

State of Alaska FY2004 Governor's Operating Budget

Department of Community & Economic Development Alaska Science and Technology Foundation BRU/Component Budget Summary

BRU/Component: Alaska Science and Technology Foundation

(There is only one component in this BRU. To reduce duplicate information, we did not print a separate BRU section.)

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Component Mission

The mission of the Alaska Science and Technology Foundation (ASTF) is to support the development and application of science and technology.

Component Services Provided

The FY 2004 Governor's Operating Budget request proposes the elimination of the Alaska Science and Technology Foundation (ASTF).

ASTF was formed by the Governor and the Alaska State Legislature in 1988. By statute, ASTF is responsible for the development, funding, and monitoring of grant programs for basic and applied research and its commercialization. All ASTF projects must include innovative science or technology, clear research and business plans to show technical and economic feasibility, appropriate match and risk sharing, and expected significant benefits to the state. Funded projects substantially contribute to the economic development of the State's scientific and engineering capabilities.

Component Goals and Strategies

ASTF's first goal is to realize the economic and non-economic benefits of the application of innovative science and technology projects. A second goal is to build a more entrepreneurial Alaska economy by helping enhance a business environment where Alaska has the confidence, know-how, technology, and risk capital to grow an economy of sustainable wealth.

To realize these goals, ASTF has two broad strategies. The first is to co-invest in group projects that bring together scientists, engineers, business people, and regulators when applicable, in an industry group to tackle an opportunity or individual projects involving an entrepreneur and the end user of the science or technology. Projects aim to increase Alaska's technology economy or seek to prove up the science or technology to make existing sectors of the state's economic base (seafood, mining, energy, forest products, etc.) more competitive.

Beyond particular projects, the second broad strategy is to partner with other market-based organizations to build up the entrepreneurial infrastructure necessary to support technology-based economic development. ASTF aims to help establish and institutionalize ongoing capability enabling Alaska entrepreneurs to have access to the risk capital (Alaska Growth Capital BIDCO, Alaska InvestNet), information workers (Information Technology Careers Consortium, Alaska High Tech Business Council), and applied technology (University of Alaska, Alaska Manufacturers' Association, and private sector firms) so that Alaska's economy becomes more sustainable. ASTF partner organizations all raised increased non-ASTF support and impact in 2002.

How projects are structured and funded often determines whether they succeed. ASTF funds early stage, longer-term projects that are generally more applied than basic research at universities but not mature enough yet to be fully supported by the private sector. ASTF seeks to apply market-based principles to the funding and management of these early stage commercial projects. ASTF activities must have some common characteristics: being based on potential sustainable market economics, pulling together competent teams to both develop and commercialize the science or technology, achieving clear benchmarks to insure Alaska benefit, involving the end user of the science or technology, and showing cost sharing demonstrating appropriate sharing of risk and reward.

Key FY04 Goals and Priorities

- Launch new technology-based startup businesses creating high paying jobs and new revenues and utilize existing human talent here that would otherwise seek employment outside Alaska.
- Ensure that key industry-led partners (Alaska Manufacturers' Association, Alaska High Tech Business Council/Information Technology Career Consortium, Alaska InvestNet, etc.) ramp up to meet defined market needs. ASTF-launched Alaska Growth Capital BIDCO annual loan/equity volume now exceeds \$10 million.
- Work with private sector to establish venture capital companies in state. (There is no active primarily venture capital organization currently in state and while no ASTF funding is anticipated for this area, this is an important capital gap for technology startups. Larger debt-equity deals are not being financed now or have to leave the state to obtain financing.)
- Work with University of Alaska and Alaska engineering community to establish improved capability for cold regions engineering research and teaching at UAF and UAA. Prior to earnings collapse, ASTF had committed to co-fund \$500,000 annually in qualified projects to meet the federal match from the National Science Foundation Experimental Program to Stimulate Competitive Research (EPSCOR) to increase the quality and lower the cost of arctic construction. This work is continuing.
- Work with all the state's major mapping companies, the universities, and other agencies on a private-public partnership to map the state to 1-5 meter resolution. A non-profit corporation has been formed to provide the products. The goal is to build in Alaska a web-based capability to integrate elevation, geotechnical, and land cover information for the entire state. While discussions on a more government-driven approach and a more market-driven approach involving private sector cost sharing continue, ASTF remains committed to a web-based approach that can layer different data into a statewide geographic information system. Alaska remains the least mapped state.
- Work with statewide business groups (Alaska State Chamber of Commerce, Resource Development Council, Alaska High Tech Business Council, and 20/20 process) on enlarging discussion of steps to grow the state's New Economy and develop a more market sustainable economy. ASTF and the business groups are committed to working with local organizations on economic development and benchmarking progress on 1) increasing per capita income and 2) enlarging the private sector share of the state's economic base.
- Funded projects must include cost sharing, customer or end user participation in the science or technology being developed, competent technical and management team, and significant Alaska benefit. Project areas include:
 - Partner organizations providing critical infrastructure for technology-based economic development.
 - K-12 math and science teacher grants, UA/ASTF public science lecture series, and group R&D projects with industry, the university, state agencies, and technology users and vendors.
 - Seed capital for digital technology firms, projects using innovative technology or science, innovative manufacturing and science and public health projects.

Key Component Issues for FY2003 – 2004

ASTF's funding needs to be steadied rather than be subject to market gyrations

ASTF's statute and annual legislative appropriations permit ASTF operations and grants to be funded from income generated by the Alaska Science and Technology Endowment Fund. The Fund is coinvested and managed by the Alaska Permanent Fund Corporation. Annual income levels were sufficient during the bull market days of the 1990's, but recent annual income levels have significantly declined (from \$10.3 million in FY00 to \$5.2 million in FY01 to \$1.1 million in FY02). ASTF responded by cutting its overhead expenses, by ceasing consideration of new proposals, and by carefully managing the timing of payments to existing grantees.

In February 2002, the ASTF Board adopted a bylaw to limit annual distributions to 5% of the five-year rolling-average of the year-end market value of the endowment (5 POMV). This policy will smooth annual distributions, allow continued operations and new grants in times of difficult market conditions, and allow inflation-proofing over the long-term.

In early FY03, large market declines further reduced income and eroded the market value of the endowment. It is unlikely that sufficient income will be generated to fund the Legislature's \$10.5 million FY03 appropriation for ASTF. After consultations with the Departments of Law and Revenue and the Alaska Permanent Fund Corporation, the ASTF Board in September 2002 approved a plan to limit FY03 ASTF distributions to no more than \$5.8 million, the amount resulting from the 5 POMV policy.

ASTF's statute, the upcoming supplemental operating bill for FY03, and the legislative appropriation for FY04 should recognize ASTF's policy of limiting distributions to 5 POMV and source ASTF's funding from the endowment distributions rather than solely endowment income.

In FY03, the legislature appropriated \$2.315 million from the ASTF endowment principal to the University. ASTF's

income has fallen considerably lower than its appropriation. The University should obtain its necessary funding from appropriate sources. Consuming the seed corn of ASTF's endowment weakens ASTF's long-term ability to fulfill its critical economic development mission.

The University produces numerous graduates with excellent state-of-the-art technology knowledge and/ or business management skills. However, a significant percentage of the graduates leave Alaska to find challenging work and competitive salaries. The ASTF endowment should be used to launch technology-based startup businesses to retain this talent, by creating new challenging and high paying jobs and generating additional revenues that will circulate within the state.

Major Component Accomplishments in 2002

Technology companies launched or assisted

- Alaska Manufacturing Contractors (AMC) has completed building 62 manufactured homes at its facility at Point McKenzie near Wasilla from its patented design.
- Peratrovich, Nottingham & Drage of Anchorage recently garnered several awards for a new permeable wave barrier that is significantly less expensive to build and better for the environment. Wave barriers have been built in Valdez, Washington, and Oregon.
- Ray Wadsworth processed and sold 120,000 pounds of frozen boneless Alaskan salmon fillets.
- Fish oil blended with diesel oil at a UniSea electric generator in Dutch Harbor was shown to lower fuel costs and meet regulatory requirements. Program was expanded to additional UniSea generators.
- Iceberg Seafood of Anchorage is constructing a facility for live seafood storage and distribution.
- The Qutekcaq shellfish hatchery in Seward is providing seed to Alaska shellfish farms and is the first hatchery in the world to produce scallop spat.
- Anchorage manufacturing facility (Alaska Fresh Cut) employs 47 people and processes fresh produce (carrots, lettuce, radishes, etc.) from Matanuska Valley farmers into salad ingredients, replacing some imported ready-to-eat salads. The facility is now expanding.
- Funded Anchorage entrepreneurs (People Matters) developing human resources software and services. Sales have commenced.

Enhanced science capabilities and lowering costs

- UAA-led team has completed an updated web-based Alaska Marine Ice Atlas being used by resource development and transportation companies.
- UAF team has demonstrated the use of natural materials to better and more cost-effectively control stream erosion.
- Underwrote costs needed to research materials for newly published paperback book, Geology Guidebook of Anchorage.

Infrastructure for Economic Development (ASTF Partners)

- Through ASTF support of the Alaska Manufacturers' Association (AKMA), seven mills are now producing approximately 34 million board feet a year dimensional lumber graded by the Western Wood Products Association representative in state.
- Third year of the Cordova Salmon quality project was completed by fishers, processors, Surefish, and Alaska Manufacturers' Association. The quality program was expanded to Kenai and Bristol Bay.
- Alaska Growth Capital (AGC) BIDCO has made nearly \$29 million in loans or equity investments to 38 organizations that have created or retained 757 jobs
- Alaska InvestNet introduces entrepreneurs to investors. InvestNet entrepreneurs created 63 jobs and almost \$6 million/year in revenues. Eight InvestNet entrepreneurs raised capital through InvestNet contacts. Six InvestNet investors reported making equity deals in Alaska.

K-12 Teachers, Information Technology, and Lecture Series

- An estimated 2,700 K-12 students statewide participated in ASTF-funded classroom projects in math, science, or technology in FY02, increasing student interest and achievement in science and or math.
- Launched Kodiak School District and local village program for students to install, repair, and network computers, become A+/MSCSE certified, and build websites for commercial use.
- Over 5,000 Alaskans attended the very popular ASTF/UA Science and Society Lecture Series last winter in Fairbanks, Anchorage, and Juneau.

Administrative

Reduced operating costs and managed grantee payments to accommodate significantly reduced endowment earnings.

Enhanced grant agreement language to protect ASTF's interests in technologies developed with ASTF funds.
Conducted search for and hired new executive director.

Statutory and Regulatory Authority

AS 37.17.010-17.040
AS 10.10.010

Alaska Science and Technology Foundation
Business and Industrial Development Corporation Act (BIDCO)

Key Performance Measures for FY2004

Measure:

The number of new jobs in the state from technology projects.

Sec 32(b)(1) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

In September 2002, ASTF surveyed 62 technology project grantees and received responses from 59 grantees. The surveys were sent to grantees that had completed their grant work within the last five years as well as active grantees that are farther along with their project or product development.

33 grantees reported a total of 231 full-time equivalent jobs resulting from their ASTF project.

Target: an average of five jobs per grantee for those grantees reporting jobs and at least 50% of technology project grantees reporting jobs. This ratio reflects that grantees have both technical and business hurdles to achieve. ASTF co-invests in early stage business concepts prior to the concept becoming 'bankable'.

Benchmark Comparisons:

Annually, ASTF prepares an Alaska science and technology innovation index which can be downloaded from ASTF's website at:

<http://www.dced.state.ak.us/astf/admin/files/data/docs/TechIndex2002.pdf>

This index includes historical trends and comparisons with selected other states and the U.S. average. The index represents a snapshot in understanding areas where Alaska is either doing well, average, or poorly in terms of its economy and science and technology innovation and potential.

Background and Strategies:

ASTF co-invests in new and existing firms that use science or technological innovation to grow their business and achieve Alaska economic benefit. To achieve new job/revenue creation, ASTF co-invests in firms that have strong business plans, management capability, and plans for post-ASTF grant funding if required.

Measure:

Project diversity.

Sec 32(b)(2) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

In FY02, ASTF provided funding to 97 grantees in eleven categories. 59 of these grantees were direct grants to teachers.

Target: funding in at least seven categories.

Benchmark Comparisons:

Not applicable.

Background and Strategies:

ASTF accepts and considers all proposals for projects that conform to its stated standards. ASTF reserves the right to fund proposals in any area of inquiry. ASTF has five types of grants available: technology projects, knowledge projects, group projects, small business innovation research bridging grants, and direct grants to teachers. For convenience, ASTF reports its funded projects in the following fourteen categories: agriculture, energy, engineering,

environment, forestry and wood products, fisheries and aquaculture, public health and safety, infrastructure for economic development, internet, K-12 teachers, mining, other, science and engineering infrastructure, and software development. In FY02, the three categories not receiving funds were internet, science and engineering infrastructure, and other.

Measure:

The new revenue to the state from technology projects.

Sec 32(b)(3) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

39 grantees reported \$29 million in new revenues resulting from their ASTF-supported projects.

Target: an average of \$250,000 per grantee for those grantees reporting revenues and at least 40% of the technology project grantees reporting jobs. This percentage (40%) is less than the suggested 50% percentage of grantees reporting jobs because developments jobs are required prior to the onset of sales.

Benchmark Comparisons:

Not applicable.

Background and Strategies:

ASTF co-invests in new and existing firms that use science or technological innovation to grow their business and achieve Alaska economic benefit. To achieve new job/revenue creation, ASTF co-invests in firms that have strong business plans, management capability, and plans for post-ASTF grant funding if required.

Measure:

The percentage of technology project grantees in business in the state because of ASTF grants.

Sec 32(b)(4) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

58% (34 out of 59) reported being in business because of their ASTF grant.

Target: 50% in business because of their ASTF grant.

Benchmark Comparisons:

Not applicable.

Background and Strategies:

ASTF co-invests in new business concepts in a portfolio of both new and existing firms. Most Alaskan firms cannot afford R&D projects or risk. New firms offer exciting growth possibilities. Existing firms seeking to add a new business line offer business experience and infrastructure, managerial and financial depth, and support services.

Measure:

The change in student achievement in math and science in schools that received ASTF teacher grants.

Sec 32(b)(5) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

ASTF surveyed 35 FY01 teacher grantees and received responses from 33, a 94% response rate. An average of 84 students participated in each teacher grant. Approximately 23% of participating students were located in rural schools.

40% greatly increased, 44% increased, 15% no change, 0% decreased, 0% greatly decreased. A total of 85% either increased or greatly increased their achievement due to the ASTF teacher grant.

Target: at least 80% increased or greatly increased.

Benchmark Comparisons:

Not applicable.

Background and Strategies:

ASTF develops Alaska's capacity for science and engineering by funding competitive science, math and technology classroom projects for Alaska K-12 students. These projects have been highly successful in developing students' interest and achievement in math, science and technology.

Measure:

The increase in student interest in math and science in schools that received ASTF teacher grants.

Sec 32(b)(6) Ch 124 SLA 2002(HB 515)

Alaska's Target & Progress:

49 greatly increased, 37% increased, 13% no change, 1% decreased, and 0% greatly decreased. A total of 86% either increased or greatly increased their interest due to an ASTF teacher grant.

Target: at least 80% increased or greatly increased.

Benchmark Comparisons:

Not applicable.

Background and Strategies:

ASTF develops Alaska's capacity for science and engineering by funding competitive science, math and technology classroom projects for Alaska K-12 students. These projects have been highly successful in developing students' interest and achievement in math, science and technology.

Alaska Science and Technology Foundation
Component Financial Summary

All dollars in thousands

	FY2002 Actuals	FY2003 Authorized	FY2004 Governor
Non-Formula Program:			
Component Expenditures:			
71000 Personal Services	680.2	682.4	0.0
72000 Travel	25.8	84.0	0.0
73000 Contractual	263.8	611.5	0.0
74000 Supplies	10.5	16.5	0.0
75000 Equipment	6.4	0.0	0.0
76000 Land/Buildings	0.0	0.0	0.0
77000 Grants, Claims	1,552.7	9,214.2	0.0
78000 Miscellaneous	0.0	0.0	0.0
Expenditure Totals	2,539.4	10,608.6	0.0
Funding Sources:			
1025 Science & Technology Endowment Income	2,519.6	10,518.6	0.0
1108 Statutory Designated Program Receipts	19.8	90.0	0.0
Funding Totals	2,539.4	10,608.6	0.0

Alaska Science and Technology Foundation

Proposed Changes in Levels of Service for FY2004

The FY 2004 Governor's Operating Budget request proposes the elimination of the Alaska Science and Technology Foundation (ASTF).

Summary of Component Budget Changes

From FY2003 Authorized to FY2004 Governor

All dollars in thousands

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
FY2003 Authorized	0.0	0.0	10,608.6	10,608.6
Proposed budget decreases:				
-Eliminate AK Science & Technology Foundation	0.0	0.0	-10,608.6	-10,608.6
FY2004 Governor	0.0	0.0	0.0	0.0

Alaska Science and Technology Foundation

Personal Services Information

	Authorized Positions		Personal Services Costs	
	<u>FY2003</u> <u>Authorized</u>	<u>FY2004</u> <u>Governor</u>		
Full-time	6	0	Annual Salaries	0
Part-time	1	0	Premium Pay	0
Nonpermanent	0	0	Annual Benefits	0
			<i>Less 0.00% Vacancy Factor</i>	(0)
			Lump Sum Premium Pay	0
Totals	7	0	Total Personal Services	0

Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
No personal services.					
Totals	0	0	0	0	0