requested to promote and initiate efforts to

(1) encourage bilateral and multi-lateral agreements and treaties between nations establishing the subarctic region and the region above the arctic circle as a nuclear-free zone;

(2) obtain agreements and treaties to ban from the subarctic and arctic regions all items capable of nuclear weapons delivery;

(3) prevent all parties, including the military, from disposing of radioactive and nuclear wastes and materials in the subarctic and arctic regions; and

(4) obtain agreements and treaties to prevent nuclear testing or nuclear devices in the subarctic and arctic regions or elsewhere in the atmosphere, because these activities result in increased levels of radiation in the subarctic and arctic regions; and be it

FURTHER RESOLVED that the Alaska State Legislature does not seek to limit the use of nuclear technology for medical treatment or other safe and benign purposes.

COPIES of this resolution shall be sent to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

Alaska State Legislature

Representative Niilo Koponen

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Juneau, Alaska 99811
(907) 465-4992

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Fairbanks, Alaska 99701
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MEMORANDUM
TO: Rep. Koponen
FROM Deborah Niedermeyer
DATE: 14 October, 1985
RE: Nuclear Free Zones

A nuclear free zone was established in the South Pacific on August 8 of this year by members of the South Pacific Forum. These countries are New Zealand, Fiji, Papua New Guinea, Solomon Islands, Tonga, Vanuatu, Western Samoa, and Cook Islands.

The Antarctic Treaty (1959) prohibits the deployment or testing of nuclear weapons and disposal of nuclear waste in Antarctica. It has been signed by 21 nations including the US and USSR.

The Outer Space Treaty, signed in 1967 by over 100 nations, including the US and USSR, prohibits deployment of weapons of mass destruction in space.

The Treaty for the Prohibition of Nuclear Weapons in Latin America was signed in 1967 by all Central and South American nations except for Cuba and Guyana. It is guaranteed by all five nuclear powers.

The International Seabed Treaty (1971) with over 100 signatories including the US and USSR prohibits the deployment of nuclear weapons on or under the seabed beyond 12 miles offshore.

A Nordic nuclear free zone is proposed but not yet ratified by Finland, Sweden, Norway, Denmark and Iceland. All these countries have already individually decided not to acquire nuclear weapons or to allow them to be stationed within their boundaries.

The U.S. has established five criteria for the establishment of nuclear free zones. They are

1) The initiative must stem from countries in the region
2) all nations vital to the region must participate
3) adequate verification provisions must exist
4) existing security arrangements must not be disturbed
5) all parties must be prohibited from developing any nuclear explosive device.

According to Arkin and Fieldhouse (Nuclear Battlefields), Adak navel station with seventy nuclear depth bombs stored, is the only nuclear repository in Alaska. Many other sites in Alaska are part of the US military war network, but are not nuclear storage facilities to the best of our knowledge.

FAIRBANKS DAILY NEWS MINER
6/4/85

Nuclear arms said in Alaska

Staff and Wire Reports

A 10-year private study released Thursday presents a haunting overview of the global nuclear force structure, pinpointing the locations of nuclear-related facilities in 65 countries and warning Americans they live in a "hair-trigger society."

"There is a pervasive lack of understanding—even within the military—of the pervasiveness of the arms race," the inch-thick book said. "Officials have kept quiet for one reason. It's going on in everyone's back yard."

Alaskans' backyards are included, according to the study. It says that 70 nuclear warheads are presently being harbored here. In addition, Alaska is listed as having 42 facilities for "producing, storing, or detecting nuclear weapons," although the study doesn't say which of the three kinds of facilities are actually present in the state.

According to William Arkin, one of the study's authors, there are 70 nuclear anti-submarine depth charges at Adak Naval Station. They are 10-foot, 510-pound "B-57"

NUCLEAR . . .

(Continued from page 1)

bombs, designed to be dropped from P-3 Orion aircraft into the ocean, where they explode at predetermined levels. Arkin said there are an estimated 900 of these weapons in the U.S. arsenal.

"In the past, the military has said that there are no nuclear weapons in Alaska," an aide to Congressman Don Young (R-Alaska) said this morning. Young's aides in Washington were unable to reach Pentagon officials this morning to confirm the report. Young was in Anchorage this morning but could not be reached for comment.

Sens. Ted Stevens (R-Alaska) and Frank Murkowski (R-Alaska) have both said they do not know if there are nuclear weapons in Alaska, and if there are, their existence is classified.

South Carolina, with a missile submarine base situated in Charleston, topped the list of U.S. sites with the most nuclear warheads. New York, with neutron warheads secreted at Seneca, ranked second. North Dakota came in third because of its bomber and missile bases.

"The global infrastructure will determine the course of the next war; it will, in fact, contribute to the outbreak of the next war," the authors said. "We live in a 'hair trigger' society."

The study, conducted over ten years, emerged as a 328-page book entitled "Nuclear Battlefields, Global Links in the Arms Race," by William Arkin and Richard Fieldhouse. Both are defense analysts with the Institute for Policy Studies in the nation's capital.

In the first compilation of its kind, the chilling statistics etch a network of nuclear weapons, depots and facilities spread around the planet by the five nuclear powers: the United States, the Soviet Union, China, Britain and France. It makes no mention of whether Israel possesses nuclear weapons.

The Pentagon took a dim view of the publication. Spokesman Michael Burch expressed concern that not all the material came from "open sources," but Arkin called that a "cheap shot on the part of the Pentagon. We didn't do anything illegal to obtain the information."

 ARKIN AND FIELDHOUSE, 1985

INSIDE THE UNITED STATES

Location	*Organization and Activity*

ALABAMA

The Army dominates the state of Alabama, where the most important nuclear facilities are in Huntsville. Missile Command at Redstone Arsenal and the Army's Ballistic Missile Defense Systems Command coordinate all Army nuclear missile development and training, including work on its share of the "Star Wars" strategic defense initiative. No nuclear warheads are deployed in the state.

Anniston	Anniston Army Depot: fuels, seals and performs final checks and packaging of Lance missiles
Fort McClellan, Anniston	Army Military Police School/Training Center: nuclear weapons guard and security training, newly built prototype nuclear weapons storage site operated by the Defense Nuclear Agency for nuclear security training • LORAN-D transmitter
Grand Bay	JSS radar
Huntsville	Milton K. Cummings Research Park: Army Ballistic Missile Defense Systems Command/Advanced Technology Center, coordinates all ballistic missile defense R&D, operates the Kwajalein Missile Range
Jordan Lake	Naval Space Surveillance System transmitter
Redstone Arsenal, Huntsville	Army Missile Munitions Center and School: Army missile training and doctrinal development • Army Missile Command: R&D and management of Lance, Pershing and other Army nuclear missiles, including future battlefield nuclear weapons • 515th Ordnance Det: mobile nuclear weapons support training for Army reserve units
Montgomery	187th Tactical Fighter Group (ALANG): nuclear-capable F-4D

ALASKA

Even though Alaska ranks 25th in number of nuclear warheads deployed, it ranks 2d with 42 facilities in the nuclear infrastructure. Its location makes it a significant strategic command and control headquarters. Military forces will be deployed to and operate from Alaska in wartime in many ways equivalent to an overseas base. Less than 3 miles separate U.S. and Soviet territory at Little Diomede and Big Diomede islands. Shemya and Adak Islands at the tip of the Aleutians are critical for monitoring Soviet missile testing and for nuclear anti-submarine warfare.

*Adak Island	Naval Station • Patrol Wings Pacific Det Adak: Adak Air Patrol and Reconnaissance Group: rotational deployment base for nuclear-capable P-3s from Moffett Field, CA, center of ASW operations in the northern Pacific, command facilities include ASW Operations Center • Advanced Underwater Weapons Det: storage of 70 nuclear depth bombs, guarded by Marines • Naval Facility: processing station for SOSUS • Naval Radio Transmitting Facility (Mt. Moffett): HF network control station for naval communications, LF transmissions to the Pacific area • Coast Guard LORAN-C Monitor Station: serving north Pacific chain • Green Pine communications station*
Attu Island	Attu Research Site: nuclear test detection station • Coast Guard LORAN-C Station: serving north Pacific chain
Barter Island	DEW line radar (BAR) and Bar Main Site
Burnt Mountain	Burnt Mountain Research Site: AFTAC seismic detection station consisting of 5 remote detection sites, containing radio isotope thermoelectric generators, 10.3 miles of specialized data transmission cables
Campion AFS	743d Aerospace Defense Squadron: surveillance station and GCI site reporting to Murphy Dome RCC
Cape Lisburne AFS, Kapalowa	711th Aerospace Defense Squadron: surveillance station reporting to Murphy Dome RCC. AN/FPS 117 Seek Igloo radar site
Cape Newenham AFS, Platinum	794th Aerospace Defense Squadron: surveillance station reporting to King Salmon RCC. Seek Igloo radar site
Cape Prince of W...	
Cape Romanzoff A..., Igiak	
Chatanika	
Chena River	
Clear AFS, Anderso...	
Cold Bay AFS	
Eielson AFB	
Elmendorf AFB, Anchorage	
Flaxsman Island	
Fort Greely, Fairbank...	
Fort Richardson Anchorage	
Fort Yukon AFS	
Galena Airport	
Indian Mountain AFS	
Juneau	
Kenai	
King Salmon Airport Naknek	
Kodiak	
Kotzebue AFS	
Lonely	
Murphy Dome AFS	

Cape Prince of Wales	Arctic ASW research field station of Naval Ocean Systems Center, San Diego, CA; monitors sea and Arctic ice conditions
Cape Romanzof AFS, Igiak	795th Aerospace Defense Squadron: surveillance station reporting to King Salmon RCC. Seek Igloo radar site
Chatanika	AF Geophysics Laboratory radar supporting Poker Flat rocket launches and atmospheric research
Chena River	Chena River Research Site: Det 460, AFTAC: nuclear test detection station
Clear AFS, Anderson	13th Missile Warning Squadron: BMEWS Site II, one of three Ballistic Missile Early Warning System stations providing early warning and initial confirmation of missile launches after detection by DSP satellites, secondary satellite tracking mission, radars include 3 FPS-50 detection radars (400 feet wide by 165 feet high) and 1 tracking radar
Cold Bay AFS	714th Aerospace Defense Squadron: surveillance station reporting to King Salmon RCC. Seek Igloo radar site
Eielson AFB	6th Strategic Wing (SAC): forward aerial refueling and reconnaissance base supporting KC-135s (Alaska Tanker Task Force) and RC-135 reconnaissance aircraft, provides bomber refueling in wartime • Giant Talk transmitter moved to Elmendorf AFB as part of Scope Signal III upgrade • Det 406, AFTAC: operates and maintains several unmanned seismic arrays throughout Alaska, also processes air samples from WC-135 aircraft
Elmendorf AFB, Anchorage	HQ, Alaskan Air Command/Joint Task Force Alaska: major AF command and JCS designated joint command for wartime control of Alaskan theater, coordinates nuclear weapons custody and planning in Alaska • Alaskan NORAD Region: operation of ROCC for radar sites and interceptors in Alaska • 11th Tactical Control Group (formerly 531st ACW Group): mans the ROCC and operates 13 radar sites and two intermediate regional control centers • 21st Tactical Fighter Wing: F-15 air defense unit, converted from F-4 in 1982 • dispersal base for B-52 bombers from Castle AFB, CA • 5021st Tactical Operations Squadron: T-33 aircraft flying "unknown targets" to test Alaskan radar sites by simulating Soviet bombers • Global Command and Control station, Giant Talk/Scope Signal III station • DSCS communication terminal linked to Sunnyvale, CA, Offutt, NE, and Ft. Detrick, MD • NAVSTAR monitor station • Det 471, AFTAC, nuclear detection station
Flaxsman Island	DEW line radar
Fort Greely, Fairbanks	Army Cold Regions Test Center: cold climate testing of military equipment
Fort Richardson, Anchorage	172d Infantry Brigade: senior Army command in Alaska, includes nuclear-capable 155mm artillery
Fort Yukon AFS	709th Aerospace Defense Squadron: surveillance station and GCI site reporting to Murphy Dome RCC. Seek Igloo radar site
Galena Airport	forward F-15 air defense operations from Elmendorf AFB • Seek Igloo radar surveillance station
Indian Mountain AFS	708th Aerospace Defense Squadron: surveillance station and GCI site reporting to Murphy Dome RCC. Seek Igloo radar site
Juneau	Coast Guard LORAN-C Monitor Station: serving Gulf of Alaska chain
Kenai	FAA radar reporting to the ROCC at Elmendorf AFB
King Salmon Airport Naknek	forward F-15 air defense operations from Elmendorf AFB • 705th Aerospace Defense Squadron: Southern Alaskan Regional Control Center (RCC) and first AN/FPS-117 Seek Igloo radar surveillance station
Kodiak	Coast Guard LORAN-C Monitor Station and Control Site: serving Gulf of Alaska and north Pacific chains • VLF radio transmitter, operating worldwide, LF to Pacific and Atlantic Oceans
Kotzebue AFS	748th Aerospace Defense Squadron: surveillance station reporting to Murphy Dome RCC. Seek Igloo radar site
Lonely	DEW line radar (POW 1)
Murphy Dome AFS	744th Aerospace Defense Squadron: Northern Alaska Regional Control Center (RCC). Seek Igloo radar site

Narrow Cape	Coast Guard LORAN-C Station, serving north Pacific and Gulf of Alaska chains
Oliktok	DEW line radar (POW 2)
Point Barrow	DEW line radar (POW) and POW Main Site
Point Lay	DEW line radar (LIZ 2)
Poker Flat	Poker Flat Research Range: AF Geophysics Laboratory range for study of the disturbed lower ionosphere, also used for possible nuclear detection station
Port Clarence	Coast Guard LORAN-C Station: serving north Pacific chain
St. Paul Island	Coast Guard LORAN-C Station and Monitor Station: serving north Pacific chain
Shemya AFB, Shemya Island	16th Surveillance Squadron: operates "Cobra Dane" AN/FPS-108 phased array radar, "collect technical intelligence data on Soviet ballistic missile (ICBM/SLBM) test launches to the Kamchatka peninsula and the Pacific Broad Ocean area. Provides tactical warning and attack assessment (TW/AA) of ICBM/SLBM attack on the continental United States and southern Canada," satellite tracking is secondary peacetime mission • Det 1, 6th Strategic Wing: 2 RC-135S "Cobra Ball" aircraft forward based from Eielson AFB for immediate launch to collect intelligence on Soviet missile testing • Det 461, AFTAC: nuclear test detection station • DSCS satellite communications terminal[2]
Shoal Cove	Coast Guard LORAN-C Station: serving Gulf of Alaska and Canadian west coast chains
Sparrevohn AFS, Iliamna	719th Aerospace Defense Squadron: surveillance station and GCI site reporting to King Salmon RCC. Seek Igloo radar site
Tatalina AFS, McGrath	717th Aerospace Defense Squadron: surveillance station and GCI site reporting to King Salmon RCC. Seek Igloo radar site
Tin City AFS, Wales	710th Aerospace Defense Squadron: surveillance station reporting to Murphy Dome RCC. Seek Igloo radar site, closest active military base to the Soviet Union (50 miles)
Tok	Coast Guard LORAN-C Station: serving Gulf of Alaska chain
Wainwright	DEW line radar (LIZ 3)

ARIZONA

The open land of southern Arizona houses extensive military training and testing areas, and until 1984 18 Titan II missile silos around Tucson. Training is the biggest activity, with Davis-Monthan AFB being used for ground-launched cruise missiles, Luke AFB for F-16s, Fort Huachuca for communications and electronic equipment, and MCAS Yuma for Marine Corps aviation.

Benson	Site Sibyl, Electronic Proving Ground, Ft. Huachuca: communications test facility
Cave Creek	JSS radar
*Davis-Monthan AFB, Tucson	former location of 390th Strategic Missile Wing with 18 Titan II missiles, deactivated in early 1984 with retirement of Titan II • 868th Tactical Missile Training Squadron: primary training base for ground-launched cruise missiles • Det 1, 5th Fighter Interceptor Squadron: 2 F-106 on alert with Genie nuclear missiles, some 10 warheads probably stored • Military Aircraft Storage and Distribution Center: "The Boneyard": location of retired aircraft and bombers awaiting cannibalization or reactivation
Flagstaff	Naval Observatory Flagstaff Station: astronomical and astrophysical observations • NEACP ground antenna • GWEN relay site to be activated in 1985[3]
Fort Huachuca, Sierra Vista	HQ, Army Communications Command: worldwide Army non-tactical communications, including nuclear weapons command and control • Army Electronic Proving Ground: T&E of electronic equipment, including radioactive detection equipment

Gila River

Holbrook

Luke AFB, Litchfield

Mount Lemon

Mule Mountain

Oatman Mountain

Sky Harbor IAP, Pho

Tucson IAP

MCAS Yuma

Yuma

Arkansas ranks 10th
Little Rock. The nati
cruise missiles to Bl

Blackwell

*Blytheville AFB

Fayetteville

Ft. Smith MAP

Judsonia

*Little Rock AFB

Red River

California ranks first
1,437. It has the larges
silos). Every categor
complexes around San
one of two main Army
Radar and electronic
centers. China Lake, a
early warning radars

NAS Alameda, San Francisco

From the Anchorage Times, January 18, 1984, page A-1

Soviets take aim at Alaska

by David Ramseur
Times Washington Bureau

Washington — The Soviet Union has stationed in Siberia medium-range nuclear missiles capable of hitting Alaska and Western Canada, Newsweek magazine reports in its current issue.

The new missiles are part of an increased tension between the world's two superpowers in the Arctic, the magazine says in a three-page spread in its Jan. 23 issue.

"Right now it's sort of a tinderbox of the world," Alaska Sen. Ted Stevens is quoted as saying.

In a story that may give Alaskans cause for a few nights of restless sleep, Newsweek says both the U.S. and Soviet Union are increasing their presence in the Arctic in the aftermath of the Soviet downing of a Korean airliner.

Among the examples cited:

• The United States recently resumed submarine patrols around the North Pole for the first time in a decade. At the same time, the Soviets have deployed their most sophisticated nuclear subs, the Typhoon class, in the area.

• The Soviets have trans-

See Tension, page A-12

Tension increases

Continued from page A-1

ferred war-level powers to its commanders in the Far East.

• In addition to SS-20 nuclear missiles aimed at Alaska, Russia is expected to be in a position next year to deploy cruise missiles on bombers that could attack using northern routes.

• The United States is stepping up its military presence in Iceland and Norway and new, advanced radar may be in the works for Alaska.

The report includes a story on "sub-hunting" by American military forces on the Aleutian Island of Adak, a U.S. base for anti-submarine aircraft.

"Sub-hunting crews from Adak regularly fly along the edges of the Soviet Union, often looking out their windshields to see Soviet Bear or Badger bombers looking at them," the magazine says.

"The Americans also keep their distance when they run across the dozens of Russian fishing vessels and electronic-intelligence ships trawling the seas around Adak."

ESTIMATES OF CANCER INCIDENCE IN ALASKAN NATIVES DUE TO EXPOSURE TO GLOBAL RADIOACTIVE FALLOUT FROM ATMOSPHERIC NUCLEAR WEAPONS TESTING

Charles D. Stutzman, M.D.[1]

Donna M. Nelson, M.N.[1]

Anne P. Lanier, M.D., M.P.H.[2]

Abstract

During the peak period of atmospheric nuclear weapons testing in the northern hemisphere in the early 1960's, measurable concentrations of cesium-137 and strontium-90 accumulated in native residents of certain northern Alaskan villages through the lichen-caribou food pathway. Now that a significant latent period for cancer induction has elapsed, the question of possible cancer increases from this radiation exposure has been raised. To address this question, radionuclide measurement data and dose estimates made during this period were reviewed. Leukemia, breast cancer, and bone sarcoma were identified as the malignancies most likely to be induced from internally deposited cesium-137 and strontium-90, and risk estimates were developed for these cancers. Maximum annual dose rates due to these radionuclides were found to be low and comparable to the natural background radiation levels that exist in certain parts of the United States. In addition, the number of Alaskan natives likely to have received these maximum doses was found to be very small. As a result, the number of cancer cases expected from this exposure is too low to be detected by epidemiologic study of the populations actually exposed. Fallout radionuclides other than cesium and strontium have aslo been detected in Alaskan ecosystems, but at levels resulting in doses considerably lower than those referred to above.

Abbreviations

Ci — Curie (a measure of the quantity of radioactive material)
mCi — millicurie (10^{-3} Ci)
uCi — Microcurie (10^{-6} Ci)
nCi — nanocurie (10^{-9} Ci)
pCi — picocurie (10^{-12} Ci)
rad — A measure of radiation dose in tissue
mrad — millirad (10^{-3}rad)
rem — a measure of radiation dose equivalent, an entity which takes into account the quality of the radiation as well as the absorbed dose in rads. The rem is equivalent to the rad for gam-

[1]Cancer Branch, Chronic Diseases Division, Center for Environmental Health, Centers for Disease Control, Atlanta, Georgia 30333.
[2]Arctic Investigation Laboratory, Center for Infectious Disease, Centers for Disease Control, Anchorage, Alaska 99501.

ma and medium to high energy beta radiation.

mrem — millirem

Introduction

During the early and middle 1960's, radionuclide body burdens were measured in a considerable number of northern Alaskan Natives because of concern about concentration of radioactive fallout through the lichen-caribou-human food pathway. Now that a significant latent period for cancer induction has passed, recent public concern has been raised by Natives about possible increases in cancer incidence among Alaskan Natives as a result of this exposure. To address this concern, personnel from the Cancer Branch, Center for Environmental Health, Centers for Disease Control (CDC) met with personnel from the Arctic Investigations Laboratory, Center for the Infectious Diseases, CDC, Anchorage in August, 1984, to review the problem. Several approaches to the problem were planned: 1) to assess the original methods of measuring radiation exposure and the estimates for the groups exposed; 2) to calculate the cancer incidence which could result utilizing estimates of dose and population exposed in Alaska; 3) to review Alaska Native Tumor Registry data pertinent to the radiation issue; and 4) obtain original measurement data on individuals and compare this with their subsequent cancer experience. This report includes items 1 and 2 above; items 3 and 4 will be reported subsequently.

Background

The bulk of atmospheric nuclear weapons testing was carried out from 1945 to 1963 in the northern hemisphere by the U.S.A. and the U.S.S.R. During this period, 379 atmospheric tests were conducted. In the ten years following the Limited Test Ban Treaty in 1963, only 43 atmospheric tests were conducted, 29 by France and 14 by the People's Republic of China, neither of whom were party to the treaty (1). Although subsurface nuclear weapons testing by the major powers has continued since 1963, the peak periods of contamination of the biosphere documented by extensive radiation monitoring throughout the world occurred during the 1950's and the early 1960's.

Radioactive fallout consists of radioactive particles that have entered the atmosphere as a result of nuclear detonations. Explosions at, or slightly above, the earth's surface (i.e. atmospheric nuclear tests) result in the greatest release of radionuclides into the atmosphere and, therefore, the largest amount of fallout. Subsurface nuclear detonations (the predominant type after the test ban treaty) release only a fraction of the total resultant radioactivity, that fraction being inversely related to the depth of the detonation.

Radioactive fallout is classified as local or global depending on its spatial and temporal distribution. Local fallout consists of larger particles (generally over 35 microns in diameter) and falls back to the earth's surface within about a day and within several hundred miles or less from the detonation site. Global fallout is composed of smaller particles, rises higher into the atmosphere, and becomes widely dispersed over the earth's surface. The higher the yield of the nuclear device (i.e. the megatonnage), the higher the fallout particles are blown up into the atmosphere, and the longer they take to return to the earth's surface.

The atmosphere can be divided into the troposphere (from sea level to about 45,000 feet) and the stratosphere (from over 45,000 feet to about 160,000 feet). Low yield detonations yield mainly tropospheric fallout which returns to the surface within a month or so from the time of detonation. Fallout deposition from the troposphere is dependent on weather conditions and usually occurs along a band in the same latitude as the detonation site. High yield detonations are powerful enough to push radioactive material up into the stratosphere. This material returns to the surface over a period of months to several years. Deposition is a function of latitude and deposits occur in higher concentrations in the temperate zones. Since the majority of the weapons testing has taken place in the northern hemisphere, more fallout occurred in the northern than southern temperate zone. The major portion of global fallout from nuclear weapons testing has been from the stratosphere.

Fallout is composed of a variety of radionuclides whose biological importance depends on factors such as the type of radiation emitted, particle size, solubility, physical and biologic half-life, etc. Only a few of these radionuclides pose a potentially significant long-term health hazard since only some occur in abundance, have relatively long half-lives, and have chemical characteristics that facilitate transport and concentration through food chains and result in accumulation of significant amounts of radioactivity in sensitive body tissues. Of the 200 or more radionuclides possibly present right after a nuclear explosion, only a small percentage have half-lives long enough that they exist more than a few hours. Since most global fallout has been stratospheric, which takes months to years to return to the earth's surface, very few of these nuclides are deposited as radioactive fallout. Of those that are, even fewer are found in concentrations sufficient to pose a potential hazard to human health. For this to occur, some type of mechanism of concentration through the food chain is required. The major factor involved in the concentration of fallout radionuclides in arctic and subarctic food chains is the ability of the lichen to absorb and retain particles from the atmosphere and from precipitation. A large fraction of fallout

material can be directly absorbed by the lichen and, because lichens have evolved very efficient mechanisms for conserving nutrients in their barren environments, much of this is retained in the plant for many years. Northern Alaskan caribou migrate southward in the fall into the Kobuk and Koyukuk River drainage areas, where they spend the winter and feed predominately on lichens. In the spring the caribou migrate northward back through the passes of the Brooks Range, and during the summer wander throughout the north western Arctic feeding predominately on seed plants, which have fallout radionuclide concentrations two to ten times lower than those found in lichens.

During the 1950's and early 1960's, subsistence hunting and fishing provided the economic base for the northern Alaskan native villages. These subsistence economies have been gradually shifting toward capital-based economies because of the increasing immigration and influence of white people in northern Alaska, particularly in the larger coastal villages. This shift was accelerated by the oil industry development that occured in the North Slope region during the 1970's. One result of this shift has been a general decrease in dependence on caribou as a food source. However, during the period of maxium fallout and continuing through the 1970's, caribou was a major food source for many of the northern villages. This was particularly true for the Eskimos of Anaktuvuk Pass in the Brooks Range, where the highest body burdens of cesium-137 occurred in 1964 (2).

Cesium-137 has a radioactive ("physical") half-life of 30 years (see Table I) and a biochemical behavior similar to potassium so that it accumulates and concentrates in many different body tissues including caribou muscle which may be eaten in large quantities by certain Native groups. After ingestion, cesium is rapidly absorbed and, since it is soluble in body fluids, it is distributed fairly unifromly throughout the body, although concentrations are generally higher in muscle than in bone and fat. The biological elimination half-time is about 135 days in adult males, 85 days in adult females, and ranges from about 60 days in older children down to 12 days in infants (3). Thus, for a given initial body burden, dose would be roughly proportional to body mass (i.e., younger smaller persons would receive a lower dose per unit body burden). Pregnant women also have a shorter biological elimination half-time, resulting in a lower dose per unit body burden to the fetus (4). From the standpoint of carcinogenesis, since cesium distributes fairly evenly throughout the body and emits penetrating higher energy gamma radiation, the critical organs are those that are most sensitive to induction of cancer by radiation, namely bone marrow and possibly breast (5).

Strontium-90 is another fallout radionuclide of potential concern because of its long physical half-life (28 years), its absorption and concentration by lichens, its concentration in caribou bone after ingestion, and its long effective half-life in bone (18 years-see Table 1). Strontium has a biochemical similarity to calcium, which explains its affinity for bone. Because it emits high energy beta radiation, strontium-90 deposited in bone irradiates both the calcified bone and the adjacent bone marrow (3). The tumor types of prime concern with strontium exposure are therefore bone sarcoma and leukemia.

Iodine-131 is also of some possible concern because, although it has a much shorter physical half-life (8 days-see Table I), it emits beta particles and concentrates like ordinary iodine in the thyroid gland, one of the organs most sensitive to cancer induction by radiation (5).

Table I

Metabolism of Selected Radionuclides

Radionuclide	Half-life		Target Organ
	Physical	Effective*	
Cesium-137	30 yrs	135 days	Whole body (similar to potassium)
Strontium-90	28 yrs	18 yrs	Bone (similar to calcium)
Iodine-131	8 days	7.6 days	Thyroid

* Effective half-life takes into account both the decrease in radionuclide activity due to radioactive decay (physical half-life) and the decrease due to biological elimination of the nuclide from the body (Biological elimination half-time).

Although the three radionuclides just discussed are the primary ones of concern because they may cause long-term health effects, several other fallout nuclides also merit some mention. However, these other nuclides do not appear to be significant long term health hazards for Alaskan Natives because: 1) no effective concentration process occurs in the arctic and subarctic ecosystems that would result in a significant accumulation of, and dose to, humans; 2) their physical half-life is too short to present a long-term hazard, given the time frame over which the accumulation processes occur; or 3) they simply do not exist in sufficient quantities to present a significant health hazard.

The period of greatest global fallout occurred in the early 1960's. In 1965 measurements were made of a number of different radionuclides in lichens, in tissues of caribou and wolves (which feed on Caribou), and in urine samples of Eskimos in the Anaktuvuk Pass region. Results of these measurements are the basis of many of the comment in Table II.

Table II

Selected properties of fallout radionuclides of potential public health importance for Alskan Natives

Nuclide	Physical half-life	Comments
Tritium (a)	12 years	no concentration process; mean urine concentration in Noatak in 1972 was 1500 pCi/l, corresponding to an annual dose of 0.15 mrem (6); present in form of tritiated water.
Carbon-14 (a)	5,600 years	no concentration process; present in form of carbon dioxide; eventually transferred to deep oceans.
Argon-39 (a)	260 years	inert gas; no concentration process.
Iron-55 (b)	2.9 years	concentrates most in ocean fish (salmon, tuna); Alaskan natives had maximum body burdens of 2.3uCi(7) (maximum permissible body burden for general population is 100 uCi for 55 Fe).
Ruthenium-106 (c)	1 year	no concentration beyond lichen stage of food chain; not detected in caribou flesh, wolf flesh, or Eskimo urine (8).
Cerium-144 (c)	290 days	no concentration beyond lichen stage in food chain (very poorly absorbed from gastrointestinal tract in man); not detected in caribou flesh, wolf flesh, or Eskimo urine (8).
Plutonium-239 (d) Plutonium-240 Plutonium-241	24,400 years 6,580 years 13.2 years	unlike Cs and Sr, Pu is not related to any nutrient element; degree of transport in food chains is very low (successive trophic level concentration factor is less than 0.01);(1) inhalation would be the most important exposure pathway; mean dose commitment in U.S. from nuclear testing through 1970 is 2 mrad to the lung and 0.2 to the bone; doses estimated in Lapps through lichen-reindeer food chain are negligible (9).
Americium-241 (e)	458 Years	primarily created in situ from ^{241}Pu; estimated doses in Lapps negligible (9).

(a) Neutron activation product (air)
(b) neutron activation product (soil)
(c) fission product
(d) may exist as unreacted weapon component
(e) decay product of ^{241}Pu

Dose Assessment

During the 1960's a considerable amount of measurement of radiation was done in the arctic and subarctic ecosystems, including assessments of radionuclide levels in lichens, caribou and Eskimos. Of prime importance are the cesium-137 body burden measurements done during various years on Eskimos in many of the northern Alaskan villages, particularly Anaktuvuk Pass where caribou was the primary component of their diet at that time.

Body burdens of the higher energy gamma-emitting radionuclides such as cesium-137 can be directly measured by whole-body counting. The classical whole-body counter consists of one or more sensitive gamma detectors in a heavily shielded iron room. This arrangement permits quantification and identification (by its specific gamma energy spectrum) of small amounts of a radionuclide in the body with minimal interference from natural background radiation. Comparison of the amount of activity detected with a known quantity of the same radionuclide measured in a phantom allows an accurate determination of the body burden.

Portable whole-body counters, which require about 5 tons of lead brick shielding, have been used for some cesium-137 body burden measurements in Alaskan Eskimos (10). These counters reduce background about as well as the iron-room counter, show little variation in sensitivity with body size, and are only slightly less sensitive than the iron-room counter. Average body burden measurements are generally within a few percent of the expected values based on counting in iron-room whole body counters. A less cumbersome whole-body counting method, which does not use any lead shielding, has been developed for field measurements (11). A gamma detector is placed in the sitting subject's lap, and the subject is counted while bending over the detector. This configuration gets as much of the subject's body as close to the detector as possible, while the body provides some shielding from background radiation. The counting efficiency decreases with increasing body size and measurements are corrected for this factor. This method is best suited for radionuclides that are distributed uniformly throughout the body, such as cesium, and for subjects with higher body burdens. The accuracy of this technique has been estimated to be ±20% for body burdens around 200 nCi cesium-137 and decreases to ±100% at body burdens of 40 nCi (based on comparison of subjects counted by both this technique and the iron-room whole body counter). Many of the cesium-137 body burden measurements in Alaskan Eskimos were done using this simplified technique, which was appropriate since body burdens of possible health concern are well above 200 nCi.

The highest average cesium-137 body burdens measured (over 1000 mCi) occured in Anaktuvuk Pass residents in the summer of 1964. From 1962 through 1967, residents of Kotzebue and regional river villages of Noatak, Selawik, Noorvik, Kiana, Shungnak, Kobuk, and Ambler had intermediate levels (150-650), and the northern coastal villages of Barrow and Point Hope had the lowest levels (3-150 nCi) (12-18). The maximum levels in Anaktuvuk Pass occurred about 2 years after the peak period of atmospheric testing in 1962. This time lag is consistent with stratospheric fallout deposition and subsequent concentration of cesium through the lichen-caribou-human food pathway. Since 1964, cesium levels in Anaktuvuk Pass residents have slowly decreased, as shown by body burden measurements done in the early 1970's (19). The slowness of this decrease is due to the 30-year half life of cesium-137 and the 10-year or longer retention half-time for cesium in lichens. The seasonal fluctuation occurs because the caribou feed mainly on lichens only during the winter. Caribou killed in the spring (and consumed over the summer) had higher levels than those killed in the fall. This resulted in higher summer cesium levels in the Eskimos.

Because strontium-90 is a pure beta emitter, body burdens cannot be measured by whole-body counting techniques. However, strontium-90 body burdens in Anaktuvuk Pass residents have been estimated on the basis of annual strontium ingestion rates and the metabolism of strontium in humans. Strontium-90 concentrations were measured in caribou meat samples obtained from Anaktuvuk Pass Eskimo hunters from 1964 to 1966 and adult male Eskimo body burdens were estimated to be about 900 pCi, which was very similar to body burdens of residents of New York and San Francisco during the same period (20). (Residents of the contiguous 48 states had elevated strontium levels from consumption of dairy products and vegetables, which are not important components of the traditional Eskimo diet). A higher average estimate (7400 pCi) was made from strontium-90 concentrations measured in 9 individual rib samples from Alaskan subjects obtained during 1963 and 1964, although these concentrations were also similar to those in bone specimens from residents of other states (21,22). Strontium-90 ingestion rates, and estimated body burdens, for audlt females and for children were, respectively, 50% and 20% of those for adult males. Caribou meat provided 80 to 95% of the strontium-90 body burdens of norhtern Alaskan Eskimos during the 1960's. The steadily decreasing body burdens since 1966 resulted more from a decreased dependence on caribou as a food source, rather than from decreasing levels of strontium in caribou meat (20).

Although direct measurements of iodine-131 in

thyroid glands of Alaskan Eskimos were not done, measurements and dose calculations were done on thyroids from deer, elk, caribou, and reindeer from Alaska and several other states during and after the peak 1962-63 nuclear testing period. Doses received by these herbivores during this period are shown in Table III (23).

Table III

Thyroid doses received by selected herbivores from 131 I fallout during the 1962-63 nuclear testing period.

State	Animal	Thyroid Dose (rem)
Colorado	Deer	20
Wyoming Washington	Elk	7.6
California Maryland New York	Deer	2.5
Alaska	Caribou Reindeer	0.8

The herbivore thyroid dose appears to be related to distance and direction form the sites of testing. This pattern is consistent with the relatively short half-life of the iodine-131 (8 days) and suggests that troposheric fallout deposition is the predominant process involved. Alaskan herbivores received the lowest thyroid dose of all the animal locations sampled. This suggests that either arctic depostion of iodine was lower or that iodine did not enter the arctic food chain as readily as in other areas of the country. No specific thyroid dose estimates are available for Alaskan Natives. However, dairy products were not an important part of the traditional Eskimo diet, and no other significant human exposure pathway is evident.

Elevated levels of certain naturally occurring radionuclides have also been measured in Anaktuvuk Pass residents. Lead-210 and polonium-210, the solid decay products of radon-222 which occurs naturally in the atmosphere, have been found in relatively high concentrations in arctic lichens and caribou. The concentration process for this "natural fallout" is similar to the one observed with cesium-137 and strontium-90. Concentrations of polonum-210 in caribou flesh where about 10 times greater than lead-210 concentrations. Measurements of polonium-210 in urine samples from Anaktuvuk Pass residents in the early 1960's showed levels 200 times higher than those measured in other states. These levels corresponded to about ten percent of the maximum permissible body burden for polonium-210 (24).

Cancer Risk Estimates

Cancer risk estimates were based on information from the National Research Council Committee on the Biological Effects of Ionizing Radiations, 1980 (BEIR III Report) (5). They are expressed as a range of numbers rather than as a precise value because of the uncertainty associated with carcinogenic risk from radiation. Several important points must be emphasized regarding these risk estimates and resultant expected cancer incidence rates that were derived from them:

1. The highest average dose measurements were used in calculating expected cancer incidence. These occured in Anaktuvuk Pass residents, who were still largely dependent on caribou for their food source in the early and middle 1960's. The actual number of persons who received these maximum doses was probably less than 100 (the total Alaskan Native population of Anaktuvuk Pass in 1970 was 97) (25). The population in 1980 of the northern Alaskan villages where measurements were taken was 5,715 (26). (The total Alaskan Native population was 64,047 in 1980 and 50,819 in 1970). Thus the percentage of Alaskan Natives with additional radiation exposure from fallout via the lichen-caribou food chain is small.

2. Expected cancer incidence rates were calculated with the assumption that the peak exposure levels of the middle 1960's remained at the same level over the next 20 years. Body burdens have actually been steadily decreasing during that period. Average cesium-137 body burdens in Anaktuvuk Pass residents measured in 1979 result in a dose of 8 mrem per year (2), which is more than 20 times lower than the peak dose levels in 1964. Strontium-90 body burdens have been decreasing by about 9 percent per year since 1970 (20).

3. When risk estimates for a particular cancer site were based on more than one risk model in the BEIR III Report, the highest risk estimates were used to calculate the upper limit of the expected cancer incidence rate.

These three factors result in a "worst case" estimate of expected excess cancer incidence rates, and the "most likely case" estimates may be 10 to 1000 times lower. Expected excess cancer rates

were estimated for four cancer sites that have the greatest potential for induction by radiation in this situation.

A. Leukimia may result from cesium or strontium exposure. Radiation-induced leukemia has a relatively short latent period (median 7 to 8 years in the Japanese A-bomb survivors). Latency appears to be shorter in younger age groups and with higher doses. There is a decrease risk 2 to 5 times higher among the very young and the very old.

Acute leukemia and chronic myelogenous leukemia are the major types associated with radiation exposure. Chronic lymphocytic leukemia has not been shown to be related to radiation (5).

B. Breast cancer may result from cesium exposure. The female breast is very sensitive to induction of cancer by radiation. A conservative lower limit for the minimum latent period is 5 to 9 years. The maximum latent period is 30 or more years. Latency appears to be independent of dose but strongly dependent on age at exposure. The lower the age at exposure, the longer the latency period tends to be. The occurrence of radiation-associated breast cancer parallels the age distribution of "spontaneous" breast cancer, after a minimal latent period.

The dose-response for breast cancer appears to be linear down to zero dose, i.e. the risk-per-rem is similar for low and high doses. Risk does not seem to depend on dose rate. However, risk may depend on age at exposure, although precise age pattern is not clear. Risk estimates based on the Japanese A-bomb survivors' experience show a 2 to 3 fold higher risk in the 10 to 19 year exposure age group, compared to the 20 to 39 year age group and the 50+ year age group. There is not substantial evidence yet of increased risk for exposure before age 10 years. The risk in the 40 to 49 year exposure age group is slightly negative and the reason for this is not apparent. These variations in risk of breast cancer with age at exposure may be due to changes in tissue sensitivity to radiation carcinogenisis resulting from variations in ovarian function at different ages (5).

C. Bone cancer may result from strontium exposure. Risk estimates are based mainly on the knowledge gained from studies of exposure to alpha emitters (eg., radium-226), which have a high relative biological effectiveness compared to beta and gamma emitters. This would tend to overestimate the risk from strontium-90, a beta radiation emitter. Radiation-induced bone cancers have shown a latency period ranging from 4 to 52 years. Generally, latency is directly related to the duration of the exposure. Short exposure periods show a peak latency of 6 to 8 years, while continuous long-term exposures (which would result from strontium ingestion) show much longer latent periods. The most common types of radiation-induced bone cancers (in order of decreasing frequency) are osteosacroma, fibrosarcoma, and chondrosarcoma. No cases have occured in the radium dial painters at doses much below 900 rads. No increases in bone sarcoma was noted in the Japanese A-bomb survivors (2).

D. Thyroid cancer (iodine exposure). The radiation-induced types of thyroid cancer are papillary carcinoma and follicular carcinoma. Anaplastic carcinoma of the thyroid has not been associated with radiation. The minimum latency periods is about 10 years. The peak latency period, if one actually exists, is probably from 15 to 25 years. External gamma radiation has a higher carcinogenic risk than internal beta radiation (such as occurs with iodine-131). The reason may be partly because the iodine resides mainly in the colloid of the thyroid follicle and gives a variable beta dose to the sensitive cellular component of the follicle. The risk from iodine-131 is also lower than that from the shorter-lived radioactive iodine isotopes (which are a local rather than global fallout problem), probably because iodine-131 gives a lower dose rate (since it has a longer half-live) and may allow for some type of cellular recovery or repair.

An entity termed "minimal or occult microscopic thyroid cancer" is found at necropsy in 30% of the Japanese population and 15% of the American population. It is felt to have no malignant potential and is not known to be induced by radiation. Therefore, occult carcinoma should not be included with clinical disease when developing or applying radiation risk estimates.

Radiation-induced benign thyroid adenomas occur 3 times more commonly than malignant carcinomas. Other non-malignant radiation effects on the thyroid gland are associated with higher doses than those which induce cancer: acute thyroiditis- 20,000 rads; and hypothroidism (thyroid ablation) - 2,000 rads external or 5,000 rads internal irradiation (5).

The range of expected cancer which may result annually from fallout exposure in Alaska is given in Table IV and compared with age-adjusted rates for the United States. It cannot be emphasized enough that these are "worst case" estimates, and also that the actual percentage of Alaskan Natives to which these rates might apply is probably extremely small.

Table IV

Cancer risk in Alaskan Natives due to radioactive fallout from atmospheric nuclear weapons tests (based on "worst case" estimate-assuming a 20 year exposure at the maximum dose rate)

Radionuclide	Cancer or tumor type	Highest average body burden or tissue concentration	Corresponding dose rate	Risk co-efficient (case per rem per year per million persons (5)	Expected annual excess cancer rate (per 100,000) for a 20 year exposure	Annual age-adjusted [3] cancer rate (per 100,000) for U.S. from SEER program 1973-77 (29)
Leukemial Cesium-137	1330 nCi (27)	190 mrem/yr[1]	0.01 to 2.2	0.004 to 0.8	9.8	
	Breast cancer	1330 nCi (27)	190 mrem/yr[1]	0.60 to 6.1	0.23 to 2.3	85.4
Strontium-90	Bone cancer	2.8 pCi/gm Ca (20)	12.5 mrem/yr[2]	0.09 to 0.76	0.002 to 0.019	0.8
	Leukemia	2.8pCi/gm Ca (20)	12.5 mrem/yr[2]	0.01 to 2.2	0.0002 to 0.055	9.8
Iodine-131	Thyroid cancer	unknown	unknown	4		4.0
	Benign thyroid adenomas	unknown	unknown	12		

1) 1000 nCi cesium-137 gives 143 mrem/yr whole body and average skeletal dose (4).
2) 1.0 pCi strontium-90 per gram of calcium in bone (pCi/gm Ca) gives 4.5 mrem/yr skeletal dose (28).
3) Age-adjusted to the 1970 Census population.

Table V shows some representitive doses from various sources for comparison with the doses due to fallout in Alaska. Natural background radiation includes that from cosmic radiation, external gamma radiation from naturally occurring radioactive material in the earth's curst, and radiation from naturally occurring radionuclides found in the body. Average levels in the United States range from 100 to 250 mrem per year (30). Certain areas of the world have unusually high natural radiation levels, averaging as high as 3000 mrem per year and ranging up to 12,000 mrem per year (31). Epidemiologic studies done in some of these regions have not shown increased cancer incidence attributable to these exposures although the number of people exposed was generally only a few thousand. Average annual medical exposure (32) and the current regulatory guidelines are also given in Table V. Doses received by the Japanese A-bomb survivors ranged from 0 to over 400,000 mrem. There is little evidence of excess cases occurred at doses over 50,000 mrem in this group (33).

Table V

Average radiation doses from selected sources.

Soruce	Dose (mrem)
A. Annual Natural background radiation (to whole body).	
1. United States	
Colorado	250
Wyoming	245
New York	135
Alaska	130
Georgia	125
Texas	100
2. High Background areas of the world.	
Kerala, India	1500
Minas Gerias, Brazil	2000
Sri Lanka (Granite areas)	3000
B. Medical exposure	
1. Average annual dose per person in United States	60
2. Dose to exposed organs from specific exams.	
Chest X-ray	4 (bone marrow)
	19 (lungs)
Upper GI Series	117 (bone marrow)
	532 (lungs)
Barium Enema	298 (bone marrow)
	48 (lungs)
C. Regulatory guidelines	
1. Annual occupational limit.	5000
2. Annual general population limit.	500
D. Japanese A-bomb survivors. Dose resulting in about 50% mortality in 3 to 5 weeks (received by about 1500 survivors of Hiroshima and Nagasaki)	300,000

Table VI shows the maximum expected numbers of cancer cases per year due to cesium-137 and strontium-90 body burdens for the northern Alaskan Villages. With a population totaling 5,715 assuming the worst case estimate, a maximum of 3.6 cases of cancer would have developed in 20 years. These numbers are so small that an increase could not be detected by epidemiologic study.

Table VI

Maximum expected annual number of cancer cases due to cesium-137 and strontium-90 body burdens for northern Alaskan villages.

Village	Anaktuvuk Pass	Kotzebue	Barrow	Point Hope	River Villages	Total
1980 native population	191	1573	1720	434	1796	5715
Leukemia	0.002	0.01	0.01	0.004	0.02	0.049
Breast Cancer	0.004	0.04	0.04	0.01	0.04	0.13
Bone Sarcoma	0.00004	0.0003	0.0003	0.0001	0.0003	0.001

Conclusions

1. Studies over the past 25 years have adequat ly identified and measured the fallout radionuclides of potential significan: health importance in Alaska.

   A. Cesium-137 is the radionuclide of prima v concern because of the lichen-caribou-human pathway, although strontium-90 and iodine-131 were of importance also.

   B. Cesium levels were measured by whole body counting. This was done throughout the areas where caribou was a significant food source, and the whole body counting techniques used were sensitive and precise enough to detect cesium body burdens of potential concern.

   C. Strontium-90 levels in humans were assessed from dietary information and measurements in caribou flesh, and to a limited extent from direct measurements in Human bone specimans.

   D. Iodine-131 levels were measured in caribou only, but no significant exposure pathway exists for humans.

   E. Other radionulcides including tritum, iron-55, rutherium-106, cerium-144, plutonium isotopes, and americium-241, have been detected in fish and game, but none were found that appear to be at levels which would pose a hazard to humans.

2. The cancer risk due to the levels of fallout radionuclides in Alaskan Natives is very low, consistant with the observation that the maximum annual dose rates from measured body burdens of cesium were comparable to dose rates from natural background radiation in some regions of the United States (Table V).

Recommendations

1. Individuals on whom cesium measurement data was obtained should be identified so that subsequent cancer development can be determined through matching of individuals in the Alaskan Native Tumor Registry. Cancer occurrence in individuals among this group can then be compared with their measured cesium body burdens, to determine if any correlation exists. The Cancer Branch of the Center for Enviromnental Health, CDC, is willing to work with the Alaskan Native Tumor Registry and the Alaska Department of Health and Human Services in this effort.
2. Aside from the above, no other study of fallout exposure and cancer incidence among Alaskan Natives is recommended at this point. Based on current knowledge regarding radiation carcinogenesis, the radiation doses received and the populations potentially exposed are too small to expect such a study to detect any effect.

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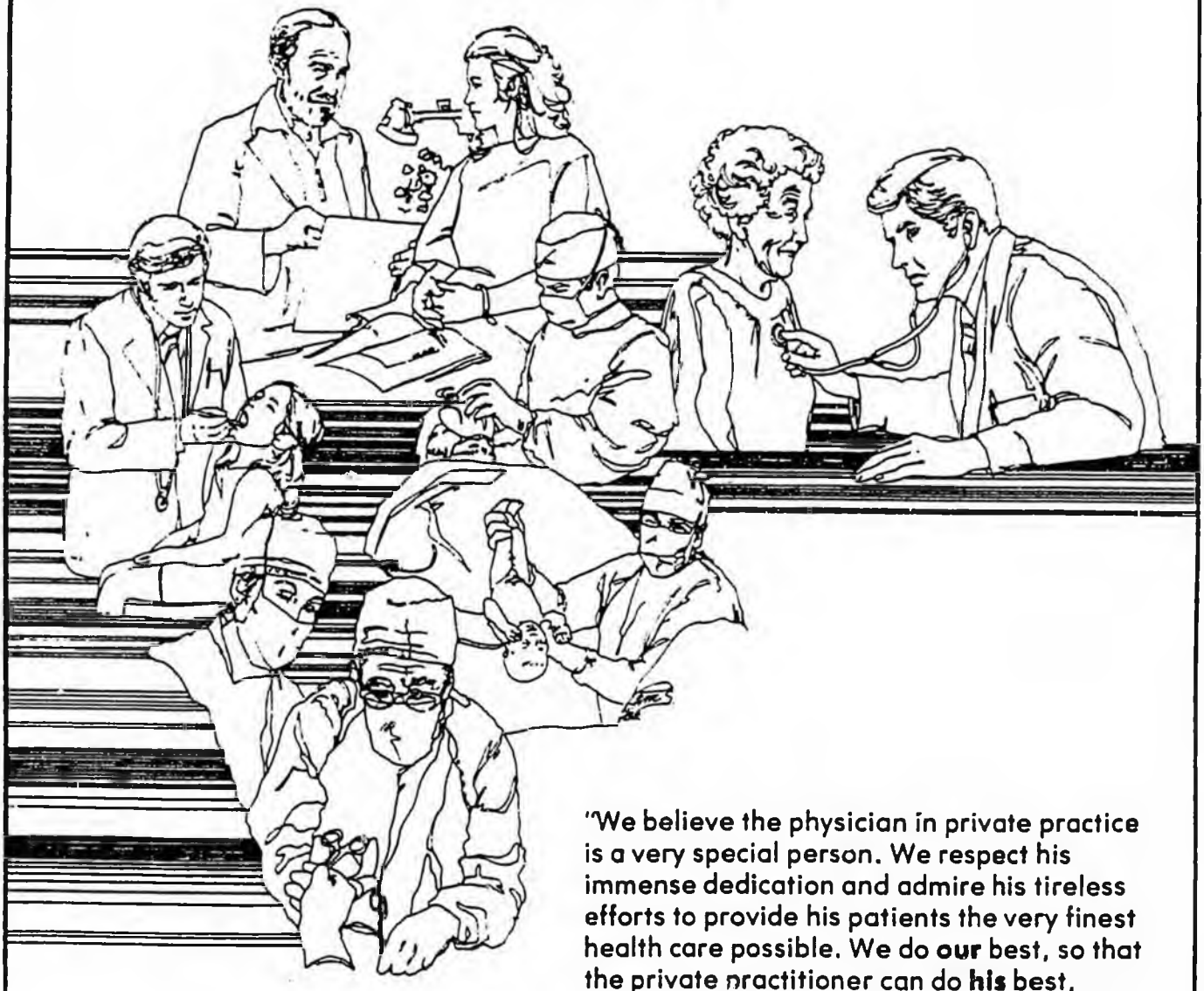

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Humana Hospital Alaska
2801 DeBarr Road 276-1131

Mrs. Sueko Yamaguchi, Representative
Head Office in Kanagawa Prefecture of
JAPAN WOMEN'S COUNCIL
21-7-2, Matsukage-cho, Naka-ku
Yokohama-shi, Kanagawa-ken, JAPAN

Mrs. Yukiko Nakamura, Representative
Head Office in Shizuoka Prefecture of
JAPAN WOMEN'S COUNCIL
3-26-4, Hamamatsu-shi, Shizuoka-ken, JAPAN

June, 1981

Dear friends,

We Japanese women, deeply concerned about peace and welfare of ourselves and of mankind, now threatened by war and total destruction by nuclear weapons, address our hearty message to you.

You know what had happened to Hiroshima and Nagasaki in the summer of 1945. The first two atomic bombs were thrown over the heads of thousands of people living in those two cities. From that time on, we, as a nation, have determined that we must stop third bomb to be dropped over anybody's head. We have declared and kept the three anti-nuclear principles which prohibit our country from possession, production and introduction of the nuclear weapons.

This spring of 1981, we have come to know that nuclear weapons have been introduced and still exist in the American military bases in our country.

On June 5, the American aircraft-carrier "Midway" came back to its mother-port, Yokosuka, near where we live, loaded very probably with nuclear weapons. Many of us women participated in the mass demonstration of protest held there.

On June 23, we will be on board of a boat sailing on the bay of Yokosuka addressing to "Midway" then ready to go out, that we cannot admit the presence of nuclear weapons in our country and anywhere. This letter, then, will be thrown into the water and start its voyage over the Pacific Ocean to you.

Dear friend, you may be a fisherman working on a white sand beach glittering in the sun, or a labourer constructing a harbour on a seashore town. We need your help, your imagination. Our beautiful earth with snowy mountains, green hills and blue seas, is covered by a huge, black cloud of nuclear weapons.

Can mankind survive? Who are to destroy the earth and mankind? Who are to stop it? Mankind!

We still have hope, as we continue our struggle, with you!

Sincerely yours,

Sueko Yamaguchi

Yukiko Nakamura

This letter was found in a bottle with 2 Origami SWANS, on the beach in Port Alexander Alaska, during the summer of 1984. It took 3 years to float to Alaska!

provided by Judy Wallen of

NUCLEAR FREE ZONES

history of...

Nuclear Free Zone Treaties

Nuclear Free Zone Proposals

Grass-Roots Nuclear Free Zone Declarations

NUCLEAR FREE ZONE TREATIES

1959 Antarctica Treaty (21 signatories, including USA and USSR) Declares that Antarctica shall be used for peaceful purposes only. Prohibits the deployment or testing of nuclear weapons and the disposal of nuclear waste. Expires in 1992.

1967 Outer Space Treaty (over 100 signatories, including the USA and the USSR) Prohibits the deployment of weapons of mass destruction in space. It was originally adopted as a U.N. resolution in 1963.

1967 Treaty for Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco, signed by all Central and South American nations* except Cuba and Guyana and guarenteed by all five nuclear powers) The treaty was proposed in 1963 in response to the Cuban missile crisis and it was negotiated through the United Nations. Garcia Robles, its architect and chief negotiator, received the Noble Peace Prize in 1982 for his work.

1971 International Seabed Treaty (over 100 signatories, including USA and USSR) The treaty prohibits the deployment of nuclear weapons or other weapons of mass destruction on or nder the seabed beyond 12 miles offshore.

NUCLEAR FREE ZONE PROPOSALS

1956 Rapacki Plan for a Nuclear Free Zone encompassing Poland, Czechoslovakia, East Germany, and West Germany. Proposed by Adam Rapacki, Polish Foreign Secretary. The Zone was to be ratified independently via unilateral declarations of the countries involved. It was to be reinforced by a commission of non-aligned,NATO, and Warsaw Pact states aided by a system of investigation posts. The proposal was rejected by NATO because it did not address the broader issues of conventional force reduction as well. Versions of the Treaty were resubmitted in 1958 and 1962 but rejected for the same reason. The plan has been on hold indefinitely since France's development of an independent nuclear capability. (See article in section on international perspectives.)

1957 Romania proposes a Balkans Nuclear Weapons Free Zone, modelled after the Rapacki plan. Proposal is rejected by NATO.

1959 Ireland proposes a gradual plan for region by region creation of a global Nuclear Free Zone.

---

* Argentina, Brazil, and Chile refuse to waive the Treaty's "entry into force" clause which means they will not be bound by the Treaty until all countries affected have signed (ie. Cuba and Guyana).

1959 USSR proposes a Nordic NFZ and a Balkans/Adriatic NFZ (the latter to include Albania, Bulgaria, Italy, Romania, Yugoslavia, Turkey, and Greece)

1960 Fourteen African states propose a Nuclear Weapons Free Zone for all Africa in response to French nuclear testing in the Sahara. The zone has been consistently endorsed by the Organization of African Unity and opposed by the United States, Britain, and South Africa.

1961 Unden Plan (proposed by Swedish Foreign Minister Unden) calls for a Nordic NFZ to include Norway, Sweden, Denmark, and Finland. Norway and Denmark have unilaterally refused to deploy nuclear weapons in peacetime and Sweden renounced any deployment in 1969 (see below).

1963 Finland repeats call for a Nordic NFZ.

1968 Sweden unilaterally renounces any deployment or use of nuclear weapons and declares itself a Nuclear Free Zone. Renews call for a Nordic NFZ.

1974 Shah of Iran proposes a Middle-Eastern NFZ. Proposal is supported by most Arab states but blocked by Israel, which insists on bilateral negotiations with each state rather than a blanket treaty.

1975 United Nations adopts a formal definition of NFZs which all nations agree to recognize. To be sanctioned by the U.N., an NFZ must be codified by a statute declaring the total absence of nuclear weapons within the zone and supported by an international system of verification and control. States of the region must solemnly declare that they will refrain on a reciprocal basis from producing, acquiring or in any other way possessing nuclear explosive devices, and from permitting the stationing of nuclear weapons on their territory by any third party. They also agree to place all of their nuclear activities under International Atomic Energy Agency safeguards. In addition, a set of protocols is required between the nations of the zone and the existing nuclear-weapons powers. The nuclear-weapons states must agree to respect the zone's nuclear-weapons free status by neither introducing nor transporting nuclear weapons within the zone, they must "refrain from contributing to tensions in the zone which might encourage the violation of the treaty, and lastly, they must refrain from using or threatening to use nuclear weapons against any state in the region."

In summary, an NFZ treaty should include guarantees that the zone is both free of nuclear weapons and immune from the threat of having nuclear weapons used against it.

1978 United Nations definition is expanded to include all sea and air-space within a zone. Installations capable of supporting or basing nuclear weapons are banned from the NFZs.

1979 U.N. Micronesian Trust Territory of Belau (administered by the United States) adopts the world's first Nuclear Free constitution, banning all nuclear materials. (See article in section on international perspectives.)

1980 The European Nuclear Disarmament campaign is founded and immediately proposes a Nuclear Free Europe, stretching from Poland to Portugal.

1981 Norway resubmits a Nordic NFZ proposal. It is endorsed by the Norwegian Labor Party, Norwegian Trades Union Congress, and the Social Democratic parties of all the countries involved.

1981 Israel proposes a framework for negotiating a Mid-East NFZ in response to nuclear weapons development programs underway in Libya and Iraq. All Arab states have refused to negotiate since Israel's bombing of the Iraqi reactor.

1982 The Independent Commission on Disarmament (Palme Commission), represented by 17 countries, recommends a Battlefield Nuclear Weapons Free Zone extending 150 km on both sides of the Iron Curtain (see article in section on international perspectives).

1982 Bulgaria, Greece, and Romania all propose plans for a Nuclear Free Balkans. Romania's is contingent upon cancellation of U.S. Pershing and Cruise missile deployments. Together with Yugoslavia, all the countries agreed to hold a summit meeting on NFZs in 1983. (See enclosed article in section on international perspectives.)

1983 Belauans reaffirm their Nuclear Free constitution by rejecting a "compact of free association" with the United States. Although the compact itself was actually approved by 62%, it contained a clause permitting U.S. stationing of nuclear weapons in Belau. According to the Belauan constitution, any such agreement must be specifically approved by at least 75% of the voters. Only 53% did so in a seperate question. The compact is, therefore, voided and must be either renegotiated or withdrawn. Whether the United States, which wants to establish a Trident submarine base and guerrilla warfare training center in Belau, will respect the constitution is unclear, however.

GRASS-ROOTS NUCLEAR FREE ZONE DECLARATIONS

The following history is by no means complete. We have no doubt overlooked many NFZ declarations. Please inform us of any corrections and/or additions. A full list is available from Nuclear Free America.

Australia

The NFZ movement originated in Australia in 1975, sparked by the Movement Against Uranium Mining. In support of a ban on all uranium mining, the movement asked sympathetic city councils to endorse NFZ resolutions that banned all non-medical nuclear materials. The first town to declare itself Nuclear Free was Fitzroy. Fitzroy was also the first to put up signs saying "You are now entering a Nuclear Free Zone." There are at least 50 other Nuclear Free cities and counties in Australia.

England

The City Council of Manchester adopted an NFZ resolution in November 1980 and, within two years, was followed by over 150 British towns, cities, and counties, including all of Wales. Thirty-two of fifty-one million Britons are represented by Nuclear Free Local Authorities. Acting together, the Nuclear Free Local Authorities have refused to participate in civil defense planning for nuclear war and, through their civil disobedience, forced the federal government to cancel its annual national civil defense exercise two years in a row (1982 and 1983). Many Nuclear Free Local Authorities are now boycotting TARMAC, the largest construction firm in Britain, to protest its work in preparing the Cruise missile base at Greenham Common. TARMAC must choose between one contract at Greenham Common and hundreds with the Nuclear Free Local Authorities, including all the largest cities in England.

United States

The first NFZ campaign in the United States* took place in Santa Cruz County, CA, in June 1980. The proposed ordinance was defeated by a 63-37% margin. The Lockheed Missile and Space Company which would have been forced by the measure to terminate work on the Trident missile system, spent over $150,000 on voter opinion research and direct mail to defeat it.

Garrett Park, MD became America's first NFZ in May, 1982. Inspired by the declarations of English communities, its citizens overwhelmingly approved an NFZ ordinance, the world's first. (The vote was 245 to 46.)

The City Council of Sykesville, MD passed an NFZ resolution in June, 1982, by a vote of 5 to 1. At the same meeting, they unanimously approved the Freeze resolution and rejected crisis relocation planning for nuclear war.

Ashland, OR adopted an NFZ ordinance by referendum in the November, 1982, elections; 55% in favor. The ordinance was the first to detail penalties for violations - up to $500 fine and/or six months in jail.

Roosevelt Park, NJ, passed an NFZ resolution in the November elections, 89% in favor. In January, 1983, the town council and mayor unanimously adopted the NFZ as an ordinance, with the same penalties as in Ashland (above).

For a complete and up-to-date list of Nuclear Free Zones in the United States and major campaigns underway, see the enclosed map of Nuclear Free America.

Other Nuclear Free Zone Movements

Nuclear Free Zone campaigns are underway in all of the following countries. The number of locally-declared Nuclear Free Zones (as of May, 1983) is given in parenthesis.

Australia	(51)
Belgium	(over 40)**
Canada	(4)***
Denmark	(2)
Great Britain	(154)
Ireland	(24)
Italy	(26)
Japan	(24)
Netherlands	(55)
New Zealand	(15)
Norway	(81)
W. Germany	(40)

* Nuclear Free declarations directed specifically at the prohibition of nuclear power and nuclear waste disposal proliferated in the 1970s but none, to our knowledge, addressed the issue of nuclear weapons. The Hawaii County Council (Big Island) passed a Nuclear Free ordinance in 1981 which prohibited "nuclear materials" but, again, nuclear weapons were not specified.

** Includes Evere, command headquarters of NATO.

*** Includes Cold Lake, Alberta, site of the proposed flight-testing of the Cruise missile.

Nuclear Free Zones in America

596,325 Americans in 36 Nuclear Free Zones
January, 1984

Location	Population	Date	Type
1. Hawaii County, Hawaii (Big Island)	92,053	2/4/81	county council ordinance
2. Garrett Park, Maryland	1,200	5/3/82	referendum ordinance
3. Sykesville, Maryland	1,800	6/14/82	city council resolution
4. Ashland, Oregon	15,000	11/2/82	referendum ordinance
5. Roosevelt, New Jersey	850	11/2/82 1/12/83	referendum resolution town council ordinance
6. Waldron, Washington	100	11/13/82	town meeting resolution
7. Isla Vista, California	16,700	2/??/83	community council resolution
8. Leschi, Washington	5,300	3/23/83	community council resolution
9. - 20. Barksdale, Bayview, Bayfield, Bell, Delta, Keystone, Lincoln, Mason, Marengo, Morse, Russell, and Washburn, Wisconsin	combined pop.over 5,000	4/4/83 to 4/20/83	town meeting resolutions (Keystone resolution adopted by Town Board)
21. Tisbury, Massachusetts*	3,110	4/5/83	town meeting by-law
22. Leverett, Massachusetts	1,500	4/30/83	town meeting resolution
23. New Salem, Massachusetts	359	5/??/83	town meeting resolution
24. Heath, Massachusetts	500	5/2/83	town meeting ordinance
25. Gay Head, Massachusetts	220	5/11/83	town meeting by-law
26. West Tisbury, Massachusetts*	250	5/17/83	town meeting by-law
27. Brookline, Massachusetts	55,062	5/31/83	town meeting resolution
28. Wilde Lake, Maryland	10,000	8/15/83	village board resolution
29. Wallingford, Washington	50,000	10/19/83	community council resolution
30. Claremont, California	30,950	10/25/83	city council ordinance
31. Somerville, Massachusetts	77,372	11/8/83	referendum resolution
32. Madison, Wisconsin	171,590	11/15/83	city council ordinance

continued over ...

Nuclear Free Zones

NUCLEAR FREE ZONES IN AMERICA, January, 1984, continued ...

Location	Population	Date	Type
33. San Juan County, Washington	7,838	11/29/83	county commission resolution
34. Placerville, California	6,739	12/5/83	city council resolution
35. Chico, California	20,601	12/6/83	city council resolution
36. Takoma Park, Maryland	16,231	12/12/83	city council ordinance

* Ordinance rejected as unconstitutional by State Attorney General.

Nuclear Free Zones To Be Voted On In ...

Albany, California (ordinance, by referendum, April, 1984)
Chico, California (ordinance, pending)
Nevada County, California (ordinance, by referendum, June, 1984)
Novato, California (ordinance, by referendum, April 1984)
Santa Barbara, California (ordinance, by referendum, June, 1984)
Santa Monica, California (charter amendment, by referendum, November, 1984)
Willits, California (ordinance, by referendum, November, 1984)
Maui County, Hawaii (ordinances (2), by county council, pending)
Ada County, Idaho (resolution, by county council, pending)
Falmouth, Massachusetts (by-law, town meeting, April, 1984)
Mashpee, Massachusetts (by-law, town meeting, spring 1984)
Newton, Massachusetts (ordinance, Board of Aldermen, pending)
Orleans, Massachusetts (by-law, town meeting, spring 1984)
Sandwich, Massachusetts (by-law, town meeting, spring 1984)
Yarmouth, Massachusetts (resolution, town meeting, spring 1984)
Ann Arbor, Michigan (charter amendment, by referendum, April, 1984)
New York City, New York (resolution, by city council, pending)
San Juan County, Washington (ordinance, by referendum, February, 1984)

Nuclear Free Zone Campaigns Initiated In ...

Arizona: Tempe; California: statewide, Camp Meeker, East Bay, Fresno, Laguna Beach, Martinez, Ojai, Pasadena, Petaluma, Redondo Beach, San Diego, San Luis Obispo, and Tulare; Florida: Key West; Illinois: First Congressional District; Maryland: Columbia; Massachusetts: Amherst, Belchertown, Barnstable, Bourne, Dennis, Long Meadow, Nantucket Island, Northhampton, Scituate, Worthington; Michigan: Saginaw; Missouri: Purdy; Montana: Lewis and Clark County; New Jersey: Englewood, Essex County, Hoboken; New York: Bay Ridge (Brooklyn), Great Neck, Staten Island, Syracuse County; Ohio: Springfield; Oregon: statewide, Bandon, Klamath Falls, Portland, Williams; Pennsylvania: Dunmore, Reading; Vermont: Burlington; Virginia: James County, Leesburg, Williamsburg; Washington, D.C.; Wisconsin: Eau-Claire

Local Contacts Available from Nuclear Free America

PLEASE KEEP US INFORMED OF NUCLEAR FREE ZONE CAMPAIGNS IN YOUR AREA

Anchorage
Daily News

Winner, 1976 Pulitzer Prize Gold Medal for Public Service

Gerald E. Grilly
Publisher

Howard Weaver
Managing Editor

Steve Lindbeck, Editorial Page Editor

Robert W. Atwood, 1915 to 1966
Founder
Leonard E. Foster, 1947 to 1971
Founder

Alaska's Only Morning Newspaper • Published in 1948 by Norman C. Brown

3/15/84

To keep the north free of nuclear arms

Keeping the arctic from becoming either tool or target in the world's nuclear arms race is the object of a proposed arctic nuclear free zone under consideration in the Alaska Legislature. The idea deserves your attention and comment.

A resolution calling for a nuclear free zone was introduced this year in the state Senate with some heavyweight sponsors: Senate President Jalmar Kerttula, Sen. Vic Fischer, Sen. Frank Ferguson, Sen. Joe Josephson and Sen. Pappy Moss. Sen. Fischer will convene his State Affairs Committee in Anchorage on Friday to take public testimony on the issue.

The resolution calls upon the governor and Alaska's delegation in Congress to seek a ban on nuclear weapons, radioactive waste disposal and nuclear testing in arctic and subarctic regions. The resolution calls for bilateral and multi-lateral treaties among arctic nations to establish the nuclear free zone, and specifically asks a ban on "all items capable of nuclear weapons delivery."

That is a sweeping non-nuclear agenda, with considerable political hurdles to clear along the way. Gaining international agreement on such a zone is surely some distance over the horizon.

But progress comes in small, gradual steps. The Alaska resolution would be a useful step toward arctic consensus on the issue. And the arctic still enjoys one considerable advantage: it is substantially free of nuclear deployment. If governments can be motivated to make affirmative decisions against pushing nuclear weapons into the arctic, the status quo can be preserved.

It is not at all a far-fetched idea. A nuclear free zone already exists in Antarctica by international treaty. The Inuit Circumpolar Conference — an organization of arctic Native peoples from Alaska, Canada and Greenland — has sought an arctic nuclear ban since at least 1977. The Scandinavian nations all have made serious efforts in international forums to achieve a Nordic nuclear free zone.

Residents of the arctic already know the biological risks of nuclear arms activities. Radiation from atmospheric nuclear testing in the 1950s and early 1960s has been absorbed into arctic ecosystems in extraordinary concentrations; evidence of arctic contamination provided part of the impetus behind the first international bans on atmospheric testing.

Now Alaska can join further efforts to exclude the nuclear arms race from the arctic as much as possible. The Senate State Affairs Committee will accept comments on the proposed resolution at a public hearing Friday at 1 p.m. in the Anchorage Legislative

Anchorage Daily News Editorial

INUIT CIRCUMPOLAR CONFERENCE

RESOLUTION 83-01

RESOLUTION STATING THE INUIT CIRCUMPOLAR CONFERENCE POSITION ON NUCLEAR ACTIVITY IN THE ARCTIC AND SUB-ARCTIC AREAS.

WHEREAS, the Inuit Circumpolar Conference developed a fundamental policy restricting the arctic and sub-arctic to those uses which are peaceful and environmentally safe;

WHEREAS, this policy is reflected in the several resolutions adopted by the General Assembly and the Executive Council since the formation of the Inuit Circumpolar Conference in 1977;

WHEREAS, the governments of the United States and Canada intend to cooperate with each other to test the cruise missile in our northern Canadian homeland;

WHEREAS, the government of the United States has entertained the idea of basing the massive MX missile system in our Alaskan homeland;

WHEREAS, the Atomic Energy Canada, Limited, plans to test the environmental and economic feasibility of the mini-CANDU and the SLOWPOKE 3 (small nuclear reactors for generating electricity) in the Canadian north since they are prohibited from testing them in the Canadian south due to environmental restrictions; and

WHEREAS, the arctic and sub-arctic shall not be used for any nuclear testing or as a nuclear dump-site;

NOW THEREFORE BE IT RESOLVED THAT the Inuit Circumpolar Conference emphatically restates its nuclear position:

1. that the arctic and sub-arctic be used for purposes that are peaceful and environmentally safe;
2. that there shall be no nuclear testing or nuclear devices in the arctic or sub-arctic;
3. that there shall be no nuclear dump-sites in the arctic or sub-arctic;
4. that exploration and exploitation of uranium, thorium, lithium or other materials related to the nuclear industry in our homeland be prohibited;

FURTHERMORE BE IT RESOLVED THAT the Canadian government be notified of our opposition to the testing of the cruise missile in our Canadian homeland and that they be requested to refrain from such tests:

FURTHERMORE BE IT RESOLVED THAT the Atomic Energy Canada, Limited, be notified of our opposition to the testing of nuclear reactors in the Canadian arctic or sub-arctic and that they be notified to refrain from such tests;

FURTHERMORE BE IT RESOLVED THAT the United States government be notified of our opposition to the placement of the MX missile in our Alaskan homeland and that they be requested to cease with any such plan;

FURTHERMORE BE IT RESOLVED THAT the Inuit Circumpolar Conference study and research current international treaties to determine whether or not they comply with the Inuit Circumpolar Conference Arctic Policy; and

FURTHERMORE BE IT RESOLVED THAT the Executive Council of the Inuit Circumpolar Conference lobby the United Nations and various international organizations to encourage members of the United Nations to adopt a policy for a nuclear free zone in the arctic.

INTRODUCED THIS 29th DAY OF JULY, 1983.

ADOPTED THIS 29th DAY OF JULY, 1983.

League of Women Voters of Alaska

SJR 38: NUCLEAR FREE ARCTIC

The League of Women Voters of Alaska supports enactment of SJR 38, which would request our Governor and our Congressional delegation to work (at the federal government level) to encourage international treaties establishing the arctic and subarctic as a nuclear free zone. SJR 38 also would discourage the disposal (including military disposal) of radioactive and nuclear wastes and materials in the arctic and subarctic.

We base our support for SJR 38 upon a new position adopted nationwide by the League of Women Voters of the United States as a result of the first phase of our national security study. That first phase concerned arms control, and resulted in the position statement which we have attached for your reference.

In supporting SJR 38, we specifically rely upon the following two points of the LWVUS position: (1) the League advocates limits on the spread or proliferation of weapons to inhibit transfers of nuclear technologies or weapons from one nation to another, or to a geographic region such as the sea bed or outer space; and (2) the League supports use of bilateral (as opposed to unilateral) means of achieving the objectives in our arms control statement of position.

Elizabeth Cuadra
Natural Resources Portfolio
9151 Skywood Lane
Juneau, Alaska 99801
3/14/84

League of Women Voters of the U.S.
1730 M Street, N.W.
Washington, D.C. 20036

ARMS CONTROL STATEMENT OF POSITION

The League of Women Voters believes that arms control measures are essential to reduce the risk of war and increase global stability. Toward that end, the U.S. government should give the highest level of importance to arms control efforts that:

- limit or reduce the quantity of weapons;
- limit proliferation and prohibit first use of nuclear weapons;
- prohibit first use and possession of chemical, biological and radiological weapons; and
- reduce tensions in order to prevent situations in which weapons might be used.

While these objectives should receive the highest level of attention, the U.S. government also should negotiate measures that inhibit the development and improvement of weapons, particularly nuclear weapons that increase incentives to attack first in a period of crisis.

As a long-term goal, the League supports the worldwide elimination of nuclear weapons.

The League of Women Voters recognizes that peace in an interdependent world is a product of cooperation among nations and therefore strongly favors multilateral negotiations. Given the potential for worldwide proliferation of nuclear technology, efforts involving all countries are essential to limit the spread of nuclear weapons and to protect commonly held nuclear-weapons-free regions such as the seabed and outer space. Multilateral efforts are appropriate as well to achieve bans on the possession of chemical, biological and radiological weapons.

The League of Women Voters believes, however, that for arms control to be effective, bilateral efforts also are necessary. Bilateral efforts may be especially appropriate in negotiations to limit and reduce quantities of weapons. The League believes that unilateral initiatives are not the most appropriate means to achieve arms control.

The League does not support tying progress in arms control to other issues. The League believes that arms control is too important in and of itself and too crucial to all nations to be linked to other foreign and military policy goals.

Arms Control Criteria

The League of Women Voters believes that arms control measures should be evaluated in terms of the following factors:

Equity: The terms should be mutually beneficial and each nation's security and interests should be adequately protected. Equity does not necessarily require equality in numbers of weapons but may be achieved through a relative balance in total capabilities.

Verifiability: Each party should be able to insure that other parties comply with the terms of the agreement, whether using national technical means (satellites, seismic sensors and electronic monitors) or on-site inspection. The League believes it is extremely important to ensure compliance, recognizing that absolute certainty is unattainable.

Equity and verifiability are critical in efforts to limit and reduce quantities of weapons and to prohibit the possession and spread of nuclear weapons.

Confidence-building: Each party should be assured of the political or military intentions of other parties. Fostering confidence is vital in efforts to prohibit the first use of weapons and to reduce tensions.

Widespread Agreement: All appropriate parties should participate in and approve the results of the negotiating process. However, the League recognizes that, in specific cases, progress can be achieved even though some key parties do not participate.

Environmental Protection: The quality of the earth's environment should be protected from the effects of weapons testing or use. Environmental protection has special significance in negotiations to prohibit the possession of chemical, biological and radiological weapons and to limit the proliferation of nuclear weapons.

Continuity: Negotiations should build on past agreements and should be directed toward future negotiations whenever feasible. Innovative thinking and new approaches should, however, be encouraged when appropriate.

Application

Arms Control Objectives

League support of arms control measures includes action on proposals, negotiations and agreements.

The League supports efforts to achieve quantitative limits or reductions that focus on nuclear warheads, missiles and other delivery systems, anti-ballistic missiles, conventional weapons or troop levels.

The League advocates limits on the spread or proliferation of weapons to inhibit transfers of nuclear technology or weapons from one nation to another or to a geographic region such as the seabed or outer space.

The League's pursuit of bans on the possession or use of weapons may apply to existing weapons or to those not yet developed.

The League seeks to reduce tensions through better means of communication, exchange of information or prior notification of military tests and maneuvers in order to avoid the risks of miscalculation or accident. Other League-supported measures to reduce tensions and create a climate of trust among nations include scientific and cultural exchanges, conflict resolution training and strengthening the United Nations.

The League supports efforts to inhibit the development and improvement of weapons through qualitative limits, including limits on the testing of weapons. These constraints may be selective or comprehensive in their

#19-1984

ALASKA NURSES ASSOCIATION

R E S O L U T I O N

Regarding

NUCLEAR FREE ARCTIC

WHEREAS, other states, cities, and nations have passed resolutions establishing nuclear free zones, and

WHEREAS, the presence of nuclear weapons contributes to the possibility of attack and endangers the lands and the citizens of Alaska, and

WHEREAS, the increase of cancer and genetic defects, possibly due to radiation, hence nuclear testing is of great concern to nurses, and

WHEREAS, Alaska as the last frontier is symbolic of the wilderness, the beauty, and the freedom of the past, and

WHEREAS, nurses subscribe to freedom from hazardous radiation and to healthy growth and reproduction of an individual, and

THEREFORE BE IT RESOLVED THAT the Alaska Nurses Association supports a resolution that would establish Alaska as a nuclear free zone , and

BE IT FURTHER RESOLVED THAT the Alaska Nurses Association voting body affirmation be sent to Governor Sheffield, Legislators and the Nuclear Freeze Committee

Adopted by the House of Delegates
Alaska Nurses' Association
30 March 1984

#18-1984

ALASKA NURSES ASSOCIATION

R E S O L U T I O N

Regarding

DANGER OF NUCLEAR WAR

WHEREAS, the threat of nuclear war is the largest potential health hazard to the people of the world and is preventable, and

WHEREAS, prevention is the nurse's first intervention to promote health, and

WHEREAS, expenditures on nuclear arms and delivery systems conflict directly with providing resources for health care and human services,

THEREFORE BE IT RESOLVED THAT this voting body affirm the 1982 American Nurses Association resolution acknowledging that there is no adequate response to nuclear war and calling on American Nurses Association to support efforts for peace and disarmament beginning with a verifiable bilateral nuclear weapons freeze, and

BE IT FURTHER RESOLVED THAT the American Nurses Association resolution with the Alaska Nurses Association voting body affirmation be sent to the Alaska Congressional Delegation.

Adopted by the House of Delegates
Alaska Nurses' Association
30 March 1984

Dept. of Transportation & Public Facilities

Position Paper

BILL NO: SJR 38

APPROVED: R. J. Knapp
Commissioner

TITLE: "Relating to a Nuclear Free Arctic,"

DATE: 4/5/84

Senate Joint Resolution Number 38, "Relating to a Nuclear Free Arctic," proposes that the Alaska State Legislature, the Governor, and the Alaska Congressional Delegation promote and initiate efforts to "prevent nuclear testing or nuclear devices in the arctic and sub-arctic or elsewhere in the atmosphere." It further advocates banning nuclear wastes from the State.

Any resolution to eliminate nuclear materials from Alaska and/or the arctic should be very careful to specify what is to be excluded. There are several isotopes which are used in medicine in combination with current technology to provide great beneficial use to the citizens of our State. Further, these uses of nuclear materials are safe.

At this time the Department of Transportation and Public Facilities is developing, with the help of others, an airport light system which could one day make a major contribution to aviation safety in Alaska. The system uses the radio isotope tritium as an energy source which is a byproduct of the nuclear industry. The system is safe and is expected to be cost effective compared to conventional systems while improving reliability and lowering maintenance costs. It would be most unfortunate if such technologies and many beneficial ideas yet to be developed would be stifled unnecessarily.

For more information, contact Paula Ramsey at 465-3900

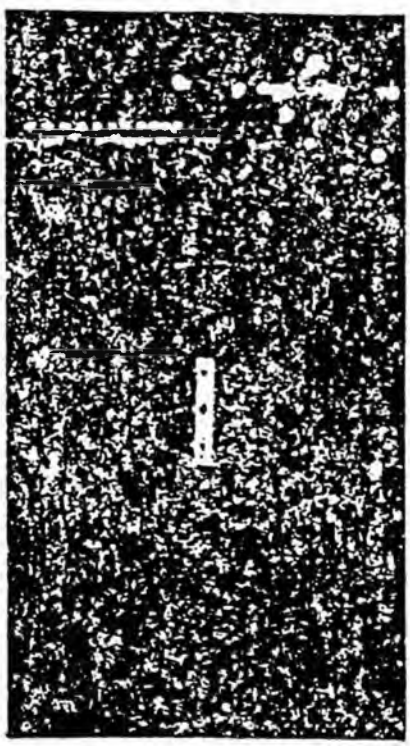
State of Alaska Department of Transportation and Public Facilities

RESEARCH NOTES

Division of Planning – Northern Region
Research Section

February 1985
Vol. 4 No. 3

Radioluminescent Taxiway Lights



A set of experimental radioluminescent (RL) taxiway lights was installed at Fairbanks International Airport (FIA) from January 2 1984, to May 24, 1984. The project was initiated at the request of the FIA Director to evaluate the effectiveness of blue RL lights to define a taxiway's lateral boundaries for general aviation (GA) aircraft. Durability of the lights and mounting fixture also was evaluated. The lights are tritium powered, similar to the units being developed for airport edge lighting (see *Research Notes*, Vol. 3, No. 1). But the fixture design and blue color were a first attempt to adapt the RL concept specifically to ground control lighting.

Lights were placed along both sides of taxiway 35 (located on the northeast end and perpendicular to the GA airstrip) and on a portion of taxiway 4 (located between the intersections of T-33 and T-35 and parallel to the GA airstrip). The units were secured to standard stake-mount bases approved by the Federal Aviation Administration (FAA), using an FAA-approved frangible coupling. FIA maintenance crews installed the stake bases. The initial 30 lights were installed with spacing ranging from a minimum of 50 feet apart on the curve to a maximum of 150 feet on portions of the straightaway. Due to the nature of the light emitted, the maximum distance was found to be too great for clear taxiway definition; therefore, 12 more RL lights were fabricated at the U.S. Department of Energy's (USDOE) Oak Ridge National Laboratory in Tennessee and installed in late February. The additional lights reduced the maximum spacing to 100 feet with about 75 feet being typical.

The RL taxiway lights demonstrated ruggedness and reliability. During the test, a motor grader removing snow collided with several light units. An inspection revealed that the impacted units were broken from their mounts, but no light tubes were damaged. Mounting couplings were easily replaced. Since there were no electrical connections to repair, the lights were restored to service quickly.

Security was a concern because the lights were experimental and contained the radioisotope tritium. This was not a problem. Routine surveillance by the FIA airport security force proved an adequate precaution to prevent any vandalism or theft.

Comments from users suggested that the lights could be useful in rural areas and possibly in urban areas. The addition of orange paint or reflectors on the fixture bodies, or an attached flag, was suggested for better visibility during daylight. One observer stated, "The lights were so weak they cannot be observed from the tower during hours of darkness with binoculars." The tower is located approximately 1/2 to 3/4 mile from taxiway T-4. Low light intensity is the limiting factor of the present RL technology.

Based on the comments received, it seems likely that the blue RL taxiway lights could be used to delineate taxiways and parking aprons in areas with low ambient light (i.e. rural airstrips). Some type of reflector is recommended and unit spacing should be closer than for conventional lights. For areas with more ambient light (i.e. FIA and other urban airports), improvements are needed to increase light output.

A full report on this demonstration will be available from DOT&PF Research by the end of April 1985.

Lorena Hegdal
Research Engineer

DOTPF RESEARCH

Further information on any of the topics covered in *Research Notes* may be obtained by contacting Larry Sweet, Research Manager. A list of publications produced by the Research Section may be obtained by writing Publications Specialist, Research Section, 2301 Peger Road, Fairbanks, Alaska 99701, or by calling the Research Section at (907) 479-2241.

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November 3, 1985

Mr. D.N. Sakamoto
Western Division
Naval Facilities Energy Command
P.O. Box 727
San Bruno, California 94066
415-877-7590

Project: Behm Canal Acoustic Measurement Facility
P-259

Dear Mr. Sakamoto:

It has been brought to the attention of the Alaska House State Affairs Committee that the development of a Navy submarine testing facility located in Southeast Alaska is currently under consideration with construction to begin in 1988.

As Chair of the committee, I wish to request any additional background information and material on the proposed project you are able to make available at this time.

I would appreciate being kept informed on the status of the project as it progresses.

Sincerely,

Katie Hurley

Katie Hurley
Chair, House State Affairs Committee

DEPARTMENT OF THE NAVY
COMMANDER NAVAL BASE
SEATTLE, WASHINGTON 98115-5012

5060
Ser N2/345

10 JAN 1986

Honorable Katie Hurley
Alaska House of Representatives
Committee on State Affairs
Pouch V
State Capitol
Juneau, AK 99811

Dear Ms. Hurley:

Mr. D.N. Sakamoto of our Naval Facilities Engineering Command has informed me of your request for information on our plans to establish an acoustical testing measurement facility near Ketchikan.

Since our submarines are quieter and ambient noise at west coast acoustic measurement sites has increased, the Secretary of the Navy initiated a search in 1980 to find a quieter area for conducting acoustic measurements. This search led to the Behm Canal in the southeastern panhandle near Ketchikan. We are in the preliminary planning stages, but we have completed a site survey and have approached the U.S. Park Service regarding land use.

The proposed facility would consist of three major physical segments, an underway site, a static site and an operations site (shore facility). The underway site would be in the center of the Behm Canal about four miles from the operations site; the static site would be near Grant Island; and shore facilities would be on the northern tip of Back Island.

We estimate that construction costs would be in the $20 million range and anticipate requesting Congressional funding in January 1989. Construction would begin in 1989 with the facility becoming operational in 1991. A 10-man permanent caretaker force, hired locally, would be required. About 30 Navy personnel would be on site during actual acoustical testing. These tests normally require five days and we foresee doing 10 to 15 tests per year.

I have apprised th[illegible]y's lead agency for this project of your interest in this ma[illegible]r, and Mrs. Virginia Kahn, Public Affairs Officer, David Taylor Naval Ship R&D Center, Code 008, Bethesda, MD 20084 will provide you with periodic information regarding

future engineering and developmental plans for the site. For matters of local coordination, please feel free to contact my Public Affairs Officer, Lieutenant Commander Mark Van Dyke, at (206) 526-3811.

Sincerely,

L. S. SEVERANCE, JR.
Rear Admiral, U.S. Navy
Commander Naval Base Seattle

Copy to:
DTNSRDC Bethesda, MD (Code 008)
DTNSRDCDET Puget Sound (Director)
PACNORWESTBRO Silverdale, WA
NAVFACENGCOMWESTDIV San Bruno, CA

News 10/31/85

Ketchikan eyed for sub facility

The Associated Press

WASHINGTON — The U.S. Navy is considering building a submarine testing facility near Ketchikan, according to Alaska Sen. Frank Murkowski, who said he had some initial concerns about how it might affect the environment and public safety.

The Alaska Republican said the Navy told him it's considering a $17 million facility near the gateway city to monitor submarine noise levels.

It could bring about 25 scientists and support personnel to the area for a couple of weeks each month as the submarines undergo testing, Murkowski said.

If the project moves ahead, construction would begin by 1988, he said.

"Naturally, concerns may arise from the Navy's plans to test nuclear-powered submarines in southeast Alaska waters," Murkowski said in a prepared statement. "Some might fear that Ketchikan could become a military target in time of war, or that a submarine accident might result in nuclear contamination of some kind.

"But the Navy believes any risks associated with these concerns would be extremely remote," he said. "The Navy officials assured me they would involve the local community in the planning and the development of the project in order that any risks, however small, can be carefully explored."

The Behm Canal area, including the back channel near Wrangell, was selected by the Navy as the most favorable location on the West coast for a new facility to monitor submarine noise levels, officials said. The former location was in Puget Sound in Washington state.

Test facilities on the West coast, however, are becoming more difficult to operate because of background noise from pleasure boats and commercial shipping, the Navy said.

Submarines depend on their ability to operate silently and remain undetected, Murkowski said.

"The inadequacy of the current sites are hindering the testing and development of new technologies," he said.

The facility would consist of acoustic range equipment and listening devices scattered along the canal bottom, the Navy said. Shore-based facilities also would be built on Back Island to monitor the tests, house personnel and maintain equipment, officials said.