

ALASKA LEGISLATURE

HOUSE and SENATE FINANCE COMMITTEE FILES, 2005-2006 2772

Maximum Service Fees outlined below. If actual savings are \$73.37 per employee per month or more, the additional fees, based on the Service Fees outlined below, will be due AETNA.

Regular Monthly Billed Service Fees

Active Medical/Dental	\$42.09 per active employee per month
Retiree Medical	\$28.51 per retiree per month
Retiree DVA	\$ 4.22 per retiree per month

Maximum Service Fees if Network Savings are met

Active Medical	\$39.87 per active employee per month
Active DVA	\$ 2.92 per active employee per month
Retiree Medical	\$30.80 per retiree per month
Retiree DVA	\$ 2.67 per retiree per month

The Network Savings Guarantee applies only to the in-network claims and will remain in force during the period July 1, 2004 through June 30, 2005. A reconciliation of the guarantee will occur in conjunction with the annual State of Alaska Financial Accounting which occurs 90-120 days after the end of the July 1, 2004 through June 30, 2005 Contract Year.

Maximum Amount of AETNA Revenue Recovery

Should the Financial Accounting validate savings beyond \$73.37 per active and retired employee, the State shall pay Aetna additional funds not to exceed the difference between the Maximum Service Fees and the Regular Monthly Billed Service Fees calculated on a per employee per month basis and determined by actual enrollment for the July 1, 2004 through June 30, 2005 contract year.

All network savings achieved during July 1, 2004 through June 30, 2005 shall accrue to the State and shall not be limited in amount.

The following examples illustrate the maximum amount of additional fee revenue Aetna may receive.

Assumptions (Examples 1-5):

- 5,266 active employees enrolled in medical and DVA
- 27,781 retirees enrolled in medical
- 18,024 retirees enrolled in DVA

\$13,076,922 Regular Monthly Billed Service Fees July 1, 2004 through June 30, 2005
\$13,549,332 Maximum Service Fees due July 1, 2004 through June 30, 2005
\$472,410 Maximum additional Service Fees due

Example 1:

Amount of documented network savings:	\$31,000,000
Guaranteed network savings (33,047 employees x \$73.37 x 12 mos.):	\$29,095,901
Additional network savings available to fund service fees:	\$1,904,099
Additional service fees paid to Aetna:	\$472,410

Example 2:

Amount of documented network savings:	\$30,000,000
Guaranteed network savings (33,047 employees x \$73.37 x 12 mos.):	\$29,095,901
Additional network savings available to fund service fees:	\$904,099
Additional service fees paid to Aetna:	\$472,410

Example 3:

Amount of documented network savings:	\$29,300,000
Guaranteed network savings (33,047 employees x \$73.37 x 12 mos.):	\$29,095,901
Additional network savings available to fund service fees:	\$204,099
Additional service fees paid to Aetna:	\$204,099

Example 4:

Amount of documented network savings:	\$29,100,000
Guaranteed network savings (33,047 employees x \$73.37 x 12 mos.):	\$29,095,901
Additional network savings available to fund service fees:	\$4,099
Additional service fees paid to Aetna:	\$4,099

Example 5:

Amount of documented network savings:	\$29,000,000
Guaranteed network savings (33,047 employees x \$73.37 x 12 mos.):	\$29,095,901
Additional network savings available to fund service fees:	\$0
Additional service fees paid to Aetna:	\$0

Assumptions (Examples 6-10):

- 5,400 active employees enrolled in medical and DVA
- 28,500 retirees enrolled in medical
- 18,024 retirees enrolled in DVA

- \$13,390,587 Regular Monthly Billed Service Fees July 1, 2004 through June 30, 2005
- \$13,883,881 Maximum Service Fees due July 1, 2004 through June 30, 2005
- \$493,294 Maximum additional Service Fees due

Example 6:

Amount of documented network savings:	\$32,000,000
Guaranteed network savings (33,900 employees x \$73.37 x 12 mos.):	\$29,846,916
Additional network savings available to fund service fees:	\$2,153,084
Additional service fees paid to Aetna:	\$493,294

Example 7:

Amount of documented network savings:	\$31,000,000
Guaranteed network savings (33,900 employees x \$73.37 x 12 mos.):	\$29,846,916
Additional network savings available to fund service fees:	\$1,153,084
Additional service fees paid to Aetna:	\$493,294

Example 8:

Amount of documented network savings:	\$30,200,000
Guaranteed network savings (33,900 employees x \$73.37 x 12 mos.):	\$29,846,916
Additional network savings available to fund service fees:	\$353,084
Additional service fees paid to Aetna:	\$353,084

Example 9:

Amount of documented network savings:	\$30,000,000
Guaranteed network savings (33,900 employees x \$73.37 x 12 mos.):	\$29,846,916
Additional network savings available to fund service fees:	\$153,084
Additional service fees paid to Aetna:	\$153,084

Example 10:

Amount of documented network savings:	\$29,000,000
Guaranteed network savings (33,900 employees x \$73.37 x 12 mos.):	\$29,846,916
Additional network savings available to fund service fees:	\$0
Additional service fees paid to Aetna:	\$0

Network Discount Savings – Verification and Reconciliation

To assist the State of Alaska in the Network Saving Verification and reconciliation process, AETNA shall furnish to the State or others as designated by the State, a triangulation report of network savings by month for its combined Active and Retiree Plan Participants. The reporting time period of the triangulation report shall correspond to that used in the State's Annual Financial Accounting. The reporting definition of Network Discount Savings used in this triangulation report shall correspond to that contained in this exhibit. There shall be no charge for the triangulation report to the State provided the frequency of the report request is no greater than (3) times during the current Contract Year. Data needs beyond the triangulation report that may be deemed necessary by the State for the Network Savings Verification and Reconciliation will be addressed as agreed upon by both parties.

Attachment A, Custom Services and Additional Services (Direct Charges) is amended to read:

Custom Services

- Claim fiduciary – this charge is for potential litigation related to non-ERISA groups and assumes there is a clear contractual distinction that the State is the claim fiduciary.
- Occupancy charge for Juneau and Anchorage offices.
- Medical Management, including Patient Management
- National Accounts Aetna Integrated Informatics program (50 hours of consulting time)
- Custom ID cards
- Welcome kits for new members only
- Website creation and maintenance
- Vendor fees for Magellan Behavioral Health and VSP
- Informed Health Line

Additional Services (Direct Charges)

The Administrative Fees exclude provision for certain additional services which may be requested by the State and any non-recurring charges. These services include, but are not limited to:

- Printing expenses and postage
- Processing of additions/changes in benefit plans
- Plan revision activity and restructure charges
- Special claim analysis and financial experience monitoring reports
- Custom reports
- Aetna Integrated Informatics consulting time in excess of 50 hours
- Non-standard eligibility charges
- Customized claim and enrollment forms
- Medical conversion charges
- Late payment charges
- Late wire charges
- Aetna Pharmacy Management Direct Member Reimbursement (DMR surcharges)
- Informed Health Line Handbooks
- Claim payments submitted by VSP
- Individual Billing & Administration charges (installation or restructure fees, HIPAA Certification Notices, specialized services)
- Long Term Care medical underwriting charges

Charges for additional services anticipated to exceed \$3,000 per quarter (\$12,000 annually) will be directly billed as the services are rendered.

The guaranteed service fees exclude provision for non-standard/direct charges that may be requested by the State (other than specified above). To the extent the estimated cost of an additional service is greater than \$1,000, AETNA will provide the State with documentation of these non-standard service requests to apprise the State of the additional cost and obtain the State's approval to proceed with providing these services. The charge(s) for these additional services will be direct billed during the contract period.

Additional direct charges not collected during the year will be reconciled in conjunction with the year end accounting and may result in an adjustment to the final administration charge.

The following Exhibit L, Rebate Guarantee is added to the Administrative Services Contract.

EXHIBIT L Rebate Guarantee

Rebate Guarantee: For the period from July 1, 2004 through June 30, 2005 ("guarantee period"), AETNA guarantees to the State of Alaska a return of \$2,000,000 subject to the terms and conditions of this document. The mature rebate payable to the State for purposes of this guarantee will be realized no later than 10 months following the end of the guarantee period. The State will make an adjustment to their service fee bill in the amount of \$166,666.67 each month.

Conditions of Guarantee: The following conditions apply to this guarantee:

- This guarantee only applies to the managed pharmacy claims dispensed during the guarantee period and will remain in force during the July 1, 2004 through June 30, 2005 Contract Year.
- AETNA reserves the right to make appropriate changes to this guarantee if there are any changes to the current or proposed benefit plans and plan design (we have assumed dual copay and coinsurance plan designs), if there are significant changes in the population (i.e. geographic, demographic, or eligible mix), if there exists movement of a significant drug from a brand to a generic status, or if there is a change in government laws or regulations which have a significant impact on pharmacy claim costs.
- A total of 33,047 employees are expected to be enrolled in the APM product. A change of greater than 15% of this enrollment may allow AETNA to revisit the structure or conditions of this guarantee. A change of greater than 50% of this enrollment may allow AETNA to revoke this guarantee.

- Scripts, excluding rejects/denials, of 29.4 per employee per year are projected for the guarantee period. Should actual scripts be +/- 15% from this assumption, this guarantee may be revised or adjusted.
- AETNA reserves the right to terminate this guarantee prior to the end of any Contract Year for which it is offered if (a) there is legal, legislative or regulatory action that materially affects or could affect the manner in which AETNA conducts its rebate program, (b) material manufacturer volume discount contracts with AETNA are terminated or modified in whole or in part, (c) the rebates actually received under material manufacturer volume discount contract is less than the level of rebates assumed in the contracts by AETNA for the applicable Contract Year.
- If (a) the State terminates the Agreement prior to the date the APM rebate check is issued, or (b) the Agreement is terminated by AETNA for State's failure to meet its obligations to fund benefits or pay medical or pharmacy administrative fees under the Agreement, AETNA will be entitled to deduct deferred administrative fees other plan expenses due to the termination date from any rebate check due State following the termination date.
- Validation of this guarantee will be on or after we have collected 90 percent of rebates for the guarantee period, expected within 10 months following the end of the guarantee period. This is necessary due to the time lag in the drug manufacturers' invoicing process.
- The script count used to validate this guarantee will be reported using pharmacy data from AETNA's Integrated Informatics database. Scripts will exclude rejected claims or reversals/denied claims.
- If there is any legal action, law or regulation which prohibits or could prohibit the continuance of the Rebate Program or an existing law is interpreted to prohibit the program, the program and guarantee shall terminate automatically as to the state or jurisdiction of such law or regulation on the effective date of such law, regulation or interpretation.

Retiree Medical Insurance

2-8-05

The following table summarizes the monthly premium per benefit recipient since retiree medical benefits have been provided under PERS and TRS.

Time Period	Monthly Premium Per Retiree For Health Coverage	Annual Percentage Change	Average Compound Annual Increase Since FY78
2/1/76-1/31/77	\$ 34.75	--	--
2/1/77-1/31/78	57.64	66%	--
2/1/78-1/31/79	69.10	20%	20%
2/1/79-1/31/80	64.70	-6%	6%
2/1/80-1/31/81	96.34	49%	19%
2/1/81-1/31/82	96.34	0%	14%
2/1/82-1/31/83	115.61	20%	15%
2/1/83-1/31/84	156.07	35%	18%
2/1/84-1/31/85	191.85	23%	19%
2/1/85-1/31/86	168.25	-12%	14%
2/1/86-1/31/87	165.00	-2%	12%
2/1/87-1/31/88	140.25	-15%	9%
2/1/88-1/31/89	211.22	51%	13%
2/1/89-1/31/90	252.83	20%	13%
2/1/90-1/31/91	243.98	-4%	12%
2/1/91-1/31/92	243.98	0%	11%
2/1/92-1/31/93	226.90	-7%	10%
2/1/93-1/31/94	309.72	37%	11%
2/1/94-1/31/95	336.05	9%	11%
2/1/95-1/31/96	350.50	4%	11%
2/1/96-1/31/97	350.50	0%	10%
2/1/97-1/31/98	368.00	5%	10%
2/1/98-12/31/98	368.00	0%	9%
<u>1/1/99-12/31/99</u>	<u>442.00</u>	20%	10%
1/1/00-12/31/00	530.00	20%	10%
1/1/01-12/31/01	610.00	15%	10%
1/1/02-12/31/02	668.00	10%	10%
1/1/03-12/31/03	720.00	8%	10%
<u>1/1/04-12/31/04</u>	<u>806.00</u>	12%	10%

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Division of Retirement and Benefits

Merced Human Resource Consultants/Actuary

3/1/05

AMERADA

HESS

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FILE

Background Paper

**Use of the Amerada Hess
Settlement to Fund
Capital Projects**

Office of Management and Budget

02/28/05

Amerada Hess Royalty Oil Dispute and Settlement

Settlement's History

The fight with North Slope oil producers started in 1977, almost as soon as oil began to flow through the Trans-Alaska pipeline. That year the state filed a lawsuit accusing oil companies of undervaluing their oil and gas and thus denying the state the full value of its 12.5% royalty share. In 1989, the state filed claims against 15 companies for \$902 million. The dispute became known as the Amerada Hess case, named after the first company listed alphabetically in the lawsuit.¹

Royalty oil is the state's ownership share of the crude coming out of the ground. The state takes its royalty share in two ways: in-kind, which is sold to Railbelt refineries and a Fairbanks electrical utility; and in value, which is sold back to the producers and priced at the wellhead net of transportation costs. The problem came in figuring out how to value the royalty oil. The state claimed that the companies used "bookkeeping fictions and intracorporate transactions" to under value the oil at market and overstate transportation costs, which combined to artificially lower the wellhead value.² The production at issue occurred between 1977 and 1986 from the Kuparuk River and Prudhoe Bay oilfields.

The case became the longest running legal battle between the state and North Slope producers, lasting 18 years. One issue that came up early in the course of the litigation was that since 25% of royalty payments are dedicated to the Permanent Fund, earnings from settlement payments would eventually trickle into annual dividends paid out to Alaska residents. This issue was first raised in 1987 when three oil company defendants filed a lawsuit in federal district court to enjoin the Amerada Hess case from proceeding to trial in any court in Alaska. They claimed they could not receive a fair trial in Alaska because every judge and juror had a financial interest in the outcome of the case by reason of their respective annual Permanent Fund Dividends, which would be increased by any earnings derived from damages awarded to the state in Amerada Hess.³

¹ The Amerada Hess company was actually a very minor player in the case and settled out of court with the state in 1989 for \$319,000.

² "State Settles Oil Fight - \$100 Million Ends 18-Year Battle," Ralph Thomas, *Anchorage Daily News*, April 7, 1995.

³ Transmittal from Governor Heckel for SB 213, March 18, 1991.

Amerada Hess Royalty Oil Dispute and Settlement

In June 1988, the federal district court dismissed the action, ruling that the due process issue must be addressed in the state court before being asserted in the federal court. The companies appealed. In 1989, the Ninth Circuit Court of Appeals encouraged the parties to seek a legislative solution. Governor Cowper immediately introduced corrective legislation. This was ultimately passed into law (Ch 38, SLA 1989) in May 1989. Codified as AS 43.23.045 (b) Dividend Fund, it provided that:

income earned on money awarded after trial in State v. Amerada Hess, et al, 1JU-77-847 Civ. (Superior Court, First Judicial District) shall be treated in the same manner as the Alaska permanent fund except that it is not available for distribution to the (dividend) fund, and shall be annually deposited into the principal of the Alaska permanent fund.

Independently, in April of the same year the Ninth Circuit affirmed the district court's disposition, requiring the oil companies to raise the issue of disqualification in state Superior Court. The companies sought review by the U.S. Supreme Court but their petition was denied.

In October 1990, the companies filed a motion to disqualify the Alaska courts. In March 1991, Judge Carpeneti ruled that AS 43.23.045(b) removes most, but not all, of the sources of revenue flowing to the Permanent Fund dividend that created the bias. He also found that the statute failed to prevent additional monies from going to the dividend fund as a result of the so-called Amerada Hess price adjustment clauses in royalty-in-kind (RIK) contracts. He agreed with claims by the oil companies that if the state prevailed, it would result in a \$300 million judgement against refineries and the Fairbanks utility for in-kind purchases. Part of any judgement then would flow to the Permanent Fund and increase Permanent Fund Dividends (by \$10 in the first year, increasing to about \$40 in FY2015).

According to Judge Carpeneti, this failure to deal with RIK recoveries would require the Alaska court to disqualify itself. The result was another piece of legislation introduced by Governor Hickel in March of 1991 that became part of a more comprehensive rewrite of Permanent Fund statutes (19 Ch 134 SLA 1992) that included repealing AS 43.23.045(b) above. A new section was added to AS 37.13.145 Disposition of Income statute:

(d) Notwithstanding (b) of this section, income earned on money awarded in or received as a result of State v. Amerada Hess et al, 1JU-77-847 Civ. (Superior Court, First Judicial District), including settlement, summary judgement, or adjustment to a royalty-in-kind

contract that is tied to the outcome of this case, or interest earned on the money, or on the earnings of the money shall be treated in the same manner as other income of the Alaska permanent fund, except that it is not available to the dividend fund, and shall be annually deposited to the principal of the Alaska permanent fund.

One final note on the legal history: 19 Ch. 134 SLA 1992 contained a conditional repealer stating that if the Alaska Supreme Court made a final determination that "no judge or juror is disqualified from serving as a judge or juror solely because the judge or juror may qualify to receive a permanent fund dividend," subsection (d) would be repealed, i.e., earnings on the Amerada Hess principal would be added into the annual dividend calculation.

Eventually, almost all of the state's claims were settled out of court. The final piece fell into place in 1995, when the state settled an assortment of gas royalty claims against three companies—BP, Exxon, and Mobil—for the last \$100 million of about \$1 billion in total settlements. Altogether the state spent nearly \$100 million in building its legal case. Over the course of the litigation, the share of settlements deposited into the Permanent Fund totaled \$194.1 million. Realized earnings on the Amerada Hess settlement money since the first deposit in FY 92 have added another \$230.3 million to the settlement principal, which totaled \$424.4 million at the end of FY 04.

Amerada Hess Settlement

	Principal			Realized Earnings (over inflation)			Inflation-proofing			Total Settlement Principal
	Beginning	Contributions	Ending	Beginning	Additions	Ending	Beginning	Additions	Ending	
FY 1992	Inception	82,099,000	82,099,000	0	0	0	0	2,005,000	2,005,000	84,104,000
FY 1993		16,411,000	98,510,000	0	4,641,000	4,641,000	2,005,000	4,541,000	6,546,000	109,697,000
FY 1994		13,213,000	111,723,000	4,641,000	5,620,000	10,261,000	6,546,000	3,615,000	10,161,000	132,145,000
FY 1995		61,717,000	173,440,000	10,261,000	6,145,000	16,406,000	10,161,000	5,060,000	15,221,000	205,067,000
FY 1996		2,860,000	176,300,000	16,406,000	18,441,000	34,847,000	15,221,000	5,864,000	21,085,000	232,232,000
FY 1997		7,847,000	184,147,000	34,847,000	21,377,000	56,224,000	21,085,000	7,058,000	28,143,000	268,514,000
FY 1998		24,622,000	208,769,000	56,224,000	31,254,000	87,478,000	28,143,000	6,853,000	34,996,000	331,243,000
FY 1999		0	208,769,000	87,478,000	36,086,000	123,564,000	34,996,000	5,102,000	40,098,000	372,431,000
FY 2000		6,886,000	215,655,000	123,564,000	30,331,000	153,895,000	40,098,000	8,307,000	48,405,000	417,955,000
FY 2001		13,587,000	229,242,000	153,895,000	7,687,000	161,582,000	48,405,000	14,543,000	62,948,000	453,772,000
FY 2002		(35,159,000)	194,083,000	161,582,000	(23,384,000)	138,198,000	62,948,000	(5,154,000)	62,112,000	394,393,000
FY 2002		0	194,083,000	138,198,000	0	138,198,000	62,112,000	4,318,000	62,112,000	394,393,000
FY 2003		0	194,083,000	138,198,000	0	138,198,000	62,112,000	6,160,000	68,272,000	400,553,000
FY 2004		0	194,083,000	138,198,000	14,713,000	152,911,000	68,272,000	5,133,000	77,405,000	424,399,000
	Total	194,083,000		Total	152,911,000		Total	77,405,000		

Note: FY2002 reductions are the result of an audit correction of an over deposit of settlement principal and related earnings.

Legislation to Leverage Amerada Hess Settlement Earnings To Finance Capital Projects

Summary

1. Create the Alaska Capital Fund

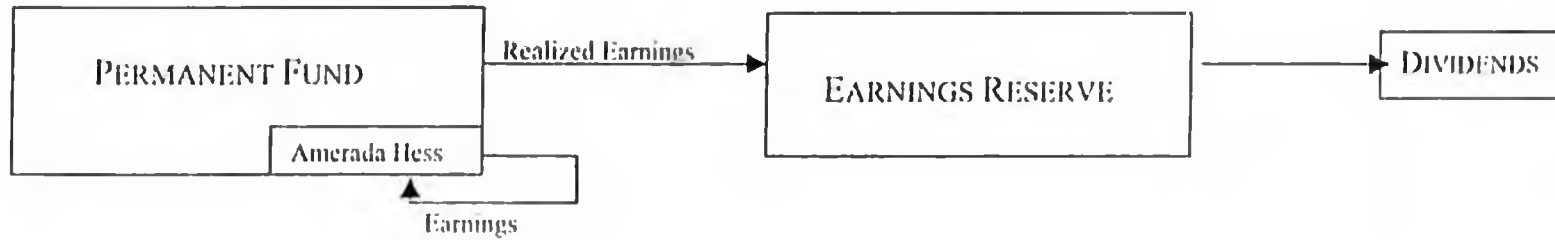
- Legislation establishes the Alaska Capital Fund
- The realized earnings off of the Amerada Hess principal (expected to be in the \$30+ million/yr. range) would be deposited into the Alaska Capital Fund.
- The Alaska Capital Fund is established within the Earnings Reserve Account of the Permanent Fund
 - ✓ The purpose of putting it in the ERA instead of the general fund is so the balance can be carried forward without being subject to the annual CBR sweep.
 - ✓ The ability to carry fund balance forward is critical to providing security of payment to Wall Street despite expected volatility of earnings.
 - ✓ The Alaska Capital Fund would be invested the same as the ERA and retain its own earnings.
 - ✓ The Alaska Capital Fund would accumulate realized earnings for 2 years, beginning in FY 05, before being drawn down to pay debt service.
 - ✓ The accumulated balance would fund reserve accounts to secure debt.
- AS 37.13.145(c) would be changed so there would be no inflation proofing of the Amerada Hess principal from the Alaska Capital Fund.
 - ◆ Changes are made to the Alaska Permanent Fund section of the FY 05 and 06 budget bills so that Amerada Hess realized earnings are deposited into the Alaska Capital Fund and Amerada Hess principal is exempt from inflation proofing.
 - ◆ The Amerada Hess portion of Permanent Fund principal would remain at \$424 million thereafter.

2. State of Alaska Capital Corporation Created

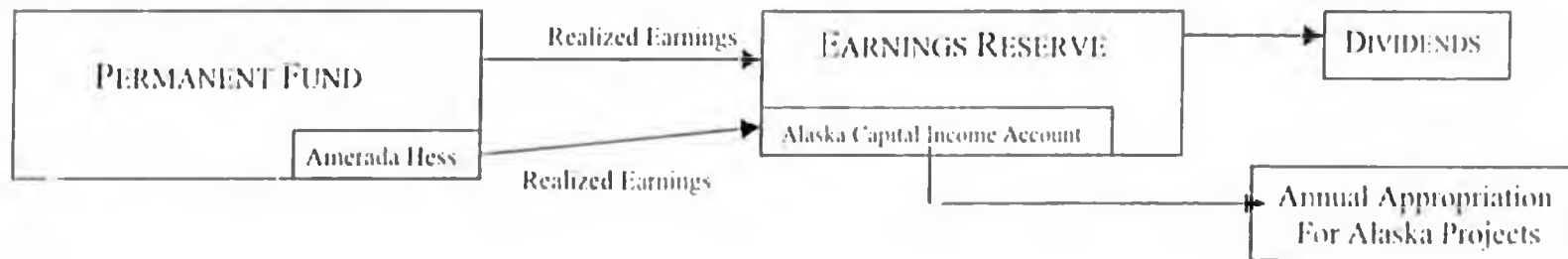
- Legislation establishes the State of Alaska Capital Corporation. The Corporation is closely linked to the Department of Revenue and State Bond Committee that would issue stand-alone moral obligation debt of the state totaling \$343 million.
 - ◆ The Alaska Capital Fund would be the source of revenue to pay debt service on bonds issued by the corporation.
 - ◆ Historically the Permanent Fund average annual earnings have been 8.94% and the ten year forecasted rate of realized return is 7.61%.
 - ◆ Modeling shows debt service may be paid with a realized rate of return as low as 5.5%, but given market volatility it is extremely important to be able to withstand short term bear markets.
 - ◆ A debt service reserve fund and an advance funded debt payment account along with the fund balance of the Alaska Capital Fund provide a high probability of an available funding source.
- Debt service on the bonds will be paid through annual legislative appropriations from the Alaska Capital Fund to the Corporation.
 - ◆ The moral obligation of the state is necessary to provide further assurance to bondholders that annual debt service payments will continue even during improbable unanticipated prolonged down market periods, when there may be low or negative Amerada Hess realized earnings paid into the Alaska Capital Fund.
 - ◆ Consultations with credit rating agencies and financial advisors have provided assurance that there will be no negative effect on the state's credit rating by issuing these bonds.
 - ◆ Investment grade ratings in the "A" range are expected on the bonds.
 - ◆ Bonds will be issued with a requirement to pay interest only with a final, theoretical principal maturity date of 20 years. Purchasers, however, understand that the actual repayment of principal will be based on Amerada Hess earnings deposited into the Alaska Capital Fund. Expectations are that the bonds will be paid off much sooner than 20 years.

ALASKA CAPITAL INCOME ACCOUNT

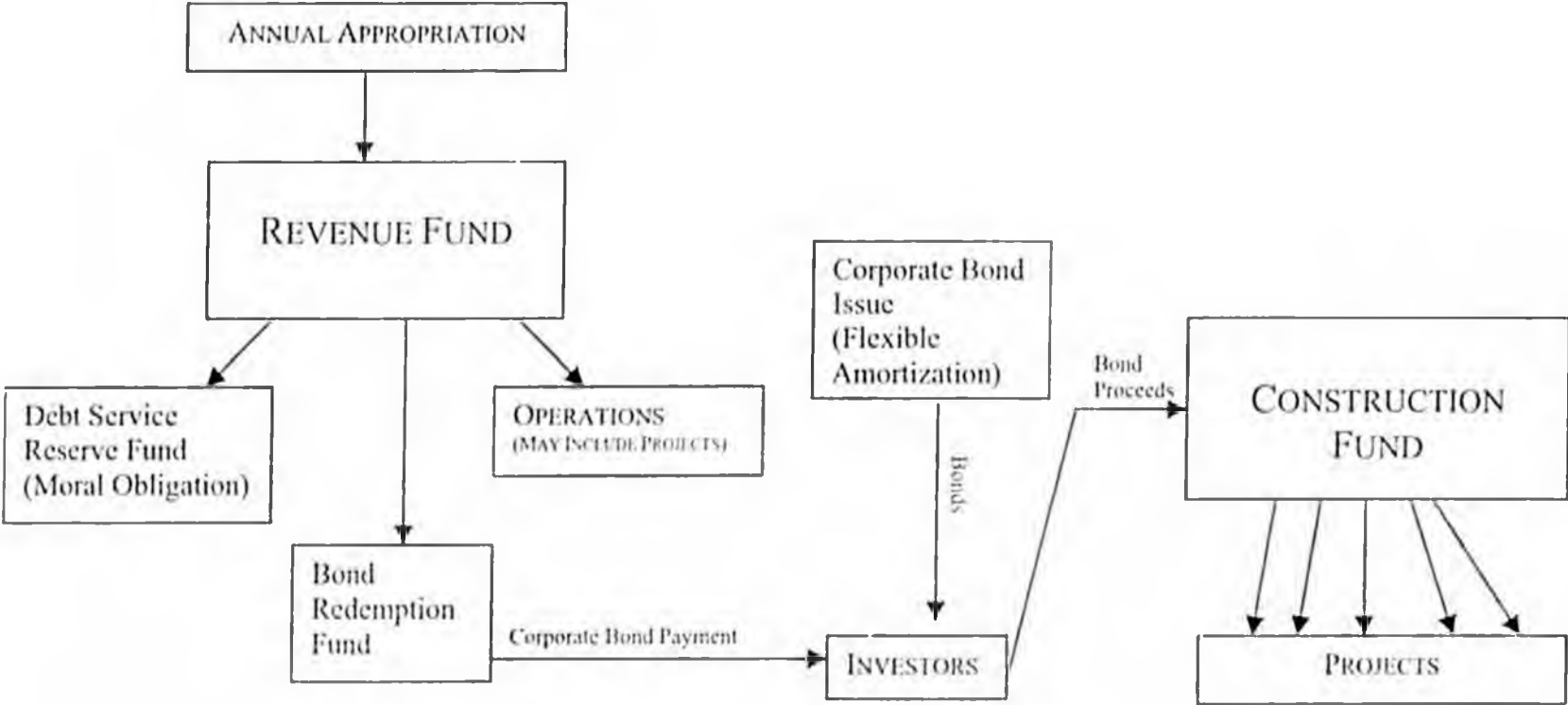
CURRENT



PROPOSED



STATE OF ALASKA CAPITAL CORPORATION



Alaska Capital Income Account

	Earnings Rate	Beginning Balance	Amerada Hess Earnings	Earnings	Transfer to SOA CC	Ending Balance			
Am Hess Principal			424,399,000						
Am Hess Transfer Rate									
Blended Rate									
2005	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2006	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2007	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2008	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2009	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2010	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2011	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2012	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2013	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2014	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2015	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2016	7.61%	-	32,296,764	1,228,891.87	33,525,656	-			
2017	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2018	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2019	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2020	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2021	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2022	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			average annualized earnings rate
2023	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			7.43%
2024	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2025	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2026	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2027	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2028	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2029	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2030	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2031	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2032	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2033	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2034	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2035	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2036	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2037	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			
2038	7.00%	-	29,707,930	1,039,777.55	30,747,708	-			

State of Alaska Capital Corporation

Revenue Fund

	Borrowing Rate	Earnings Rate	Beginning Balance	Lease Appropriation Received	Outstanding Bonds	Nominal Interest Payments	Flexible Principal Payments	Earnings on Fund Balance	Transfers In	DSRF or CF Transfers out / Operations Expense	Ending Balance
2005	6.00%	2.00%	-	33,525,656	-	-	-	-	-	-	33,525,656
2006	6.00%	2.00%	33,525,656	33,525,656	326,096,837	9,782,905	-	1,245,492	-	32,709,684	25,804,215
2007	6.00%	2.00%	25,804,215	33,525,656	326,096,837	19,565,810	20,198,250	1,852,830	-	100,000	21,318,641
2008	6.00%	2.00%	21,318,641	33,525,656	305,898,587	18,353,915	18,136,466	1,840,589	-	100,000	20,094,504
2009	6.00%	2.00%	20,094,504	33,525,656	287,762,121	17,265,727	19,088,705	1,829,597	-	100,000	18,995,324
2010	6.00%	2.00%	18,995,324	33,525,656	268,673,415	16,120,405	20,280,170	1,818,028	-	100,000	17,838,433
2011	6.00%	2.00%	17,838,433	33,525,656	248,393,245	14,903,595	21,556,900	1,805,737	-	100,000	16,609,332
2012	6.00%	2.00%	16,609,332	33,525,656	226,836,346	13,610,181	22,914,626	1,792,672	-	100,000	15,302,853
2013	6.00%	2.00%	15,302,853	33,525,656	203,921,719	12,235,303	24,357,903	1,778,785	-	100,000	13,914,088
2014	6.00%	2.00%	13,914,088	33,525,656	179,563,817	10,773,829	25,892,086	1,764,022	-	100,000	12,437,851
2015	6.00%	2.00%	12,437,851	33,525,656	153,671,731	9,220,304	27,522,899	1,748,330	-	100,000	10,868,634
2016	6.00%	2.00%	10,868,634	33,525,656	126,148,831	7,568,930	29,256,430	1,731,650	-	100,000	9,200,580
2017	6.00%	2.00%	9,200,580	30,747,708	96,892,401	5,813,544	28,321,199	1,685,858	-	100,000	7,399,403
2018	6.00%	2.00%	7,399,403	30,747,708	68,571,202	4,114,272	29,918,566	1,668,694	-	100,000	5,682,966
2019	6.00%	2.00%	5,682,966	30,747,708	38,652,637	2,319,158	31,792,357	1,979,952	32,609,684	100,000	36,808,794
2020	6.00%	2.00%	36,808,794	30,747,708	6,860,279	411,617	6,860,279	1,577,290	-	100,000	61,761,896
2021	6.00%	2.00%	61,761,896	30,747,708	-	-	-	1,244,013	-	100,000	93,653,616
2022	6.00%	2.00%	93,653,616	30,747,708	-	-	-	1,566,152	-	100,000	125,867,476
2023	6.00%	2.00%	125,867,476	30,747,708	-	-	-	1,891,544	-	100,000	158,406,728
2024	6.00%	2.00%	158,406,728	30,747,708	-	-	-	2,220,224	-	100,000	191,274,659
2025	6.00%	2.00%	191,274,659	30,747,708	-	-	-	2,552,223	-	100,000	224,474,589
2026	6.00%	2.00%	224,474,589	30,747,708	-	-	-	2,887,576	-	100,000	258,009,873
2027	6.00%	2.00%	258,009,873	30,747,708	-	-	-	3,226,316	-	100,000	291,883,896
2028	6.00%	2.00%	291,883,896	30,747,708	-	-	-	3,563,478	-	100,000	326,100,082
2029	6.00%	2.00%	326,100,082	30,747,708	-	-	-	3,914,096	-	100,000	360,661,885
2030	6.00%	2.00%	360,661,885	30,747,708	-	-	-	4,263,205	-	100,000	395,572,798
2031	6.00%	2.00%	395,572,798	30,747,708	-	-	-	4,615,841	-	100,000	430,836,346
2032	6.00%	2.00%	430,836,346	30,747,708	-	-	-	4,972,038	-	100,000	466,456,091
2033	6.00%	2.00%	466,456,091	30,747,708	-	-	-	5,331,833	-	100,000	502,435,632
2034	6.00%	2.00%	502,435,632	30,747,708	-	-	-	5,695,253	-	100,000	538,778,603
2035	6.00%	2.00%	538,778,603	30,747,708	-	-	-	6,062,361	-	100,000	575,488,674
2036	6.00%	2.00%	575,488,674	30,747,708	-	-	-	6,433,173	-	100,000	612,569,555
2037	6.00%	2.00%	612,569,555	30,747,708	-	-	-	6,807,727	-	100,000	650,024,989
2038	6.00%	2.00%	650,024,989	30,747,708	-	-	-	7,186,065	-	100,000	687,850,761

State of Alaska Capital Corporation							
Reserve Fund							
	Earnings Rate	Beginning Balance	Additional Contributions	Earnings on Fund Balance	Earnings Transfer Out	Termination of Reserve	Ending Balance
2005	4.00%	-				-	-
2006	4.00%	-	32,609,684	652,194	652,194	-	32,609,684
2007	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2008	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2009	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2010	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2011	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2012	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2013	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2014	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2015	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2016	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2017	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2018	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2019	4.00%	32,609,684		1,304,387	1,304,387	-	32,609,684
2020	4.00%	32,609,684		652,194	652,194	32,609,684	-
2021	4.00%	-		-	-	-	-
2022	4.00%	-		-	-	-	-
2023	4.00%	-		-	-	-	-
2024	4.00%	-		-	-	-	-
2025	4.00%	-		-	-	-	-
2026	4.00%	-		-	-	-	-
2027	4.00%	-		-	-	-	-
2028	4.00%	-		-	-	-	-
2029	4.00%	-		-	-	-	-
2030	4.00%	-		-	-	-	-
2031	4.00%	-		-	-	-	-
2032	4.00%	-		-	-	-	-
2033	4.00%	-		-	-	-	-
2034	4.00%	-		-	-	-	-
2035	4.00%	-		-	-	-	-
2036	4.00%	-		-	-	-	-
2037	4.00%	-		-	-	-	-
2038	4.00%	-		-	-	-	-

State of Alaska Capital Corporation

Construction Fund

Run Solver to force cell g38 to equal zero by changing cell d6.

	Earnings Rate	Beginning Balance	Bond Proceeds /Transfers	Earnings on Fund Balance	Project Cash Flow	Ending Balance				
2005	3.00%	-		-		-				
2006	3.00%	-	326,096,837	9,625,031	20,150,000	315,571,868				
2007	3.00%	315,571,868		3,458,439	88,467,690	230,562,617				
2008	3.00%	230,562,617		1,221,338	84,694,733	148,089,222				
2009	3.00%	148,089,222		822,628	94,070,000	54,841,850				
2010	3.00%	54,841,850		445,650	25,577,500	29,710,000				
2011	3.00%	29,710,000		375,000	5,085,000	25,000,000				
2012	3.00%	25,000,000		0	25,000,000	0				
2013	3.00%	0		0		0				
2014	3.00%	0		0		0				
2015	3.00%	0		0		0				
2016	3.00%	0		0		0				
2017	3.00%	0		0		0				
2018	3.00%	0		0		0				
2019	3.00%	0		0		0				
2020	3.00%	0		0		0				
2021	3.00%	0		0		0				
2022	3.00%	0		0		0				
2023	3.00%	0		0		0				
2024	3.00%	0		0		0				
2025	3.00%	0		0		0				
2026	3.00%	0		0		0				
2027	3.00%	0		0		0				
2028	3.00%	0		0		0				
2029	3.00%	0		0		0				
2030	3.00%	0		0		0				
2031	3.00%	0		0		0				
2032	3.00%	0		0		0				
2033	3.00%	0		0		0				
2034	3.00%	0		0		0				
2035	3.00%	0		0		0				
2036	3.00%	0		0		0				
2037	3.00%	0		0		0				
2038	3.00%	0		0		0				
										343,044,923.00

Cheryl Frasca
Re: Repeal of *Amerada Hess* earning sequestration
requirement in AS 37.13.145(d)

January 28, 2005

MEMORANDUM

State of Alaska
Department of Law

To: Cheryl Frasca
Office of the Governor

Date: January 28, 2005

From: Wilson L. Condon
Assistant Attorney General
Oil, Gas & Mining-Anchorage

Tel. No.: 269-5255

File No.: N/A

Re: Repeal of *Amerada Hess*
earning sequestration
requirement in AS 37.13.145(d)

I. INTRODUCTION

In 1991 the legislature enacted the current version of AS 37.13.145(d) as part of provisions governing management of the Alaska Permanent Fund Corporation ("APFC"). The statute imposes a financial sequestration requirement on earnings from settlement proceeds received by the State in ANS Royalty Litigation, commonly known as the *Amerada Hess* ("*AmHess*") litigation. In relevant part, AS 37.13.145(d) requires that:

[I]ncome earned on money awarded in or received as a result of State v. *Amerada Hess*, et al., IJU-77-847 Civ. (Superior Court, First Judicial District), including settlement, summary judgment, or adjustment to a royalty-in-kind contract that is tied to the outcome of this case, or interest earned on the money, or on the earnings of the money . . . is not available for distribution to the dividend fund, and shall be annually deposited into the principal of the Alaska permanent fund.

The legislature adopted the statute in order to negate an argument advanced by producers during the *AmHess* litigation that no Alaska judge or juror could be impartial in the adjudication of the matter because they had a financial stake in the outcome. According to the producers, any judgment returned would ultimately be deposited into the Alaska Permanent Fund, affecting the size of the annual Permanent Fund Dividend ("PFD").

Cheryl Frasca
Re: Repeal of *Amerada Hess* earning sequestration
requirement in AS 37.13.145(d)

January 28, 2005

All issues in the *AmHess* litigation were concluded and the case dismissed in 1995. Since the statute was adopted, the APFC has always used a separate sub-account to isolate any *AmHess* proceeds and the income earned on those proceeds. This sub-account is part of the principal account of the permanent fund. The purpose of the sub-account is: (1) to ensure that *AmHess* earnings are not included in the amount from which the PFD is annually paid; and (2) to track the amount to be transferred annually from the Fund's realized earnings account to Fund principal, and thereafter be allocated to the *AmHess* sub-account. Presently, no additional *AmHess* litigation proceeds are due from the producers, but annual earnings allocations and adjustments continue to be handled in conformity with AS 37.13.145(d).

II. QUESTIONS PRESENTED

1. Can the legislature repeal AS 37.13.145 at this time?

III. SHORT ANSWER

1. Yes, the legislature has authority under the provisions of AS 37.13.145. However, the bias challenge raised by the producers in *AmHess* is one that is capable of repetition in future litigation. Most likely, it would be raised again.¹ Therefore, repeal of AS 37.13.145 may undermine the State's position in future litigation that Alaska judges and jurors are not financially impacted by litigation proceeds. The producers will argue that an agreement by the State to segregate future litigation proceeds is illusory. They will contend that any segregation requirement will eventually be repealed, and the money thereafter commingled with PFD funds. Thus, under their argument, judges and jurors will retain an expectation of recovery from the proceeds in the matter before them, thereby requiring their disqualification.

IV. DISCUSSION

As long as there are no contractual promises enforceable under the federal Contract Clause,² a valid general act may effectively repeal or supersede the provisions of a prior

¹ This is so because the disqualification issue was never fully litigated on the merits through appeal in either the state or federal litigation arising out of *Hess*.

² U.S. Const. art. 1, § 10, cl. 2 ("[n]o State shall . . . pass any . . . Law impairing the Obligation of Contracts.").

Cheryl Frasca

January 28, 2005

Re: Repeal of *Amerada Hess* earning sequestration
requirement in AS 37.13.145(d)

act.³ Here, there is no contractual promise with the *AmHess* parties to maintain a sequestration requirement for any fixed period of time, or indefinitely. No judicial order mandates the treatment. The reasons prompting enactment of the provision became moot when all issues in the case were settled in 1995. Thus, as a legal matter, the legislature is presently free to repeal the sequestration requirements of AS 37.13.145(d).

In practical terms, repeal of AS 37.13.145(d) would mean that the annual realized income of the Fund would be increased by the amount earned from approximately \$400 million of assets. Under the current distribution formula, this means that the amount of the annual PFD would be increased as a result of inclusion of *AmHess* proceeds in "the amount available for distribution to the dividend fund."⁴ The *AmHess* judges and potential jurors will now belatedly realize larger PFDs from repeal of the provision.

Although no legal obstacle impedes repeal of AS 37.13.145(d), the legislature may care to balance the benefits of such repeal versus the potential negative consequences. In the benefit column, there will be fairly insubstantial savings of APFD accounting time and bookkeeping entries isolating the funds and the earnings on those funds. Also in the benefit column, there will be an increased annual PFD available for all Alaskans. In the negative column, the legislature may have furnished the producers an evidentiary basis to argue in future litigation that "we all know that proceeds of this lawsuit will eventually find their way into the PFD, and therefore, no Alaskan judge or juror can be impartial."

I cannot say that a future state or federal court would entertain such an argument based on a one-time incidence of repeal. It is even more tenuous to suggest, as the producers would, that Alaskan judges and jurors follow the requirements of PFD accounting so closely to know of the repeal of AS 37.13.145(d). However, it may unnecessarily complicate future litigation. Therefore, in the absence of a more compelling justification for repeal than I currently see, I would counsel leaving the statute on the books.

WLC:AMP:cb

³ *State v. Lewis*, 559 P.2d 630 (Alaska 1977), cert. denied, 432 U.S. 901.

⁴ AS 37.13.145(d).

Frequently Asked Questions About the Amerada Hess Capital Project Financing Proposal

1. Why issue debt instead of paying cash from the projected surplus?

The rationale for issuing debt instead of paying cash for projects is that both current and future users will pay the cost while enjoying the useful life of the facilities.

2. How will the settlement's earnings translate into money to fund state capital projects?

Each year the settlement is estimated to earn \$30 million, which is expected to be enough to pay the debt service on \$340 million in bond proceeds. The Governor's FY 06 capital budget proposes to use these bond proceeds to pay for a number of capital projects—from road construction to taking care of some of the deferred maintenance needs in state facilities and parks.

3. Why are you proposing the Alaska Capital Fund and State of Alaska Capital Corporation be created to sell these bonds? Why doesn't the State just sell limited liability moral obligation bonds itself?

The main consideration in utilizing a public corporation to issue bonds is to separate it from state general fund indebtedness. One major benefit is to preserve the state's own debt capacity for potential equity ownership in the gasline.

4. Won't this reduce my Permanent Fund dividend?

No it will not. State law specifically excludes the interest earned from this settlement from being used in the calculation of the annual dividend amount. Right now the only role these earnings have played is to grow the size of the settlement from an original deposit of \$82.1 million in FY 92 to \$424.4 million in FY 04.

5. We have been told that the State's credit ratings will be downgraded if it tries to sell bonds before recurring revenues match recurring expenditures. Since the State still doesn't have a fiscal plan, won't this issuance result in a downgrade?

Consultations with rating agencies have provided assurance that these bonds can be structured to have no negative effect on the state's credit ratings. The bond proposal will be structured as self-supporting debt through the use of a new revenue source – Amerada Hess realized earnings.

6. **How would this proposal fit with the POMV constitutional amendment proposal that would annually pay out a percentage of the market value of the Permanent Fund?**

Two possibilities are: 1) Exclude the \$424 million Amerada Hess principal from the market value of the Permanent Fund in the POMV calculation; 2) Repeal the Alaska Capital Fund sub-account in the earnings reserve and fund debt service of the Alaska Capital Corporation from the POMV payout stream.

7. **Since you're taking interest earned by a settlement that is part of the Permanent Fund to pay debt service, couldn't you instead use those revenues to increase dividend checks?**

Amerada Hess realized net income is specifically excluded by statute from the annual dividend calculation. Legislation would have to be passed to change this. The marginal difference in the individual dividend by including Amerada Hess income would amount to about \$10 in the first year, increasing gradually over the next 11 years to about \$40 in FY 2015.

8. **Isn't this the "camel's nose under the tent" prelude to spending Permanent Fund earnings for purposes other than dividends and inflation proofing?**

No, because this proposal is limited to earnings on the Amerada Hess principal, which currently does not contribute to dividends or inflation proofing.

9. **What will happen if the Permanent Fund experiences several more bad investment years? Will the revenues be sufficient to pay debt service on these bonds? If not, how will the debt service be paid?**

The Alaska Capital Fund, out of which debt service payments will be made, will have a balance sufficient to cover 2+ years worth of debt service payments. Historically the Permanent Fund average annual earnings have been 8.94% and the ten-year forecasted rate of realized return is 7.61%. Projections show debt service may be paid with an average realized rate of return as low as 5.5%, but given market volatility it is extremely important to be able to withstand short term bear markets.

The bonds will be structured with an interest only debt service schedule with flexibility in repayment of principal, as earnings allow, to accommodate down market years. A final maturity will include all principal due, although it is anticipated that all bonds will be paid off much sooner. In the event earnings were low for an extended period of time, the bonds would be refinanced prior to the final payment to extend

the payment schedule. This flexibility will be further enhanced through implementation of a debt service reserve fund and an advance funded debt payment account. When combined with an anticipated residual fund balance in the Alaska Capital Fund, these structural and credit features provide a high probability of an available funding source to pay the debt service. In the unlikely event that all these precautions fail, the state then would have a moral obligation to make up any shortfall with general funds.

10. How does this proposal square with the Governor's promise to not touch the Permanent Fund without a public vote?

The general public will not be affected by this proposal at all since Amerada Hess earnings do not figure into dividends. There will be a public benefit from the capital projects financed from this source.

The following Capital Projects are proposed for
FY 06 funding by the Alaska Capital Fund

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Administration

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Public Building Facilities Projects	2000 Bond Funds	\$6,902,000
AP Maintenance Projects for Facilities Outside the Public Building Fund	2000 Bond Funds	\$3,098,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$10,000,000
	Department Total:	\$10,000,000

Department of Commerce, Community, and Economic Development

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Energy Projects	2000 Bond Funds	\$250,000
AP City of Unalaska - Boat Harbor	2000 Bond Funds	\$2,000,000
AP Tongass Coast Aquarium, Inc.	2000 Bond Funds	\$100,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$2,350,000
	Department Total:	\$2,350,000

Department of Corrections

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Institution Closed Circuit TV System Recording	2000 Bond Funds	\$2,500,000
AP Deferred Maintenance, Repair, and Renovations	2000 Bond Funds	\$8,000,000
AP Statewide Equipment Replacement	2000 Bond Funds	\$450,000
AP Community Jails Life, Safety and Security Renovations and Miscellaneous Equipment	2000 Bond Funds	\$100,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$11,050,000
	Department Total:	\$11,050,000

* Indicates an appropriation with allocations (amounts not included in totals)

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Fish and Game

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
AP Deferred Maintenance Facilities	2000	Bond Funds	\$400,000
AP Fairbanks Infrastructure Renewal and Replacement Upgrades	2000	Bond Funds	\$200,000
AP Vessel and Aircraft Repair and Maintenance	2000	Bond Funds	\$278,500
AP DIDSON Sonar Equipment Purchase	2000	Bond Funds	\$500,000
AP Westward Region Chignik Weir Improvements and Repairs	2000	Bond Funds	\$121,500
General Fund Total:			0
Federal Total:			0
Other Total:			\$1,500,000
Department Total:			\$1,500,000

Office of the Governor

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
AP Governor's House Maintenance	2000	Bond Funds	\$100,000
General Fund Total:			0
Federal Total:			0
Other Total:			\$100,000
Department Total:			\$100,000

Department of Health and Social Services

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
AP MH Crisis Treatment Facility - Phase 2	2001	Bonds MH	\$2,500,000
AP Bethel Youth Facility Security Improvements	2000	Bond Funds	\$233,900
AP Anchorage Pioneer Home Emergency Generator Replacement	2000	Bond Funds	\$600,000
AP Juneau Pioneer Home Roof Replacement	2000	Bond Funds	\$1,000,000
AP Deferred Maintenance, Renovation, Repair and Equipment	2000	Bond Funds	\$1,500,000
AP Pioneer's Homes Deferred Maintenance, Renovation, Repair and Equipment	2000	Bond Funds	\$2,500,000
AP Emergency Medical Services Ambulances and Equipment - Statewide - Match for Code Blue Project	2000	Bond Funds	\$425,000

* Indicates an appropriation with allocations (amounts not included in totals)

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Health and Social Services

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Juvenile Offender Management Information System Software Upgrade	2000 Bond Funds	\$325,000
AP MH: Alaska Psychiatric Institute Automation Project	2001 Bonds MH	\$674,200
AP Senior Centers Deferred Maintenance, Construction, Renovation, Expansion and Equipment	2000 Bond Funds	\$1,000,000
AP MH: Deferred Maintenance and Accessibility Improvements	2001 Bonds MH	\$150,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$10,908,100
	Department Total:	\$10,908,100

Department of Labor and Workforce Development

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Alaska Vocational Technical Center Deferred Maintenance	2000 Bond Funds	\$2,500,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$2,500,000
	Department Total:	\$2,500,000

Department of Law

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Management Information System	2000 Bond Funds	\$1,000,000
	General Fund Total:	0
	Federal Total:	0
	Other Total:	\$1,000,000
	Department Total:	\$1,000,000

Department of Military and Veterans Affairs

<u>AP/AL Project Title</u>		<u>Fund Source Total</u>
AP Anchorage Army Expansion	2000 Bond Funds	\$500,000
AP Military Youth Academy Joint Facility Renovation and Repair	2000 Bond Funds	\$276,000

* Indicates an appropriation with allocations (amounts not included in totals)

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Military and Veterans Affairs

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Army Guard Deferred Maintenance, Renewal, and Replacement	
	2000 Bond Funds \$500,000
	General Fund Total: 0
	Federal Total: 0
	Other Total: \$1,276,900
	Department Total: \$1,276,900

Department of Natural Resources

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP State Park Emergency Repairs	
	2000 Bond Funds \$400,000
AP Forestry Buildings Repairs to Correct Fire and Life Safety Deficiencies Phase 2	
	2000 Bond Funds \$276,400
AP Forestry Area Offices Hazmat Storage Facilities	
	2000 Bond Funds \$90,000
AP State Park Deferred Maintenance	
	2000 Bond Funds \$300,000
AP Fire Suppression Engine and Truck Replacements	
	2000 Bond Funds \$400,000
AP Replace Forestry Trailers at Copper River and Delta	
	2000 Bond Funds \$233,600
AP Rehabilitation of Anchor Point Campgrounds for Private Operations	
	2000 Bond Funds \$150,000
AP Byers Lake Campground Rehabilitation	
	2000 Bond Funds \$100,000
AP Nancy Lake Campground Rehabilitation	
	2000 Bond Funds \$300,000
AP Harding Lake Campground Rehabilitation	
	2000 Bond Funds \$200,000
	General Fund Total: 0
	Federal Total: 0
	Other Total: \$2,450,000
	Department Total: \$2,450,000

Department of Public Safety

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Firefighting Engines and Equipment	
	2000 Bond Funds \$500,000
AP Statewide Facilities Maintenance	
	2000 Bond Funds \$718,500

* Indicates an appropriation with allocations (amounts not included in totals)

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Public Safety

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
AP Electronic Fingerprint Services-Live Scan	2000	Bond Funds	\$465,000
AP Aircraft and Vessel Repair and Maintenance	2000	Bond Funds	\$2,314,300
AP Law Enforcement Equipment Replacement	2000	Bond Funds	\$1,177,100
AP Live Burn Building at Fairbanks Fire Training Center	200J	Bond Funds	\$150,000
AP Burn Panel Installation at Juneau Fire Training Center	2000	Bond Funds	\$150,000
	General Fund Total:		0
	Federal Total:		0
	Other Total:		\$5,475,200
	Department Total:		\$5,475,200

Department of Transportation and Public Facilities

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
* AP Governor's Transportation Initiative	2000	Bond Funds	\$108,000,000
AL Anchorage Mid-Town Congestion and Truck Route Improvements	2000	Bond Funds	\$29,000,000
AL Glenn Highway Corridor	2000	Bond Funds	\$30,500,000
AL Kenai Peninsula Kalifornsky Beach Road Rehabilitation	2000	Bond Funds	\$11,000,000
AL Mat-Su Congestion Improvements	2000	Bond Funds	\$21,000,000
AL Richardson Highway Passing Lanes Segments	2000	Bond Funds	\$5,000,000
AL Fairbanks University Avenue-Gust-Johansen Intersection Improvements	2000	Bond Funds	\$3,500,000
AL Cordova Copper River Highway Rehabilitation	2000	Bond Funds	\$4,000,000
AL McCarthy Road Major Maintenance	2000	Bond Funds	\$2,000,000
AL Seward Road Improvements AFD to B	2000	Bond Funds	\$5,000,000
* AP Governor's Transportation Access to Resources Initiative	2000	Bond Funds	\$37,000,000
AL Richardson Highway Shaw Creek Bridge	2000	Bond Funds	\$2,500,000
AL Elrod Highway Wainwright Creek Bridge Replaced for Gas Pipeline	2000	Bond Funds	\$3,500,000

* Indicates an appropriation with allocations (amounts not included in totals)

**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Transportation and Public Facilities

<u>AP/AL Project Title</u>			<u>Fund Source Total</u>
AL Fairbanks: Richardson Highway - Northbound Chena Overflow Bridge for Gas Pipeline	2000	Bond Funds	\$11,000,000
AL DeLong Mountain: Port Expansion EIS Completion	2000	Bond Funds	\$2,000,000
AL North Slope: Foothills West Road EIS	2000	Bond Funds	\$4,000,000
AL North Slope: Bullen Point EIS	2000	Bond Funds	\$5,000,000
AL Dalton Highway: Surfacing Upgrades	2000	Bond Funds	\$9,000,000
AP Industrial Road Program	2000	Bond Funds	\$10,000,000
AP Airport Deferred Maintenance	2000	Bond Funds	\$1,500,000
AP Highway Deferred Maintenance	2000	Bond Funds	\$3,000,000
AP Facilities Deferred Maintenance and Critical Repairs	2000	Bond Funds	\$8,000,000
AP Emergency and Non-Routine Repairs	2000	Bond Funds	\$500,000
AP Alaska Marine Highway System - Vessel and Terminal Overhaul and Rehabilitation	2000	Bond Funds	\$5,500,000
AP Material Stockpiles - Dalton Highway, Glenn Highway, Richardson Highway and Tok Cutoff	2000	Bond Funds	\$600,000
AP Harbor Deferred Maintenance	2000	Bond Funds	\$3,000,000
AP Hoonah Harbor Deferred Maintenance and Transfer	2000	Bond Funds	\$3,500,000
AP Petersburg North Harbor Deferred Maintenance and Transfer	2000	Bond Funds	\$2,500,000
AP Statewide Airport Lease Lots Development	2000	Bond Funds	\$1,000,000
AP Willow Maintenance Station Replacement	2000	Bond Funds	\$350,000
AP WAN Infrastructure Upgrade	2000	Bond Funds	\$185,000
* AP Statewide Federal Programs	2000	Bond Funds	\$56,500,000
AL Federal-Aid Aviation State Match	2000	Bond Funds	\$14,500,000
AL Federal-Aid Highway State Match	2000	Bond Funds	\$42,000,000

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**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Department of Transportation and Public Facilities

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Congressional Earmarks	
	2000 Bond Funds \$15,000,000
	General Fund Total: 0
	Federal Total: 0
	Other Total: \$260,135,000
	Department Total: \$260,135,000

University of Alaska

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Strategic Land and Property Acquisitions	
	2000 Bond Funds \$2,150,000
AP Systemwide Minor Renewal and Renovation	
	2000 Bond Funds \$6,886,500
AP Integrated Science Complex	
	2000 Bond Funds \$21,600,000
	General Fund Total: 0
	Federal Total: 0
	Other Total: \$30,636,500
	Department Total: \$30,636,500

Alaska Court System

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Bethel Courthouse	
	2000 Bond Funds \$825,000

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**Project Review Listing
FY06 Governor's Capital Budget**

Multiple User Selected Fund Codes

Alaska Court System

<u>AP/AL Project Title</u>	<u>Fund Source Total</u>
AP Deferred Maintenance Projects	
	2000 Bond Funds \$300,000
	General Fund Total: 0
	Federal Total: 0
	Other Total: \$1,125,000
	Department Total: \$1,125,000

General Fund Grand Total:	0
Federal Grand Total:	0
Other Grand Total:	\$340,506,700
Grand Total:	\$340,506,700

* Indicates an appropriation with allocations (amounts not included in totals)

3/3/05

**UNIVERSITY
RESEARCH**

HFIN

FILE

Research and Development (R&D) at the University of Alaska

**Basics of R&D at UA
Evolution of our Program
Role in and for the State**

**Craig Dorman
Vice President
Academic Affairs and Research
University of Alaska Statewide System**

What drives the R&D Agenda?

Curiosity: Interests of the investigators
Reward structure of the R&D enterprise

Concern: Problems and interests of the sponsors (government, industry, philanthropy)

– E.g., Federal:

President (OSTP/NSTC/OMB)

Congress (authorization and appropriation)

Departments and Agencies: Mission oriented (e.g., DOI,

DOT, NIH), and National Strength in key areas (NSF)

All with advice from NRC

Resources: Facilities, Partnerships, but most of all

Money: He who pays asks the question

Some Dynamics of R&D in Alaska

Nationally, Industry conducts 70% of R&D,

Universities conduct 14%

In Alaska, UA conducts 55% of R&D and Industries 10%

Average State R&D Intensity = 2.5% GSP

Alaska R&D/GSP ~1%

No major federal R&D lab presence

**Our University researchers are here because they
are interested in the people, environment, and
resources of Alaska...**

BUT: They have to go Outside for funding

UA total research revenue FY04: \$138M

Good growth pattern:

- FY98: \$77M
- FY99: \$81M
- FY00: \$91M
- FY01: \$109M
- FY02: \$120M
- FY03: \$133M

Most \$ currently at UAF (90%)

Growing at all MAUs

Traditionally "academic"

Becoming more applied

University Research as an Enterprise: Total Economic Impact

• Jobs

- 2,310 Total
- 1,228 University—full and part time
- 1,082 Private

• Payroll

- \$80.3 Million--Total
- \$45.2 Million-- University
- \$35.0 Million-- Private

• Private Business Sales

- \$106.8 Million--Total
- \$42 Million—Direct Procurement
- \$64.8 Million—Indirect
- Economic Importance of University Research

UAF Funding Sources

(04 Research Expenditures - \$m)

Direct Federal		84.0
DOD	6.6	
NIH	6.7	
Interior	6.0	
Ag	5.4	
Commerce	7.9	
NASA	11.0	
NSF	22.9	
State Agencies		1.7
Direct	1.2	
From Federal	0.5	
Private (Univ, Corp, Found'n)		17.2
Direct	7.9	
Federal Indirect	9.3	
General Fund		14.4

(UAA: 6.7, 1.1, 3.0, 2.4)

**Large sums from small pieces (FY04) :
Diversity**

**986 Active Research Grants and Contracts
totaling \$466 Million**

**335 New awards annually - 118% increase
over FY99**

Legislative Performance Measures:

188 Awards in Specified Areas

297 Graduate Students Funded

318 Active Applied Research Projects

BOR Strategic Plan

Areas of Statewide Leadership

ANCHORAGE

Social, Economic Policy
Health delivery
Logistics
Community Engagement
Complexity
Finance, Business

FAIRBANKS

Biomedical Science
Engineering
Fisheries, Marine Science
Geophysics
Remote Sensing
Climate
Natural Resources
Native Languages, Culture
Arctic Research
Wildlife Biology
Energy Technology
Computational Science
Cold Regions Infrastructure

SOUTHEAST

Government
Education
Marine Biology
Environmental Technology

How are we organized for R&D?

Independent Research Units:

Geophysical Institute

Institute of Arctic Biology

International Arctic Research Center

Arctic Region Supercomputing Center

UAF Museum

R&D Units Within Schools and Colleges (examples)

Business Enterprise Institute

Institute for Social and Economic Research

Environmental and Natural Resources Institute

Center for Supply Chain Integration

Institute for Circumpolar Health Studies

Institute of Northern Engineering

Institute of Marine Science

Arctic Energy Technology Development Lab

Alaska Native Language Center

Mineral Industries Research Lab/Petroleum Development Lab

Office of Electronic Miniaturization

Agriculture and Forestry Experiment Station

Program Evolution

SJR 44 (2nd Session, 22nd Legislature)

Draft State R&D Plan (2/03)

Lead Participants: UA, NPRB, ARC, IARPC, ASTF

Objectives:

- Expand and Diversify Alaska's Economy
- Protect Health of Alaskans and Alaska's Environment
- Strengthen State Research Institutions
- Identify ways for Federal and State Governments to work together

Conclusions and Recommendations:

- **UA R&D is a valuable enterprise for Alaska in its own right, as well as a strategic tool for economic development**
- Establish mechanism for planning and Agency accountability
- Maintain excellence and build competitive capacity
- Establish monitoring networks coupled to analytical capacity
- Improve flow of information to decision makers, public

Since then (a few examples) . . .

R&D as an Enterprise:

- ISER Study
- UA Performance Based Budgeting System, ACAS, organizational changes, EPSCoR program focus, WRRB, Zerhouni/Bement visits...

R&D as a Strategic Tool

- ASTF went away – both an opportunity and a responsibility for UA
- Tech Transfer reviews, Business Enterprise Institute, Experimental Economics program, UAF Vice Chancellor for Research and Economic Development position, closer interface with A/J/F economic development groups
- Focused Federal Initiatives (e.g., Office of Electronic Miniaturization, Center for Supply Chain Integration, wood utilization, berry and fish products...)
- Transformed NSF EPSCoR Committee into State Committee on Research (SCoR) to continue the work started by SJR-44
- Governor and Cabinet meetings at UAF
- FY06 Competitive Research Initiative request and President Hamilton's State of the University speech to the Legislature on February 3 2005

Some examples of what we're already doing:

At UAF:

- Hazard Management: AVO (Eichelberger), AEIC/State Seismologist (Hansen), TWEAK (Tsumamis), extreme weather/climate (Walsh), GIN and remote sensing (ASF; Sharpton)...
- Energy: Shallow Viscous Oil and Gas and Methane Hydrate Development (Patil); Tundra Pond Pumping for Ice Roads (Hinzman); Fuel Cell development and testing (Witmer); Galena Electric Power Analysis (Johnson/Weiss w UAA Colt); pipeline studies (Huang); petrochemical development (Metz)...
- Transportation: Transportation research center (Kane); Rail routing/Army access (Metz); Automotive R&D, Infrastructure thermal protection (Goering/Raad)...
- Health: Infectious disease (Marr/Happ/Winker); obesity and diabetes (Mohat/Boyer); SIDS ; Torpor (Barnes et al); behavioral health (Mohat et al)...
- Electronic Miniaturization (Dickinson/Karulkar w/FEDC, City and Borough, Nanook Tech Accelerator...)
- Not to mention agriculture; fisheries, wildlife, art, language, space weather, ecology, the museum, climate impacts, etc etc

At UAA: Tom Case, Dean, College of Business and Public Policy

At UAS: Karen Schmitt, Dean, School of Business, Public Administration and Information Systems; and Dean School of Career Education

Next: Competitive Research Initiative Request

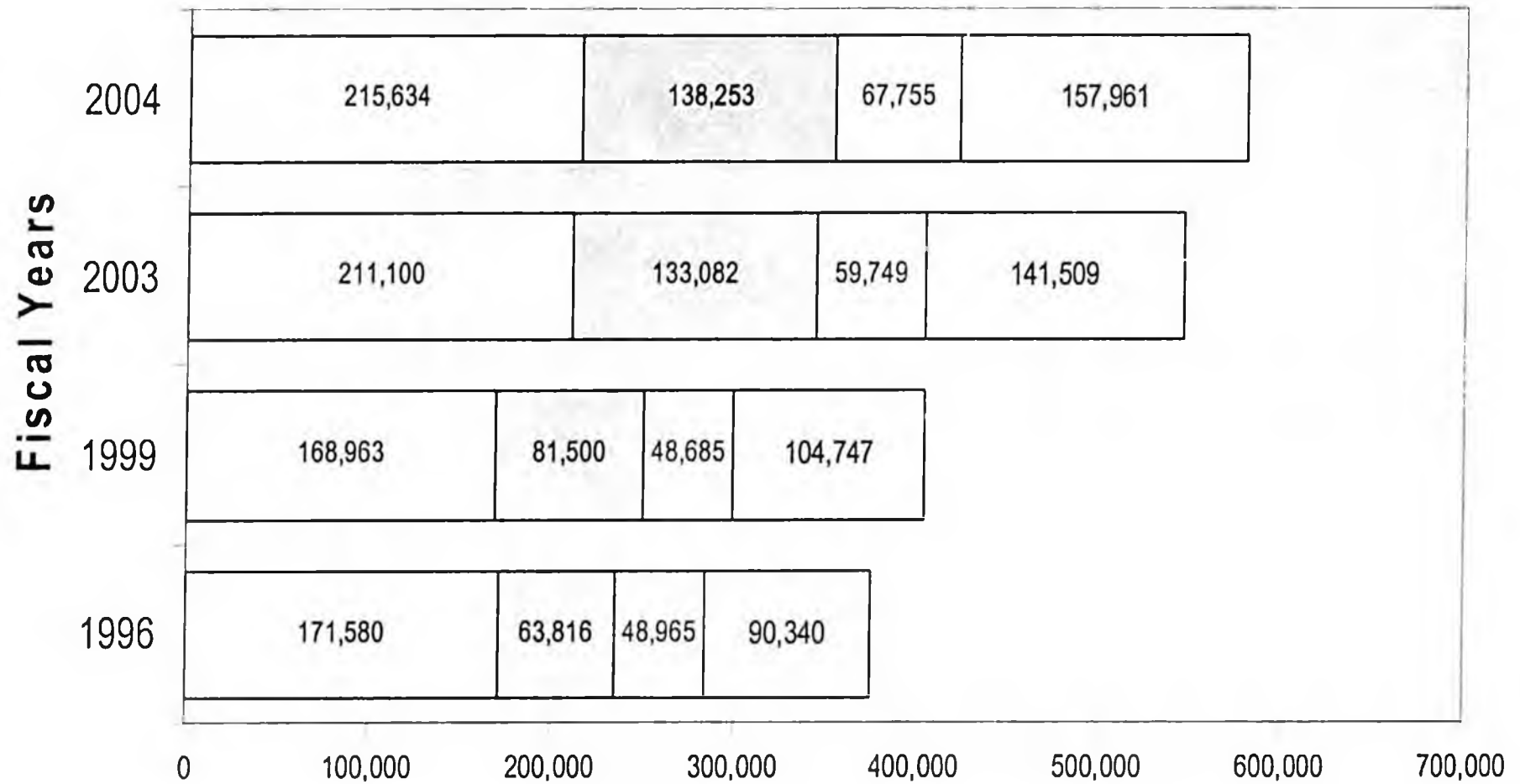
UA now invests ~8% of General Fund allocation in organized research, which we leverage at about 7-1

- Start-up, salaries, instrumentation, focused research, federal 'match'

Four ways you can help us do more for the State:

- Agency funding to address state specific mission-related issues – let state agencies 'buy the question'
- Turn to UA for advice and participation
- Support our infrastructure (capital budget) requests
- Direct augmentation of State GF for research directed to state needs
 - Cross-cutting projects and instrumentation, e.g. remote sensing and data management for resource assessment, hazard mitigation; addressing the impacts of climate change on infrastructure, ecosystems, and people; policy analysis
 - SCoR participation in prioritization as State R&D Plan evolves
 - Competitive opportunities to stimulate interest and participation
 - \$20M over 5 years – FY06 tranche \$2.5M

UA Revenue Structure by Different Sources



- State Appropriated Funds
- Externally Funded as a Result of Research
- Tuition
- Other

Thousands of Dollars

Karen Schmitt, Ph.D.

Dr. Karen Schmitt serves as the Dean for the School of Career Education and the School of Business, Public Administration & Information Systems at the University of Alaska Southeast. Dr. Schmitt has over fifteen years of experience directing education, research and outreach programs in academia and industry. In addition to her responsibilities at UAS, she is a member of several statewide UA workforce and distance education planning groups. In November 2004 Dr. Schmitt received the Leadership Award from the Alaska Association of Career and Technical Education.



COLLEGE of BUSINESS & PUBLIC POLICY



Thomas R. Case was born in 1946 in Baker, Oregon and graduated from the United States Air Force Academy in 1969 with a bachelor of science degree in geography. In 1976, he earned a master of science degree in systems management from the University of Southern California. He graduated from the National War College, Washington, D.C., in 1987 and served on the National War College faculty for two years as the Air Force Chief of Staff's Chair. In 1991, he completed Emory University's Advanced Management Program.

Gen Case completed a career of military service in July 2002 as the Deputy Commander-in-Chief and Chief of Staff, United States Pacific Command. As the second in command of a unified combatant command, he oversaw the combatant and peacetime activities of U.S. military forces of all services numbering more than 300,000 members in a geographic region covering 52 percent of the earth's surface. As Chief of Staff, he managed a staff of over 1,300 military and civilian members and a headquarters budget of \$234 million. In this capacity, he coordinated the activities of the military service components and provided direct oversight of the Asia Pacific Center for Security Studies. Gen Case had similar responsibilities while assigned to the United States Central Command, with experience in the Persian Gulf, North Africa and the Middle East.

During his prior assignment he was the senior military commander in Alaska and received the Eugene M. Zuckert Award honoring outstanding management achievements by an Air Force Manager, presented by the Secretary of the Air Force. Earlier in his career, Gen Case commanded the Third Wing at Elmendorf Air Force Base. During this period, Elmendorf won the Department of Defense Installation Excellence Award as the best managed installation of any service in the Department of Defense.

While serving at the Pentagon, Gen Case managed the Air Force's modeling, simulation, and analyses programs. He prepared and conducted the first-ever Air Force summit of senior leadership to redirect the modeling, simulation and analysis efforts Air Force-wide, leading to increased effectiveness in this vital mission area.

His flying career was primarily in fighter aircraft, logging over 4000 hours flying time in the Pacific, Europe, the Persian Gulf area, and Alaska.

Gen Case has been actively involved in community service through the Hawaii Business Roundtable, Commonwealth North, Rotary, and the Anchorage Chamber of Commerce. He has been a frequent presenter at national and international conferences and symposia.



what we do

The Marine Advisory Program provides information to Alaska's marine users on many topics such as seafood quality, business development, fisheries issues, and more through...

- Workshops and classes
- Publications and multi-media productions
- One-on-one technical assistance
- Applied research

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marine advisory program

map

Alaska Sea Grant College Program
 School of Fisheries and Ocean Sciences
 University of Alaska Fairbanks



www.uaf.edu/seagrant



www.uaf.edu/map

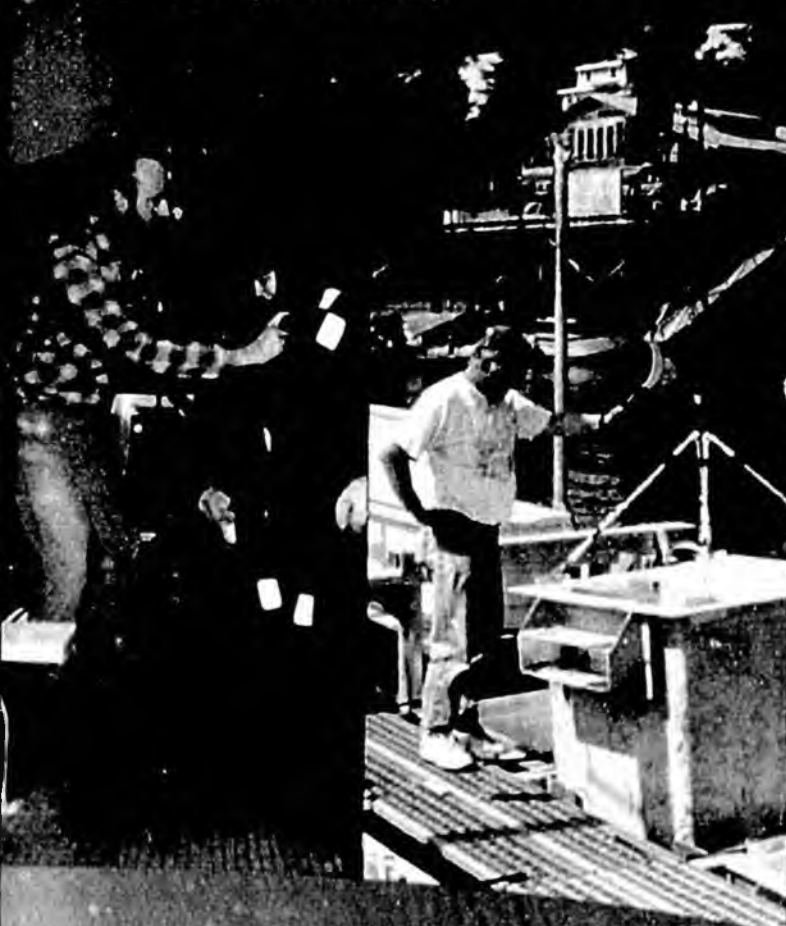


www.sfos.uaf.edu

who we are

Alaska's abundant coastal and marine resources provide food, jobs, and recreation for people inside and outside the state. No matter where an Alaska resident lives—on the coast, along a river, or inland—everyone has a vested interest in the long-term health of the state's seas and coasts.

The Marine Advisory Program (MAP) is a university-based, statewide, outreach and technical assistance program designed to help Alaskans wisely develop, use, conserve, and enjoy Alaska's marine and coastal resources. MAP faculty members and staff provide informal marine education, offer technical assistance to coastal communities related to economic development, conduct applied research and serve as a link between the University of Alaska and marine and freshwater resource users in many areas of the state not served by traditional faculty.



uaf.edu/map



how we can help

Seafood Technology

Advancing quality, safety, diversity and value of Alaska seafood products through training and publications.

Marine Safety

Working to reduce maritime injuries and fatalities in northern waters.

Business and Marketing

Offering business planning to marine businesses, fishermen and small tourism operators.

Fisheries

Supporting the understanding and development of Alaska's unique and vast resources for commercial and subsistence fisheries.

Coastal Community Development

Enhancing the economic development and stewardship of marine resources in Alaska's coastal communities.

Aquaculture

Developing shellfish production and marketing opportunities for Alaskans.

Marine Recreation

Promoting the development of the tourism and marine recreation industry in Alaska.

Marine Conservation

Increasing public awareness of marine conservation issues to enhance informed decision making.

Marine Mammals

Encourage understanding of marine mammal health and interactions through research, cooperative projects and training.

In a state as big as Alaska that is so dependent on the health of marine resources, it's critical that people have quick and easy access to information and technical assistance. MAP agents and specialists live and work in the communities they serve. The integration of MAP personnel with local communities provides for the efficient flow of information between the University of Alaska and the people.

UAF is an AWEI employer and educational institution



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marine advisory program

map

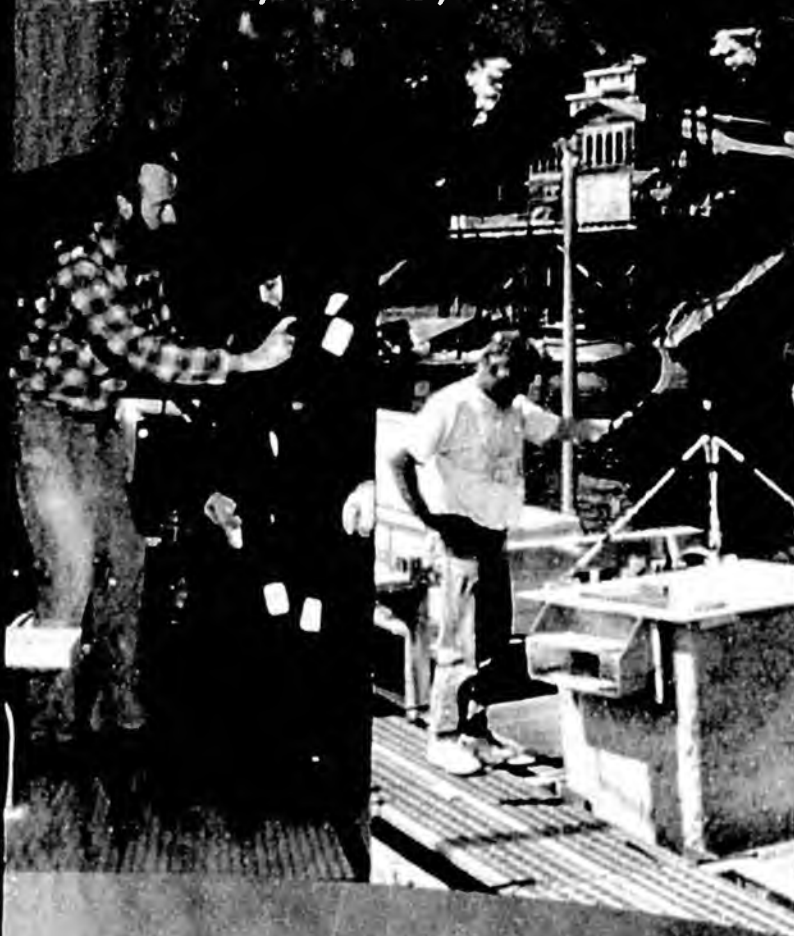
Alaska Sea Grant College Program
 School of Fisheries and Ocean Sciences
 University of Alaska Fairbanks



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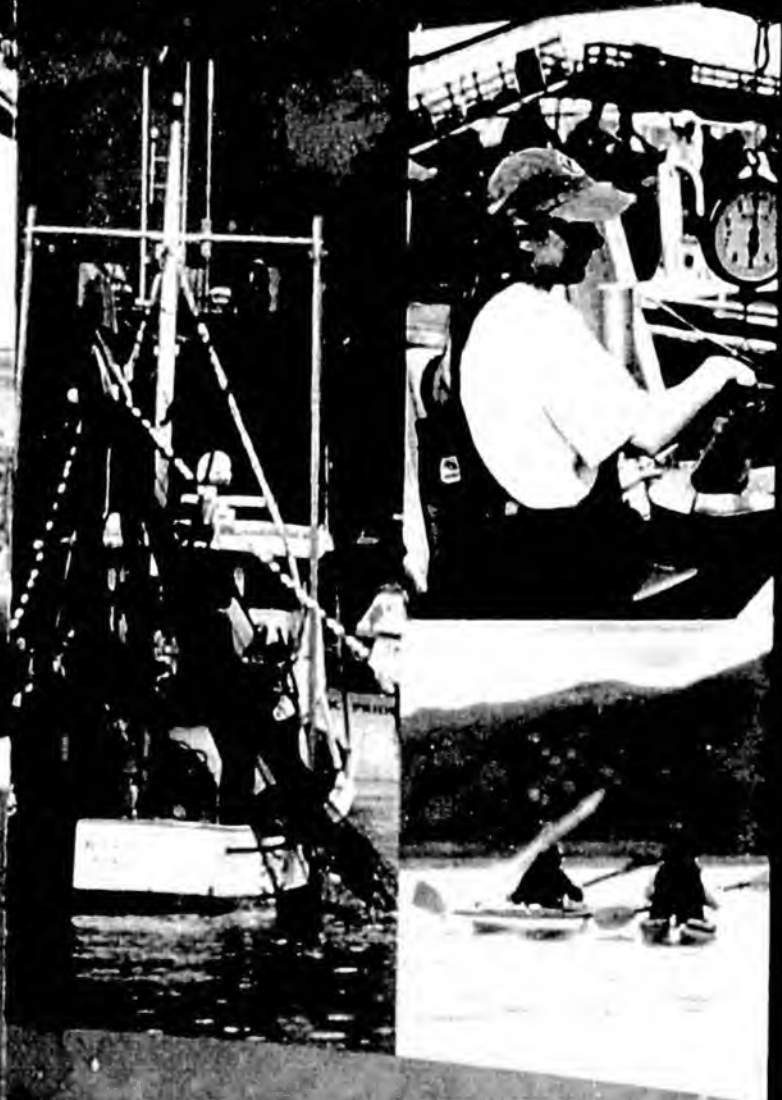
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uaf.edu/map



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OFFICE OF ELECTRONIC MINIATURIZATION
UNIVERSITY OF ALASKA FAIRBANKS



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Contact us for microelectronic R&D and prototyping, for design, engineering, fabrication, testing and failure analysis of advanced electronic components and systems. Leverage our on-site, qualified Tessera µBGA™ Chip Scale Package (CSP) fabrication facility and UAF's diverse resources to find your electronic miniaturization solutions.



OFFICE OF ELECTRONIC
MINIATURIZATION

Office of Electronic Miniaturization
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APPLICATION SPECIFIC ADVANCED PACKAGING

Contact us for microelectronic R&D and prototyping, for design, engineering, fabrication, testing and failure analysis of advanced electronic components and systems. Leverage our on-site, qualified Tessera µBGA™ Chip Scale Package (CSP) fabrication facility and UAF's diverse resources to find your electronic miniaturization solutions.



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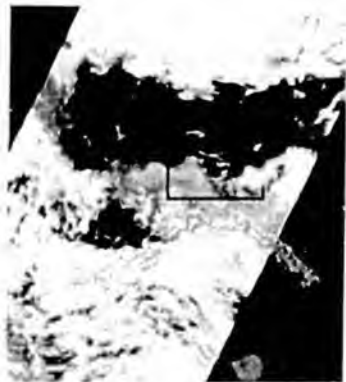
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Fairbanks

 GEOGRAPHIC INFORMATION NETWORK OF ALASKA
UNIVERSITY OF ALASKA



Alaska Wildfires

June 29, 2004

MODIS 250 meter spatial resolution

This image shows dozens of wildfires raging across Alaska's remote interior and filling the Tanana Valley with smoke. MODIS imagery is received and processed at the Geographic Information Network of Alaska (GINA). GINA works closely with the BLM Alaska Fire Service to help them detect and manage wildfires over Alaska's vast wilderness.

www.gina.alaska.edu

Place
Stamp
Here



GEOGRAPHIC INFORMATION NETWORK OF ALASKA

UNIVERSITY OF ALASKA

Networking data to answer scientific and societal questions for Alaska and the Arctic.



GEOGRAPHIC INFORMATION NETWORK OF ALASKA
UNIVERSITY OF ALASKA

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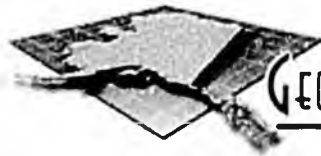
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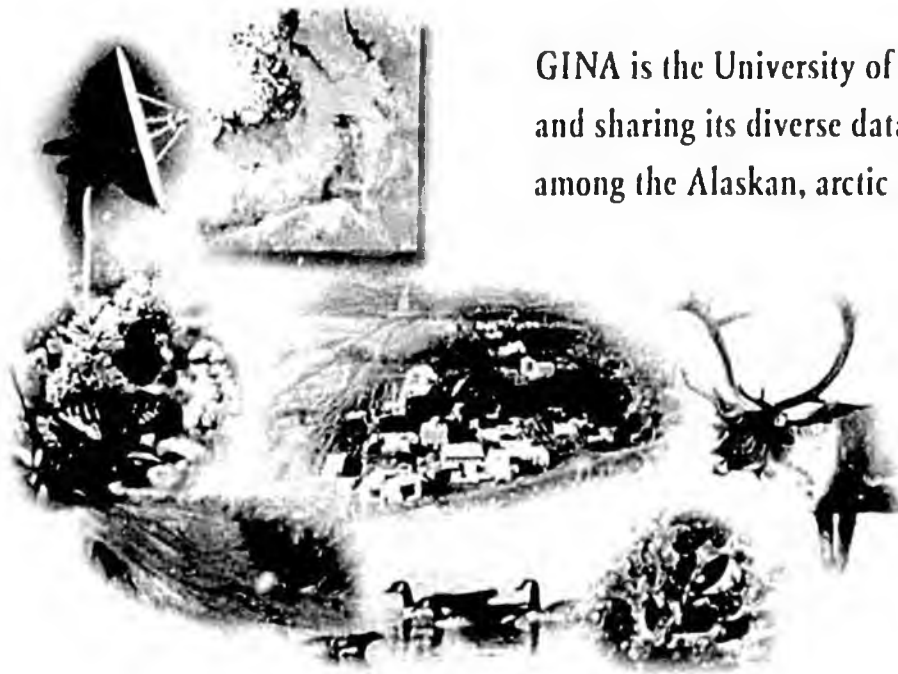


GEOGRAPHIC INFORMATION NETWORK OF ALASKA

UNIVERSITY OF ALASKA

GINA.....

- ... is a distributed data system for geospatial information.
- ... **maintains** an enterprise-level geographic information system (GIS) with online archiving, internet mapping, and metadata services.
- ... **offers** training and assistance in satellite image processing and GIS analysis and visualization.
- ... **provides** custom processing, as well as server-side analysis and visualization tools.
- ... **unites and extends** UA's GIS and remote sensing activities through the use of internationally adopted standards and a shared web portal.



GINA is the University of Alaska's mechanism for organizing and sharing its diverse data and technological capabilities among the Alaskan, arctic and world communities.

Our goal is to promote collaboration and wide participation in discovering and sharing data and analysis capabilities.

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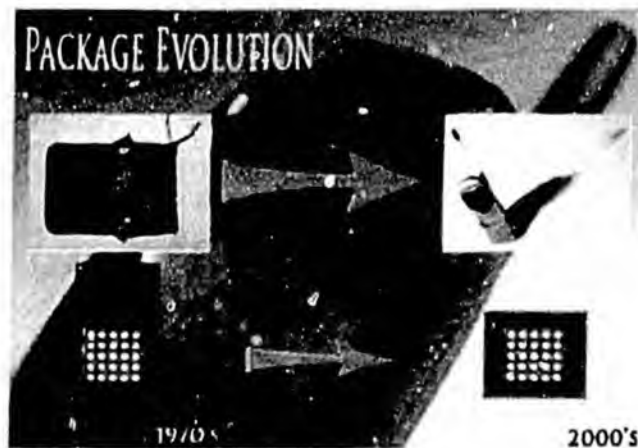
Services

OEM's capabilities consist of designing and building systems and system components with reduced size & weight with electronic package miniaturization technologies, known as Chip Scale Packaging (CSP). This increases reliability and product life in most applications. OEM uses licensed technologies for packaging used in a broad range of electronic products such as wireless, computing, gaming, entertainment, medical and security applications.

OEM's current market niche is prototyping and small runs. Its capabilities are in the following CSP technologies:

μ BGA

The lead bonded μ BGA package features short signal paths for reduced parasitics, providing good electrical performance, thus resolving the reliability issues associated with the thermal expansion mismatch between the silicon die and the printed circuit board (PCB). This enables a smaller format with a highly reliable fine pitch ball grid array.



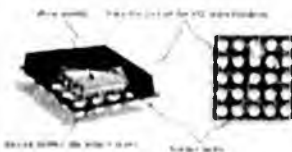
μ BGA-W

Like the lead-bonded version, the wire bonded μ BGA incorporates compliance within the structure to ensure reliability. The wire-bonded technology offers design flexibility and can be used in Dynamic Random Access Memory (DRAM) applications as well as computer gaming and computational products.



μ BGA-F

The Face up μ BGA-F is oriented so that its contacts face away from and are wire bonded to the package substrate to electrically connect the chip to the packages solder connections. This technology is suitable for applications such as memory and Application Specific Integrated Circuits and can be used in products such as cell phones, PDAs and PCs.



μ Z-MCPs

A multi die packaging technology developed to address the trend towards miniaturization, increased functionality and reliability. Flexibility in solutions incorporate folding and/or stacking of die.



Image courtesy of TESSERA, Inc



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... and on the Silicon Tundra

ABOUT OEM

UAF has restructured its Center for Nanosensor Technology, creating an Office of Electronics Miniaturization (OEM) to help differentiate between the faculty-focused research and the design and production capabilities that have been developed over the past four years with \$18.05 million in cooperative agreements with the Department of Defense's (DoD) Defense MicroElectronics Activity (DMEA). DMEA is supporting the development of a similar capability at North Dakota State University in Fargo.

The DMEA cooperative agreements have also allowed for the development of intellectual capability through its funding for research faculty and the acquisition/transfer of intellectual property in microelectronics processes.



CLEAN ROOM

The certified clean room houses state-of-the-art microelectronics packaging equipment and is located in UAF's Natural Sciences Facility.

CHIP SCALE PACKAGING

(CSP)

Developed in the early 1990s, Chip-scale packaging resulted in the significant reduction in size and weight and an increased reliability in cell phones and other consumer electronics primarily through the reduction or elimination of the horizontal and/or vertical space between chips. Through licensing agreements with Tessera, most major electronics manufacturers and resellers employ this technology, in the consumer electronics industry. Due to the length of DoD development cycles (typically 7-10 years), there is a lag before new technologies appear in fielded systems. DMEA sees the need for retrofits of low volume CSP into fielded system upgrades.

The Office of Electronic Miniaturization will provide the platform and core technologies for R&D and pilot production to:

- Leverage and enhance UAF's research, education, and training programs in advanced electronics,
 - Provide customers unique miniaturization services,
 - Lead to new intellectual property,
 - Create high value, knowledge-based jobs in Alaska
 - Create spin-off companies, and
 - Provide new regional economic development opportunities
-

UAF believes that the ongoing development of this capability will allow it to support this niche market and advance the CSP process through technological innovation. As part of a diversification and risk-reduction strategy, UAF is also exploring industry partnerships with Crane Aerospace, Tessera, Inc and other potential partners.



OEM will provide the platform and core technologies for basic and applied research, deliver quality prototypes, create new intellectual property and job opportunities as well as provide new regional and statewide economic development.

FACULTY RESEARCH

During the past year several of the new hires within UAF's Center for Nanosensor Technology have branched out into various sensor system areas of study where DMEA sees a particular need. These young UAF faculty members have already begun winning independent funding from NIH, NSF and other sources.

MICROELECTRONICS IN ALASKA

The Office of Electronic Miniaturization is creating a Silicon Tundra mentality in Alaska. As microelectronics is beginning to have wings in Fairbanks— it will fly to new heights of innovation, inspiring the creation of new jobs and opportunities for Alaskans in the high-tech industry.



OEM is creating a Silicon Tundra mentality in Alaska. It is inspiring the creation of new jobs and projects in Fairbanks in the field of microelectronics.

Goals

The overall goals of CANHR are to increase the research capacities of the University of Alaska and local communities to address current Alaska Native health disparities. To meet these goals, it is essential that the University increase the breadth of its health and biomedical researchers. CANHR has hired researchers, data analysts, and staff to design and conduct community-based Alaska Native health studies. Studies at CANHR aim to understand disease distribution and health risks, and identify effective approaches to prevention and treatment of obesity, diabetes, and cardiovascular disease. To build the University's biomedical research infrastructure, CANHR has established five research support Cores: Administrative, Epidemiology and Bioinformatics, Genetics, Cultural-Behavioral, and Knowledge Application and Dissemination.

In addition to building expertise at the University level, an equally important goal of CANHR is to increase the health research capacity of the Yukon-Kuskokwim region. CANHR has worked with the Yukon-Kuskokwim Health Corporation (YKHC) to hire a research partner to coordinate information gathering and to assist with the on-going collaboration between CANHR, YKHC, and the regional communities. CANHR has also hired local Field Research Assistants in each participating village to help gather, utilize, and disseminate health information. The participatory research model used by CANHR, in partnership with YKHC and Alaska Native communities, will enhance the region's capacity to conduct important health research.

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CENTER for ALASKA NATIVE HEALTH RESEARCH



*A Program of the
University of Alaska*

Principal Investigator
Gerald V. Mohatt, EdD

Co-Principal Investigator
Bert Boyer, PhD

University of Alaska Fairbanks

*Supported by
NIH's National Center for Research Resources,
under the Centers of Biomedical Research
Excellence Program.*

UAF UNIVERSITY OF ALASKA
FAIRBANKS

UAF is an affirmative action/equal opportunity
employer and educational institution.

CANHR Mission

To build and increase research capacity to contribute to knowledge that will improve the health of Alaska Natives.



About CANHR

The National Institutes of Health, National Center for Research Resources, has awarded a five-year grant to the University of Alaska Fairbanks to establish the Center for Alaska Native Health Research (CANHR) to investigate weight, nutrition, and health in Alaska Natives. CANHR approaches this thematic focus from a genetic, dietary, and cultural-behavioral perspective. The funding comes through a program for Centers of Biomedical Research Excellence (COBRE). CANHR has been and is being developed in partnership with the Yukon-Kuskokwim Health Corporation (YKHC), and has offices at the University of Alaska Fairbanks (UAF) and the University of Alaska Anchorage (UAA).

Research Projects

CANHR currently supports three research projects focusing on obesity and its relationship to diabetes and cardiovascular disease. The project leaders are developing these projects jointly and in partnership with the Yukon-Kuskokwim Health Corporation.

1. Genetics of Obesity and Diabetes

Bert Boyer, PhD, Project Principal Investigator
Gabriela Antunez-de-Mayolo, PhD
Anna Goropashnaya, PhD
Erik Harrington, BS

This research will identify genetic and environmental risk factors that contribute to the development of obesity. In collaboration with other research scientists associated with the CANHR, interactions between genetic risk factors, diet, and behavior (lifestyles) will be examined to determine the conditions within a family or community that contribute to obesity. Current health status will be evaluated and family histories will be reviewed for information that may facilitate our understanding of genetic risk factors that lead to obesity, and how these risk factors may influence the prevalence of obesity in future generations. In addition, researchers will evaluate the role of body weight in the development of other health concerns in the community, such as heart disease or diabetes. This information will ultimately be used to develop health intervention programs designed to keep individuals at a healthy weight and to reduce their risk of other related diseases.

2. Diet and Nutrition Knowledge

Bret Luick, PhD, Project Principal Investigator
Andrea Bersamin, BS (UC Davis)

To understand nutritional factors that contribute to an individual's weight and overall health, it is necessary to know what a person eats. The

amounts and types of traditional and store-bought foods consumed and how individuals choose those foods are keys to understanding the benefits of a traditional diet. Nutritional information gathered from this project will assess characteristics important in the prevention or risk of obesity. In addition to studying energy intakes, researchers are also interested in energy expenditures. Physical activity levels will be monitored by asking participants to wear pedometers or activity meters. This project will also include the collection of basic physical measures such as height, weight, and percent body fat.

3. Cultural Understandings of Health

Cecile Lardon, PhD, Project Principal Investigator
Christopher Wolsko, PhD
Scarlett Hutchison, MA, RN

Before there were Western ways of understanding health and treatment, Yup'ik people had their own knowledge about what helped people to be healthy. This research project has worked with Yup'ik elders, health care providers, and other people to bring together knowledge of how culture and health are related. This knowledge has been used to develop a survey that can be used by researchers and health providers interested in learning about health from a cultural perspective. The project will also use this knowledge to develop health promotion programs in Yukon-Kuskokwim villages that are based on Yup'ik values and knowledge.





BOB PEELER

Looking to the Future

We have done a lot, but the work is never finished. Among other projects, over the next several years we will study what happens to Steller sea lions when their pollock prey is depleted. We will study how climate change affects salmon, to get information that fishery managers can use to predict salmon returns and determine how many salmon should be left to reproduce. We will also conduct research on new refrigerated seawater systems aboard fishing vessels, to improve the quality of salmon and other fish harvests that go to the processor.

Come to our Web site for a complete list of current research, scientific and educational books and videos, and much more information about Alaska's marine resources.

www.uaf.alaska/seagrant

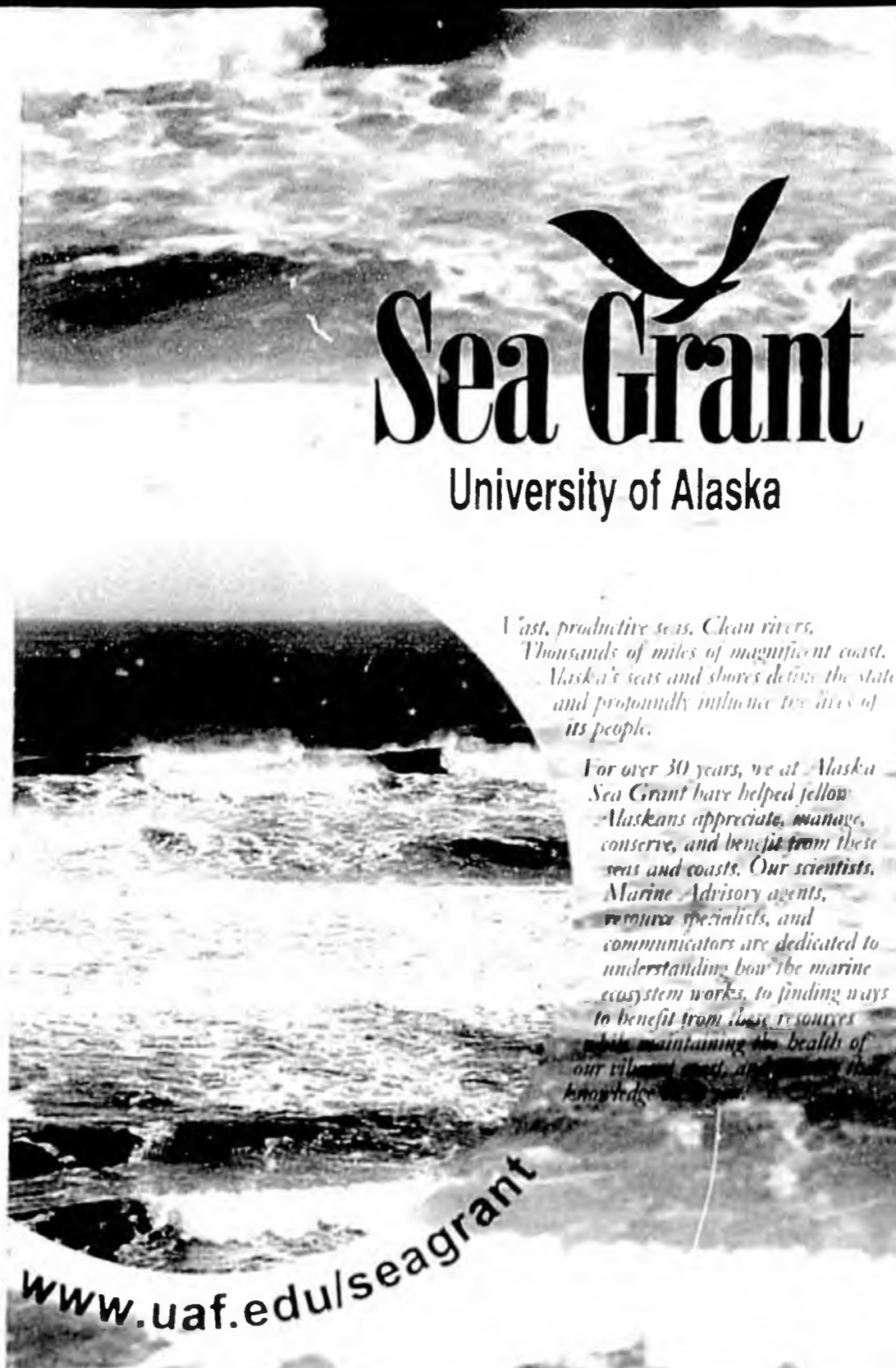


Alaska Sea Grant College Program
University of Alaska Fairbanks
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Fairbanks, AK 99775-5040

Helping manage and conserve marine resources

Alaska Sea Grant scientists study the ecosystems critical to maintaining robust populations of living marine resources. To help fishery managers make good decisions, our researchers develop innovative fish surveys that improve fish counting and abundance predictions. Our research also delves into the life cycles of little understood fish and shellfish, and peels back in history to shed light on what fisheries were like under different environmental conditions.

Our Powell-Wakefield Fisheries symposia provide a forum for scientists to give valuable information to policy makers, educators, resource managers, and the news and seafood trade media.



Sea Grant

University of Alaska

*Vast, productive seas. Clean rivers.
Thousands of miles of magnificent coast.
Alaska's seas and shores define the state
and profoundly influence the lives of
its people.*

*For over 30 years, we at Alaska
Sea Grant have helped fellow
Alaskans appreciate, manage,
conserve, and benefit from these
seas and coasts. Our scientists,
Marine Advisory agents,
resource specialists, and
communicators are dedicated to
understanding how the marine
ecosystem works, to finding ways
to benefit from these resources
while maintaining the health of
our vibrant coast, and sharing that
knowledge with you.*

www.uaf.edu/seagrant



MARK PENNINGTON

Research for tomorrow's needs

Alaska's marine and coastal resources fuel much of the state's economy. Our nearshore and offshore waters produce about a half of the nation's seafood harvest—that's \$2 billion dollars every year for the state and national economy. Finding ways to wisely use and conserve the state's fishery resources is Alaska Sea Grant's number one priority.

Grooming the next generation of scientists

Through our last 30 years we've helped more than 140 graduate students earn degrees and go on to careers in marine science, resource management, the seafood industry, tourism, and other fields.

Our international scientific conferences give our new scientists a chance to mingle with veteran researchers and share techniques, findings, and new ideas.



Diversifying the seafood economy

Alaska waters yield millions of salmon, pollock, crabs, halibut, and more than 50 other commercially important species. Alaska Sea Grant helps the seafood industry increase the value of its harvest by reducing waste and helping processors create new products, from restaurant entrees to snack foods. New products and processing techniques also create new jobs and businesses.

Oyster and clam aquaculture diversify the state's marine scene. Alaska Sea Grant is in the thick of helping build this fledgling industry. Thanks to technologies brought to Alaska by the Sea Grant Marine Advisory Program, farmers can grow oysters 40% faster than before, and now they can grow oyster seed right here in Alaska. These breakthroughs finally make oyster culture a viable enterprise in Alaska, and entrepreneurs are jumping into the business.



Informing the public

Reliable information makes for good decision making by policy makers, resource managers, and resource users. Delivering useful information to Alaskans and other people of all ages, in all walks of life, is central to Alaska Sea Grant's mission.

Alaska Sea Grant's award-winning information program—which includes a Web site, publications, videos, weekly radio show, and media outreach— informs policy makers and private citizens, visitors, and others around the world about Alaska's coastal and marine resources.

Teachers and the students who will be the decision makers of tomorrow are a special audience for Alaska Sea Grant. Our field guides, curriculum guides, classroom activity material, Web site, and classroom visits help educators convey knowledge and stewardship concepts. This helps young people become well-informed citizens who can make good decisions on how to best use and conserve Alaska's marine and coastal resources.

Following the money

Alaska Sea Grant economists study the impact of fishery management decisions, the economic value of industries such as sport fishing, and the costs and benefits of industry programs such as the state's salmon hatchery system. These studies are crucial to helping lawmakers, policy makers, regulators, and resource managers make decisions.



Protecting public health

Alaska Sea Grant scientists unravel the genetic and molecular causes of paralytic shellfish poisoning (PSP), caused by a toxin that sickens and sometimes kills people who eat tainted crabs, clams, and other shellfish.

Testing shellfish and other invertebrates for PSP costs harvesters thousands of dollars and retards development of the dive harvest industry. Alaska Sea Grant personnel collaborate in studies to find quick and inexpensive new methods to detect PSP in shellfish. And through publications and our Web site, we distribute potentially life-saving information about PSP.

Tsunamis are a constant public safety threat in Alaska, the nation's most seismically active state. Our research and Web site provide information to help people prepare for and respond to tsunamis and earthquakes.

Alaska's climate can be harsh and unforgiving. Marine Advisory agents produce publications and videos on marine and outdoor safety and survival, and instruct safety trainers how to teach marine emergency prevention and survival.



A helping hand in your hometown

Assistance from Alaska Sea Grant is never far away. Our cadre of Marine Advisory agents and specialists live among the people they serve. For example, while one specialist is giving a teacher workshop on salmon habitat inventory, another agent is showing fishermen how to reduce contacts with marine mammals. At the same time, other agents are helping communities prevent oil spills, training seafood processors to meet federal food safety requirements, showing fishermen how to maintain the highest seafood quality on their vessels, teaching fishermen to survive accidents at sea, and helping charterboat operators understand changes in regulations.

To locate the agent or specialist nearest you, visit www.ut.edu/seagrant where.html or call (907) 274-9691.