ALASKA LEGISLATURE COMMITTEE BILL FILES - 1987 - 1988 8879
HB 390 cont., CSHB 390 357

foundation, including the executive director, may be a member of the board. The executive director and the other employees of the foundation are in the exempt service under AS 39.25.

Sec. 37.17.090. GRANT PROCEDURES, LIMITATION, AND REQUIREMENTS. (a) The board of directors shall provide adequate and appropriate notice of all solicitations for grant proposals at least once a year. The board may actively solicit persons, organizations, or institutions to apply for general or specific grants.

(b) Grant proposals must be submitted for impartial and competitive peer review for scientific and technical validity by a panel of recognized experts appointed by the board of directors. The identity of members of a peer review panel is confidential until final action is taken by the board on the grant proposal. The board shall consider the recommendations of the panel in deciding whether to award a grant. The board may exempt grants of $5,000 or less from peer review.

(c) In making its grant awards, the board shall take into consideration the policy and research priorities identified by the Alaska Science and Engineering Advisory Commission.

(d) Not less than 50 percent of the endowment income that is distributed as grants by the foundation in a fiscal year must be for grants of $100,000 or less, exclusive of other funding.

(e) The board of directors shall, as a condition of a grant, and as necessary, set the maximum percentage of a grant award that may be expended by a grantee to pay for overhead costs of the grantee's project.

(f) The board shall require from each grant recipient periodic reports and a final report. The board shall disseminate to the scientific community and to the public, on a regular basis, the results of research sponsored by the foundation. Proprietary reports

and other information voluntarily filed with the board or critical to patent applications may be kept confidential if the person providing the information so requests and it is considered necessary by the board. Dissemination of sponsored research shall be in a form of greatest utility to the scientific community and the general public, and may include technological transfer or applications information for promising results.

(g) As a condition of all grants awarded under this chapter, the board of directors may require that a fair and reasonable percentage of all income from royalties, licenses, and patents produced as a result of the grant be paid into the principal of the endowment.

(h) In awarding a grant under this chapter, the board of directors shall give preference to an applicant who is an Alaska resident, association, organization, or institution. If the board determines that an Alaskan applicant does not have the expertise or capability to satisfactorily perform the grant research without assistance from an out-of-state person or institution, the board may award a grant, jointly, to the Alaskan applicant and an approved out-of-state person or institution. If a grant is awarded to an out-of-state person or institution, the board may require that the out-of-state grantee associate with an Alaska scientific or technical organization while performing the grant research. In all cases, a grant may be awarded only if the board determines that the research to be performed will further the purposes of the foundation under AS 37.17.010(b).

(i) A grant may include money to obtain equipment. Such equipment is the property of the foundation. At the termination of the grant, the equipment must be disposed of at the discretion of the board.

(j) The board of directors shall provide a written report of its

activities and finances to the governor and the legislature no later than January 30 each year.

Sec. 37.17.100. CONFLICT OF INTEREST. (a) Members of the board of directors are subject to the Alaska Executive Branch Ethics Act, AS 39.52.

(b) The board of directors shall adopt a written policy in addition to the requirements of AS 39.52, to address potential conflicts of interest of its members and members of a peer review panel.

Sec. 37.17.110. REGULATIONS. The board of directors may adopt regulations to implement this chapter.

* Sec. 2. AS 39.25.110 is amended by adding a new paragraph to read:

(5) the executive director and staff of the Alaska Science and Technology Foundation (AS 37.17.010).

* Sec. 3. AS 44.19.257(a) is amended to read:

(a) The commission is composed of <u>eight</u> [SEVEN] members appointed by the governor as follows:

(1) one member is to be appointed from individuals from the academic institutions <u>in</u> [OF] the state with expertise in areas of research relating to the state, including the physical, biological, health, environmental, social, and behavioral sciences;

(2) one member is to be appointed from individuals who are engaged in activities furthering the welfare of the human and physical environment and who have expertise in areas of research relating to the state, including the physical, biological, health, environmental, social, and behavioral sciences;

(3) one member is to be appointed from state departments with research needs;

(4) one member is to be appointed from individuals familiar with the state and representative of the needs and interests of

private industry;

(5) one member is to be appointed from individuals with experience in national and international research programs;

(6) one member is to be appointed from the general public; [AND]

(7) the executive director of the Alaska Science and Technology Foundation established under AS 37.17; and

(8) the senior science advisor in the governor's office, who serves as chairperson [CHAIRMAN] and director of the commission.

* Sec. 4. AS 44.19.259 is amended to read:

Sec. 44.19.259. TERM OF MEMBERS OF THE COMMISSION. Members of the commission, other than the senior science advisor and the executive director of the Alaska Science and Technology Foundation, serve staggered terms of four years and until a successor qualifies and is appointed.

* Sec. 5. This Act takes effect immediately under AS 01.10.070(c).

Introduced: 1/22/88
Referred: Health, Education &
Social Services and Finance

go00038h

IN THE HOUSE

BY THE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

HOUSE BILL NO. 390

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act establishing the Alaska Science and Technology Foundation; relating to the membership of the science and engineering advisory commission; and providing for an effective date."

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

* Section 1. AS 37 is amended by adding a new chapter to read:

CHAPTER 17. ALASKA SCIENCE AND TECHNOLOGY FOUNDATION.

Sec. 37.17.010. FOUNDATION ESTABLISHED. (a) The Alaska Science and Technology Foundation is established as a public corporation in the Department of Revenue.

(b) The purpose of the foundation is to promote and enhance economic development, technological innovation and capability, and public health in Alaska through basic and applied research.

Sec. 37.17.020. ENDOWMENT ESTABLISHED; INVESTMENT. (a) In order to support the foundation, the Alaska science and technology endowment is established, consisting of money appropriated to the Alaska Permanent Fund Corporation for the benefit of the foundation.

(b) For the purposes of investment of the endowment, the Alaska Permanent Fund Corporation is subject to AS 37.13.120, except that amounts appropriated for purposes of the endowment do not become a part of the principal of the Alaska permanent fund, and the endowment income must be distributed in accordance with this chapter.

Sec. 37.17.030. ENDOWMENT INCOME; EXPENSES; GRANTS. (a) Upon application of the foundation's board of directors or its authorized

representative, the Alaska Permanent Fund Corporation shall pay to the foundation a portion or all of the income then accrued from the endowment. The net annual capital gains of the endowment shall be equally divided between the income and the principal of the endowment.

(b) In addition to endowment income, the foundation may receive gifts, grants, and other aid. The foundation may accumulate income, gifts, grants, and other aid from any one year and distribute them in a later year.

(c) The administrative expenses of the foundation are subject to the Executive Budget Act and must be paid from the income of the endowment.

(d) The board of directors shall distribute the income of the endowment through competitive grants in accordance with this chapter. The board may disburse money that is received by the foundation for special or general purposes.

(e) The board of directors may pay into the principal of the endowment any part of the endowment income. Money paid to the principal under this subsection may not later be withdrawn by the board of directors.

Sec. 37.17.040. BOARD OF DIRECTORS. (a) The foundation is governed and administered in accordance with this chapter by a board of directors appointed by the governor to serve staggered terms of four years. A member serves on the board until a successor qualifies and is appointed. A member of the board of directors may be removed from the board by the governor for cause.

(b) The board of directors is composed of nine members, as follows:

(1) two members must be scientists or engineers residing in Alaska who are recognized contributors in the science or engineering

fields, one of whom is employed by the University of Alaska;

(2) two members must be scientists or engineers residing outside Alaska who are recognized contributors in the science or engineering fields;

(3) four members of the public, at least two of whom have recognized expertise or experience in resource development, manufacturing, finance, or public health;

(4) one member who is employed by a department or agency of the state, except for the University of Alaska.

Sec. 37.17.050. ELECTION OF OFFICERS. The board of directors shall elect a chairperson and a secretary from its members, each to serve for a term not to exceed two years.

Sec. 37.17.060. QUORUM. A majority of the board constitutes a quorum for the transaction of business.

Sec. 37.17.070. MEETINGS AND REIMBURSEMENT FOR EXPENSES. The board shall meet at least twice a year. Additional meetings may be called at the discretion of the chairperson. Board members are entitled to per diem and travel expenses authorized for boards and commissions under AS 39.20.180 and must receive an honorarium of $400 for each day spent at a meeting of the board or at a meeting of a subcommittee of the board.

Sec. 37.17.080. STAFF. The board of directors shall employ and determine the salary of an executive director, subject to the Executive Budget Act. The executive director serves at the pleasure of the board. The executive director may, with approval of the board, select and employ additional staff as necessary. No employee of the foundation, including the executive director, may be a member of the board. The executive director and the other employees of the foundation are in the exempt service under AS 39.25.

Sec. 37.17.090. GRANT PROCEDURES, LIMITATION, AND REQUIREMENTS. (a) The board of directors shall provide adequate and appropriate notice of all solicitations for grant proposals at least once a year. The board may actively solicit persons, organizations, or institutions to apply for general or specific grants.

(b) Grant proposals must be submitted for impartial and competitive peer review for scientific and technical validity by a panel of recognized experts appointed by the board of directors. The identity of members of a peer review panel is confidential until final action is taken by the board on the grant proposal. The board shall consider the recommendations of the panel in deciding whether to award a grant. The board may exempt grants of $5,000 or less from peer review.

(c) In making its grant awards, the board shall take into consideration the policy and research priorities identified by the Alaska Science and Engineering Advisory Commission.

(d) Not less than 50 percent of the endowment income that is distributed as grants by the foundation in a fiscal year must be for grants of $100,000 or less, exclusive of other funding.

(e) The board of directors shall, as a condition of a grant, and as necessary, set the maximum percentage of a grant award that may be expended by a grantee to pay for overhead costs of the grantee's project.

(f) The board shall require from each grant recipient periodic reports and a final report. The board shall disseminate to the scientific community and to the public, on a regular basis, the results of research sponsored by the foundation. Proprietary reports and other information voluntarily filed with the board or critical to patent applications may be kept confidential if the person providing the information so requests and it is considered necessary by the

board.

(g) As a condition of all grants awarded under this chapter, the board of directors shall require that a fair and reasonable percentage of all income from royalties, licenses, and patents produced as a result of the grant be paid into the principal of the endowment.

(h) In awarding a grant under this chapter, the board of directors shall give preference to an applicant who is an Alaska resident, association, organization, or institution. If the board determines that an Alaskan applicant does not have the expertise or capability to satisfactorily perform the grant research without assistance from an out-of-state person or institution, the board may award a grant, jointly, to the Alaskan applicant and an approved out-of-state person or institution. If a grant is awarded to an out-of-state person or institution, the board may require that the out-of-state grantee associate with an Alaska scientific or technical organization while performing the grant research. In all cases, a grant may be awarded only if the board determines that the research to be performed will further the purposes of the foundation under AS 37.17.010(b).

(i) A grant may include money to obtain equipment. Such equipment is the property of the foundation. At the termination of the grant, the equipment must be disposed of at the discretion of the board.

(j) The board of directors shall provide a written report of its activities and finances to the governor and the legislature no later than January 30 each year.

Sec. 37.17.100. CONFLICT OF INTEREST. (a) Members of the board of directors are subject to the Alaska Executive Branch Ethics Act, AS 39.52.

(b) The board of directors shall adopt a written policy in

addition to the requirements of AS 39.52, to address potential conflicts of interest of its members and members of a peer review panel.

Sec. 37.17.110. REGULATIONS. The board of directors may adopt regulations to implement this chapter.

* Sec. 2. AS 39.25.110 is amended by adding a new paragraph to read:

(5) the executive director and staff of the Alaska Science and Technology Foundation (AS 37.17.010).

* Sec. 3. AS 44.19.257(a) is amended to read:

(a) The commission is composed of <u>eight</u> [SEVEN] members appointed by the governor as follows:

(1) one member is to be appointed from individuals from the academic institutions of the state with expertise in areas of research relating to the state, including the physical, biological, health, environmental, social, and behavioral sciences;

(2) one member is to be appointed from individuals who are engaged in activities furthering the welfare of the human and physical environment and who have expertise in areas of research relating to the state, including the physical, biological, health, environmental, social and behavioral sciences;

(3) one member is to be appointed from state departments with research needs;

(4) one member is to be appointed from individuals familiar with the state and representative of the needs and interests of private industry;

(5) one member is to be appointed from individuals with experience in national and international research programs;

(6) one member is to be appointed from the general public; [AND]

(7) the executive director of the Alaska Science and Technology Foundation established under AS 37.17; and

(8) the senior science advisor in the governor's office, who serves as chairperson [CHAIRMAN] and director of the commission.

* Sec. 4. AS 44.19.259 is amended to read:

Sec. 44.19.259. TERM OF MEMBERS OF THE COMMISSION. Members of the commission, other than the senior science advisor and the executive director of the Alaska Science and Technology Foundation, serve staggered terms of four years and until a successor qualifies and is appointed.

* Sec. 5. This Act takes effect immediately under AS 01.10.070(c).

CSHB

390

SENATE COMMITTEE REPORT

FURTHER

DATE TURNED INTO OFFICE 5/10/88

4/30/88
Mr. President:

Finance Committee considered CSHB 390 (FIN) am

establishing the Alaska Science and Technology Foundation; relating to the membership of the science and engineering advisory commission; efd

and recommended

[✓] replace with ___ S CS CSHB 390(FIN)) [✓] same title
[ ] or adopt _____ CS _____) [ ] new title

[ ] attached amendment(s) and

[✓] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] further referral to _____

[ ] letter of intent adopted _____

Committee [✓] attached or [ ] adopted fiscal note(s)
[ ] new [ ] updated or [ ] previous
[ ] zero [✓] fiscal impact 268.2 DOR

MEMBERS SIGNING DO PASS

OTHER RECOMMENDATIONS

Rick Halford NO REC
Chairman signature and recommendation

[ ] Committee Backup attached

STATE OF ALASKA
1988 LEGISLATIVE SESSION

BILL VERSION: SCS CS for HB 390 (FIN) ##
PUBLISH DATE:

FISCAL NOTE

REQUEST:

Revision Date:
Title: An Act establishing the Alaska Science and Technology Foundation
Sponsor: Rules Committee
Requestor: S (HESS)

Agency Affected: Revenue
BRU:

Components: Operating

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
OPERATING						
PERSONAL SERVICES		176.4	223.0	308.0	318.0	328.3
TRAVEL		29.0	57.0	62.0	82.0	82.0
CONTRACTUAL		46.0	41.5	41.5	41.5	41.5
SUPPLIES		5.0	5.0	5.0	5.0	5.0
EQUIPMENT		11.8	3.0	6.5	1.5	1.5
LANDS & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		268.2	329.5	44.3	448.0	458.3
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		268.2	329.5	443.0	448.0	458.3
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME		3	4	6	6	6
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

This analysis shows funding required for staff, travel for board of Directors and staff, contractual, supply and equipment requirements for start-up and operation of Alaska Science and Technology.

Prepared by: Joyce B. Keller
Division: Department of Revenue
Phone: 465-2300
Date: April 25, 1988

Approved by Commissioner: Hugh Malone
Agency: Department of Revenue
Date: April 25, 1988

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

go0038hN
Utermohle
5/7/88

Original Sponsor: Rules/Governor

IN THE HOUSE BY THE FINANCE COMMITTEE

SENATE CS FOR CS FOR HOUSE BILL NO. 390 (Finance)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act establishing the Alaska Science and Technology Foundation; relating to the membership of the science and engineering advisory commission; and providing for an effective date."

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

* Section 1. AS 37 is amended by adding a new chapter to read:

CHAPTER 17. ALASKA SCIENCE AND TECHNOLOGY FOUNDATION.

Sec. 37.17.010. FOUNDATION ESTABLISHED. (a) The Alaska Science and Technology Foundation is established as a public corporation in the Department of Revenue.

(b) The purpose of the foundation is to promote and enhance through basic and applied research: economic development and technological innovation in Alaska; public health; telecommunications; and sustained growth and development of Alaskan scientific and engineering capabilities.

Sec. 37.17.020. ENDOWMENT ESTABLISHED; INVESTMENT. (a) In order to support the foundation, the Alaska science and technology endowment is established, consisting of money appropriated to the endowment for the benefit of the foundation.

(b) The endowment shall be held and invested by the Alaska Permanent Fund Corporation subject to AS 37.13.120; however, net income from the endowment shall be distributed under this chapter. Net income from the endowment may not be included in the computation of net income available for distribution under AS 37.13.140.

Sec. 37.17.030. ENDOWMENT INCOME; EXPENSES; GRANTS. (a) The distribution of the income and realized capital gains of the endowment is subject to AS 37.07. The net annual realized capital gains of the endowment may be equally divided between the income and the principal of the endowment. Upon application of the foundation's board of directors or its authorized representative, after authorization under AS 37.07 the Alaska Permanent Fund Corporation shall pay to the foundation the income appropriated.

(b) In addition to endowment income, the foundation may receive gifts, grants, and other aid. The foundation may accumulate income, gifts, grants, and other aid from any one year and distribute them in a later year.

(c) The administrative expenses of the foundation are subject to AS 37.07 and shall be paid from the income of the endowment.

(d) The board of directors shall distribute the income of the endowment through competitive grants under this chapter. The board may disburse money that is received by the foundation for special or general purposes.

(e) Subject to AS 37.07, the board of directors may pay into the principal of the endowment any part of the endowment income. Money paid to the principal under this subsection may not later be withdrawn by the board of directors.

Sec. 37.17.040. BOARD OF DIRECTORS. (a) The foundation is governed and administered by a board of directors appointed by the governor to serve staggered terms of four years. A member serves on the board until a successor qualifies and is appointed. A member of the board of directors may be removed from the board by the governor for cause.

(b) The board of directors is composed of nine members, as

follows:

(1) two members must be scientists or engineers residing in Alaska who are recognized contributors in the science or engineering fields, one of whom is employed by the University of Alaska;

(2) two members must be scientists or engineers residing outside Alaska who are recognized contributors in the science or engineering fields;

(3) four members of the public, at least two of whom have recognized expertise or experience in resource development, manufacturing, finance, telecommunications, or public health;

(4) one member who is employed by a department or agency of the state, other than the University of Alaska.

Sec. 37.17.050. ELECTION OF OFFICERS. The board of directors shall elect a chairperson and a secretary from its members, each to serve for a term not to exceed two years.

Sec. 37.17.060. QUORUM. A majority of the voting members of the board constitutes a quorum for the transaction of business.

Sec. 37.17.070. MEETINGS AND REIMBURSEMENT FOR EXPENSES. The board shall meet at least twice a year. Additional meetings may be called at the discretion of the chairperson. Board members are entitled to per diem and travel expenses authorized for boards and commissions under AS 39.20.180. Board members not employed by the state or the University of Alaska receive an honorarium of $200 for each day spent on official business of the board, not to exceed a total of 30 days per annum.

Sec. 37.17.080. STAFF. The board of directors shall employ and determine the salary of an executive director, subject to AS 37.07. The executive director serves at the pleasure of the board. The executive director may, with approval of the board, select and employ

additional staff as necessary. An employee of the foundation, including the executive director, may not be a member of the board. The executive director and the other employees of the foundation are in the exempt service under AS 39.25.110.

Sec. 37.17.090. GRANT PROCEDURES, LIMITATION, AND REQUIREMENTS. (a) The board of directors shall provide adequate and appropriate notice of all solicitations for grant proposals at least once a year. The board shall give preference, consistent with the purposes of this chapter, to soliciting proposals for research projects that are reasonably expected to use or enhance research capabilities for basic and applied research in the state. The board may actively solicit persons, organizations, or institutions to apply for general or specific grants.

(b) Grant proposals must be submitted for impartial and competitive peer review for scientific and technical validity by a panel of recognized experts appointed by the board of directors. Members of a peer review panel are entitled to per diem and travel expenses authorized under AS 39.20.180. The identity of members of a peer review panel is confidential until final action is taken by the board on the grant proposal. The board shall consider the recommendations of the panel in deciding whether to award a grant. The board may exempt grants of $5,000 or less from peer review.

(c) Grant awards by the board must be consistent with the policy and research priorities identified by the Alaska Science and Engineering Advisory Commission.

(d) Not less than 50 percent of the endowment income that is distributed as grants by the foundation in a fiscal year must be for grants of $100,000 or less, exclusive of other funding.

(e) The board of directors shall, as a condition of a grant, and

as necessary, set the maximum percentage of a grant award that may be expended by a grantee to pay for overhead costs of the grantee's project.

(f) The board shall require from each grant recipient periodic reports and a final report. The board shall disseminate to the scientific community and to the public, on a regular basis, the results of research sponsored by the foundation. Proprietary reports and other information voluntarily filed with the board or critical to patent applications may be kept confidential if the person providing the information so requests and the board finds that it is in the best interest of the state. Information developed under a grant awarded by the board is public information unless the applicant requests and the board grants confidentiality prior to the award of the grant. Dissemination of sponsored research must be in a form of greatest utility to the scientific community and the general public and may include technological transfer or applications information for promising results.

(g) As a condition of all grants awarded under this chapter, the board of directors shall require that a fair and reasonable percentage of all income, if any, from royalties, licenses, and patents produced as a result of the grant be paid into the principal of the endowment, subject to AS 37.07.

(h) In awarding a grant under this chapter, the board of directors shall give preference to an applicant who is an Alaska resident, association, organization, or institution. If the board determines that an Alaskan applicant does not have the expertise or capability to satisfactorily perform the grant research without assistance from an out-of-state person or institution, the board may award a grant, jointly, to the Alaskan applicant and an approved out-of-state person

or institution. If a grant is awarded to an out-of-state person or institution, the board may require that the out-of-state grantee associate with an Alaska scientific or technical organization while performing the grant research. In all cases, a grant may be awarded only if the board determines that the research to be performed will further the purposes of the foundation under AS 37.17.010(b).

(i) A grant may include money to obtain equipment. The equipment is the property of the foundation. At the termination of the grant, the equipment shall be disposed of at the discretion of the board.

(j) The board of directors shall provide a written report of its activities and finances to the governor and the legislature no later than January 30 each year.

Sec. 37.17.100. CONFLICT OF INTEREST. (a) Members of the board of directors are subject to AS 39.52 (Alaska Executive Branch Ethics Act).

(b) The board of directors shall adopt a written policy, in addition to the requirements of AS 39.52, to address potential conflicts of interest of its members and members of a peer review panel.

Sec. 37.17.110. REGULATIONS. The board of directors may adopt regulations to implement this chapter.

* Sec. 2. AS 39.25.110 is amended by adding a new paragraph to read:

(25) the executive director and staff of the Alaska Science and Technology Foundation (AS 37.17.010).

* Sec. 3. AS 44.19.257(a) is amended to read:

(a) The commission is composed of <u>eight</u> [SEVEN] members appointed by the governor as follows:

(1) one member is to be appointed from individuals from the academic institutions <u>in</u> [OF] the state with expertise in areas of

research relating to the state, including the physical, biological, health, environmental, social, and behavioral sciences;

(2) one member is to be appointed from individuals who are engaged in activities furthering the welfare of the human and physical environment and who have expertise in areas of research relating to the state, including the physical, biological, health, environmental, social, and behavioral sciences;

(3) one member is to be appointed from state departments with research needs;

(4) one member is to be appointed from individuals familiar with the state and representative of the needs and interests of private industry;

(5) one member is to be appointed from individuals with experience in national and international research programs;

(6) one member is to be appointed from the general public; [AND]

(7) the executive director of the Alaska Science and Technology Foundation established under AS 37.17; and

(8) the senior science advisor in the governor's office, who serves as chairperson [CHAIRMAN] and director of the commission.

* Sec. 4. AS 44.19.259 is amended to read:

Sec. 44.19.259. TERM OF MEMBERS OF THE COMMISSION. Members of the commission, other than the senior science advisor and the executive director of the Alaska Science and Technology Foundation, serve staggered terms of four years and until a successor qualifies and is appointed.

* Sec. 5. This Act takes effect immediately under AS 01.10.070(c).

STATE OF ALASKA
1988 LEGISLATIVE SESSION

BILL VERSION: CS HB 390 (FIN)
PUBLISH DATE: HOUSE 3/11/88

FISCAL NOTE

REQUEST:

Revision Date:
Title: Establishing the Alaska Science and Technology Foundation
Sponsor:
Requestor:

Agency Affected: Alaska Permanent Fund Corporation
BRU:
Components: Alaska Permanent Fund Corporation

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES		9.0	9.0	9.0	9.0	9.0
TRAVEL		3.0	3.0	3.0	3.0	3.0
CONTRACTUAL		87.0	87.0	87.0	87.0	87.0
SUPPLIES		1.0	1.0	1.0	1.0	1.0
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		100.0	100.0	100.0	100.0	100.0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER		100.0	100.0	100.0	100.0	100.0
TOTAL						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

Computed at the rate of 10 basis points per $1000 of funds invested.
(Note: Costs above for FY 90-93 do not account for inflation.)
These costs are based on CSHB 390 (HESS) WITH attached Amendment No. 1.

Prepared by: Alaska Permanent Fund Corporation
Phone: 465-2047
Division:
Date: 3/2/88

Approved by Commissioner: David A. Rose
Date: 3/2/88
Agency: Alaska Permanent Fund Corporation

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

FISCAL NOTES

3/3/88

QUESTIONS AND ANSWERS ABOUT
THE ALASKA SCIENCE AND ENGINEERING FOUNDATION

1) What is the Alaska Science and Engineering Foundation?

The Foundation is an agency to fund Alaskan projects and programs of a scientific and technical nature whose results will be economically or scientifically useful to the state.

2) What are the goals of the Science Foundation?

The goals are to use the tools of basic and applied research to promote: economic development and technological innovation, public health and the sustained growth of science and engineering capability in the state.

3) How important is the Foundation to Alaska's future?

Science and technology will be a key driving force for future economic development in the State of Alaska. Over the past 50 years, the research and development expenditures in the United States have been responsible for 30 to 50% of the improvements in society. There is no more important single task in Alaska than to convert our economy from one based upon natural resources and their erratic

Packet from HFC not distributed to SFC

cycles to one of significant value added to our resources and broad economic diversity.

4. Why should the State of Alaska be involved with research and development activities? Is the private sector not capable of selecting and providing this necessary effort?

Investment in research and development is risky under any circumstances, so most businesses make such investments only if there is a good probability of an adequate return. Of course, the possibility that technology may create entirely new forms of wealth and provide a large payoff constitutes an even greater incentive. Because most small firms have little funding available for research, government assistance in funding research and development is necessary in order to spread the risk while insuring that necessary research gets done.

More than most other states, Alaska is deficient in income from sources other than raw natural resources. On a national scale, Alaska firms rank lowest in terms of their expenditures of research and development dollars. Applying technology to our natural resources to produce "value added" products or new forms of manufacturing is therefore likely to be the most direct way to improve our economic development.

Finally, special consideration must be given to the future citizens of Alaska, and to the establishment of programs for their benefit. Government traditionally assumes this responsibility, and through forward-looking research programs can provide the data bases and knowledge which are prerequisites for the formation of future businesses and areas of economic growth.

5) What economic benefits to Alaska can reasonably be expected from the State's investment in the Foundation?

All of the evidence at the level of the firm, the industry, and the general economy indicates that the contribution of research and development (R&D) to economic growth and productivity is positive, significant and high.

The current consensus among professionals who have studied national R&D issues is that the average gross social rate of return on R&D expenditures lies between 30 percent and 50 percent. (In this context, the "average gross social rate of return" includes the profits of the innovator plus any profits which accrue to imitators or which can be directly attributed to the use of the innovation.) Typically, one-third to two-thirds of this return is captured by the investor, with the remainder accruing to other beneficiaries. By focusing its research grants on Alaskan problems, and Alaskan scientists and researchers, the

Foundation can maximize the in-state capture of these benefits.

R&D investments are of course inherently risky. There is a great deal of variation in R&D rates of return, both across projects and for given projects over time. There are no guarantees of success. Still, while a downside loss potential exists (i.e., the amount of R&D investments), the upside potential, potentially much greater, is worth reaching for.

6) Does the need for a long-term commitment and funding mean no immediate returns are foreseeable for funded projects?

No. Many practical and useful technical projects of rapid return will be funded by this foundation.

7) What are some examples of programs that might be funded?

Research into the enhanced recovery of oil and utilization of natural gas.

The chemistry of the drying and stabilization of coal in order to raise its heating value from 7200 BTU/lb to 11,000 BTU/lb and thus increase its marketability.

The determination of the maximum sustainable yield of bottomfish and other fisheries in Alaska waters.

The investigation of causes of seasonal affective disorder in the Arctic climate and its relationship to injury and suicide.

Seed capital for engineering and development of a recirculating salmon hatchery in western Alaska.

Research on the genetic differences between pen reared salmon and the wild stock.

8) Who will be eligible to apply for funding?

All Alaskan residents, businesses, organization, institutions, state or private universities shall be given primary consideration for funding. When no Alaskan group or individual is capable of doing the work, whether through lack of personnel or equipment, they are encouraged to enter into a joint venture with a group from outside the state. In cases where there is no one in the state capable of addressing a problem, outside scientists and engineers would be encouraged to apply.

9) Why is it important that the foundation be financed through an endowment rather than annual appropriations?

A long-term, serious commitment to science and technology at a suitable level of funding will achieve the maximum effectiveness for the state's science dollar. In technical business, projects only come to fruition after several years. Many scientific projects, particularly those in renewable resources, require studies which must be sustained in an uninterrupted fashion through time. No satisfactory answer is available unless a long-term research commitment is assured.

10) About how much money will be available for research support?

An endowment of $100 million housed in the Permanent Fund will produce an annual basis from $6 to $8 million dollars. This is not an excessive amount for research but can be the basis of a long-term commitment.

11) How does the organization of this foundation compare with well-known examples such as the National Science Foundation or the Ford Foundation?

Aside from differences in their stated objectives, the Alaskan Foundation will have many features similar to other

foundations: a nine member board of directors comprised of four scientists or engineers, two of whom are from outside the state, plus four public members and one member of a state agency. Technical review will be performed by an advisory panel of technical experts selected from within and outside the state. The daily operation of the Foundation will be guided by an executive director and staff.

12. Why should the board of the Alaska Science and Technology Foundation include members from outside Alaska?

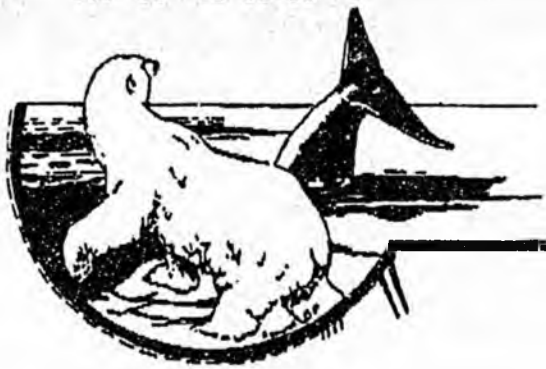
Because Alaska has a relatively small population of scientists and engineers, much of the knowledge and critically useful expertise about Alaska resides in the lower 48 and in other countries. If we are serious about producing the best science that we can -- and attracting to Alaska the best talent that we can -- the Foundation will need to include in its board outstanding representatives of the national scientific community. This link will be critical in establishing the Foundation as a credible and meaningful scientific institution on a national scale. From another perspective, it also will provide a measure of protection against undue parochialism in the pursuit of the Foundation's goals (a perceived flaw in some previous research funding efforts in Alaska). Additionally, an organic link with outside scientists and agencies (such as the National Science Foundation, the National Institute of Health, et

al.) will enhance the Foundation's opportunities for participating in joint programs and federal funding.

Because the Foundation's proposed enabling legislation (HB 390) specifically provides that Foundation-sponsored research shall focus on Alaskan problems, with preference given to Alaska's applicants, there is little question that the benefits of Foundation-sponsored research will accrue primarily to Alaskans.

13) Have other states established science and engineering foundations?

Yes. Forty-three other states have spent a total of $700 million to establish research parks, incubator programs, small grant programs or other mechanisms to assist the link up of technology with economic development. The top seven states have spent $350 million for this purpose. Alaska has spent nothing.



UIC-NARL

TELECONFERENCE ON H.B. 390 & 391; 2-23-88
TESTIMONY BY DALE. B. STOTTS, PROJECT COORDINATOR UIC/NARL

On behalf of the Ukpeagvik Inupiat Corporation, through its President, Ronald H. Brower, Sr., I am pleased to express UIC's support for the enactment of H.B. 390 & 391.

As the present operator, and soon to be owner of the former Naval Arctic Research Laboratory, UIC is very encouraged by legislation to establish an Alaska Science and Technology Foundation, along with the funding mechanism provided by an endowment to the Foundation.

Governor Cowper and state legislators that support these two bills should be comended. The vital role of science and technology in Alaska's growth and development is yet to emerge at the level this great land and its citizens deserve.

We recommend that the Foundation develop a close association with the Arctic Research Commission and the National Science Foundation. Tremendous amounts of time and resources have gone towards the reorganization of the national interest in arctic research and science, and any duplication of effort would constitute a poor investment of tax payer monies.

(907) 852-7800, Pouch UIC/NARL, Barrow, Alaska 99723
Ukpeagvik Industrial Center / National Arctic Research Laboratory
(Formerly: Naval Arctic Research Laboratory)

As an organization with some expertise in providing logistical support to government, education, industry, and science and research, we recommend that the Foundation carefully weigh regional differences in cost of project support. This would be helpful when establishing the maximum percentage of a grant award that may be expended to pay for overhead costs of a grantee's project.

In the fall of 1987, I provided to the Governor's Science Advisor's office, information on logistic support capabilities of the UIC/NARL facilities. It is our understanding that three (3) regional arctic research centers will be designated in the near future. Should this come to pass, we urge the Foundation to consider the vital role that logistic support plays in the conduct of field research, whether it be in the arctic or subarctic areas.

Passage of H.B. 390 & 391 has far reaching implications for the benefit of the Alaskan economy, health, and well being of its residents. UIC stands in full support of this legislation.

Thank you.

DRAFT

SAMPLE PROPOSALS IN RESOURCES AND HIGH TECH

1. Seekins, Maine: Mid Coast Compost and Feasibility Project - Market Survey.

   Funding: $10,000

   Private Match: $91,000

2. Lampila, Oregon: Development of Value-Added Products From Salmonids.

   Funding: $77,544

   Matching Funds: $22,242

3. Merrill, Washington: Bull Kelp Cultivation Technologies.

   Funding: $48,934

   Matching Funds: $22,242

4. Malinkowski: NY: Integrating Surf Clam Culture into an Existing Hard Clam Mariculture Faculty.

   Funding: $38,614

   Matching Funds: $ 6,210

5. McClintock, AK: ANF Model Land Lease

   Funding: $32,440

   Matching Funds:

6. Charles, Bethel, AK: Nelson Island and Nunivak Island Near Shore Fishery Survey May 1988 to May 1989.

   Funding: $60,938

   Matching Funds: $2,359,882

7. Burgess, Fairbanks: Underground excavator for subsurface placer mining in winter. Prototype development and testing with CRREL.

   Funding: $12,400

   Matching Funds: $206,000

8. Rao, MIRL: Distribution and Significance of Trace Elements in Alaskan Coals.

Funding:	$0
Matching Funds - DOE	$59,749

9. Walsh, Rao, MIRL: Performance Evaluation of Water Only Cyclones Using Radiotracers

Funding:	$0
Matching Funds - DOE	$78,224

10. Rao, MIRL: Drying of Low Rank Coals and Its Impact on Coal Surface Chemistry.

Funding:	$52,076 $34,000
Matching Funds - DOE:	$86,511

11. Maneval, Besiot, MIRL: Feasibility of Briquetting and Marketing of Dried Alaska Coal.

Funding:	$30,450
Matching Funds - DOE:	$30,450

12. Bandopadhyay, MIRL: Technical and Economical Feasibility of Underground Mining Coal Deposits on the North Slope.

Funding:	$33,637
Matching Funds - DOE:	$33,637

13. Bandopadhyay, MIRL: Manual of Practice for Pre-mining in Arctic and Subarctic Alaska.

Funding:	$33,637
Matching Funds - DOE:	$33,637

14. Sengupta, MIRL: A knowledge Based System for Selection of Surface Coal Mining Equipment under Arctic Conditions.

Funding:	$20,857
Matching Funds - DOE:	$20,857

15. Johnson, Skudrzyk, MIRL: High Pressure Water Jet Fragmentation and Cleaning of Alaskan Coal.

16. Sackinger, GI, UAF: Sea Ice and Ice Island Characterization, Movement and Structure Interactions.

    Funding: $150,000

    Matching Funds - DOE: $150,000

17. Kennish, Anch: Evaluate Southestern Alaska Fisheries as a Dietary source of Omega-3 fatty acids.

    Funding: $32,410

    Matching Funds:

18. Kramer, Anch: Demonstration of the Culture of Mollusks and Seaweed for sale.

    Funding: $64,437

    Matching Funds: $17,865

19. Raymond: Salmon Enhancement in Western Alaskan Coastal Villages through recirculating incubators.

    Funding: $51,000

    Matching Funds: $35,777

20. Clinton: Computed operated portable calibration devices for the pipeline.

    Funding:

    Matching Funds:

21. Larsson, Wrangel: Pilot Oyster Project.

    Funding: $44,000

    Matching Funds:

22. Panst: Littleneck Clam Harvesting, Detoxification, and Marketing.

    Funding: $14,000

    Matching Funds: $11,250

23. Nash: Development of Small Scale Fish Smoking Processors.

Funding:	$30,024
Matching Funds:	$11,416

Nobel Prize for Theory of Economic Growth

Thirty years ago, Solow proved that technology, not capital, is the key factor in making economies grow—an insight now taken for granted

THERE may have been a moment in the early 1950s when Robert M. Solow, winner of this year's Nobel Prize in Economic Science, was not in the mainstream of American economic thinking. That was before Solow had published his papers on technology and economic growth, written when he was a 32-year-old assistant professor at Massachusetts Institute of Technology (MIT).

But when the papers came out and were read, the mainstream shifted course and enveloped Solow. He has stood squarely in the deep part of the stream since then, leading many younger economists to venture in, tossing jokes at those he thinks are clinging to the shallows.

Economists contacted by *Science* after the prize was announced spoke warmly of Solow's contribution to the field not just as a writer but as a person. "He's been a great moral force within the community" because of the integrity of his research and professional life, says Dale Jorgenson of Harvard. "In another society he would be a holy man." The Nobel award in this case was "long overdue," says Henry Aaron of the Brookings Institution, who also mentioned Solow's charm and wit. The Nobel committee ought to embellish the prize this time with "an oak leaf cluster for humor," according to Charles Schultze of Brookings, chairman of President Carter's Council of Economic Advisers.

These comments come from Solow's own team, in the sense that these writers share a common vision of how the macroeconomy works and how governments can intervene to ameliorate its effects, derived from the theories of John Maynard Keynes. But friendly words are heard in the opposing camp as well, among the free market, monetarist, and neoclassical writers based at the University of Chicago. Robert Lucas, Jr., an opponent of government meddling in the markets who is mentioned as a potential Nobel winner, says that in the 1950s "Solow was a real pioneer in pushing a whole field in a dynamic direction. He was a big influence on me and a lot of other people. . . . His work has had such wide influence that just about everybody believes it; ask any economist." While Lucas and the Keynesians differ on policy recommendations, Lucas sees Solow's early work as neutral: "It had nothing to do with Keynesian economics: it was just straight neoclassical economics."

"You take a 25-year-old economist, a theorist at that, and you give him an office next to Paul Samuelson . . . that's a great experience," says Solow.

The papers the Nobel committee cited in announcing the prize were published in quick succession in 1956 and 1957. The first proposed a novel theory to explain how national economies grow. The second offered a means of testing the theory, laying out a system by which the inputs to growth could be broken down into pieces and the pieces measured. This work established some new economic truths and proved them by rigorous methods.

Solow concedes that the social sciences have "fuzzy edges" and that in economics it is possible to keep a bad idea alive for 10 years on sheer ingenuity and "enlargement of observations." But in the 30 years since Solow asserted that technology plays the key role in economic growth, his idea has been examined in literally hundreds of journal articles and a score of books, leading to a cottage industry in the profession known as "growth accounting." As Solow says, "The idea has matured. I know of no case where it has been disconfirmed in modern industrial economies."

Like other discoveries, this one seems obvious now, but was not obvious when first described. Solow recalls that like many others he was drawn to this topic after World War II by the economic drama of the newly decolonized nations. Everyone expected them to follow the path of the industrial nations, he says, but how? What would make their economies grow?

Economists had been preoccupied with the fluctuations of business cycles, the periods of growth and recession that hover about long-term trends of growth in the gross national product. But relatively little attention had been given to the question of why one country has a growth trend of 3%; a second, 4%; and a third, 2%. Most attention focused on 10-year bits of economic behavior. Solow wanted to look at longer periods.

The wisdom at the time, Solow says, was that investment of savings was the key to growth. The more a nation saved, the faster it could grow. "What distinguished poor countries from rich countries was that poor countries were able to save very little because they were poor," Solow says. The rich ones would grow faster because they started out rich. That was an idea he rejected. Another was the notion that an industrial economy—once launched on a path of high growth—would have no choice but to continue along a very narrowly prescribed growth trend line. "If it ever drifted off in one direction or the other, those movements would be magnified," leading to a crisis.

Solow formulated a new theory that did away with the "knife edge" description of growth, allowing for greater flexibility in planning. He found that the existing literature omitted forces that tend to balance one another and keep the economy in good health. His technical efforts to dissect growth made a big impression, for he came up with a startling and unexpected fact: capital investment is not the key factor in economic growth, not by a long shot. Neither is the increase in workers. Solow showed with statistics on wage and property income between 1909 and 1957 that neither of these two was the most significant element. Instead, it was a residual factor, an undefined, broad category that has come to be known as innovation or technology.

Publication of this finding made a splash in 1957, as several of Solow's colleagues point out, partly because it coincided with the Soviets' launch of Sputnik. Solow provided the intellectual basis and the Soviets provided the political impetus for an intense national drive to promote science and technology. It is now taken as an article of faith, certainly by the current Administration, that one of the best uses of federal funds is to invest them in basic research. For example, Ronald Reagan's January 1987 budget priorities statement justifies a 76% increase in research funding between 1982 and 1988 as follows: "Support for basic research, particularly at universities, is a key factor in gener-

Alaska State Legislature

Please enter into the record my testimony to the House HESS committee name

committee on HB 390 & HB 391 bill/subject , dated 1/22/88 .

The bills are an excellent concept and will materially assist the State of Alaska in stabilizing the economy by developing new methods and techniques of accomplishing needed solutions to our problems. The concept iterates the role of the engineer but does not fully address the fact that the engineer is the translator between science fact and usable end product. To this end it is strongly urged that the word "technology" be replaced in the title of the bill, in the name of the foundation, and in the name of the endowment in both bills by the word "ENGINEERING". "Technology" describes both science and engineering. The National Science Foundation has had continuing problems with the exclusion of the word "ENGINEERING" from it's title. Dr. E. Block, Director of the National Science Foundation, continues to point to the role of engineering and has had to make significant organizational changes to compensate for the omission. The further change of appointment of a "scientist and an engineer" in Section 37.17.040 b 1 and b 2 instead of "scientists or engineers" will help to assure a balance.

Signed: Vincent S. Haneman Jr.

Testifier

Dean, School of Engineering, University of Alaska Fairbanks

Representing (Optional)

1258 Viewpointe Drive, Fairbanks, AK 99709

Address

Office 907 474 7330

Phone No.

ALASKA CONFERENCE OF MAYORS

RESOLUTION NO. 88-19

RESOLUTION OF THE ALASKA CONFERENCE OF MAYORS
SUPPORTING ESTABLISHMENT OF THE
ALASKA SCIENCE FOUNDATION.

WHEREAS, the link between scientific/technical achievement and economic development has been clearly demonstrated in communities around the world; and

WHEREAS, local governments are playing a leading role in efforts to achieve economic development in Alaska; and

WHEREAS, there is no institution in Alaska with responsibility to apply scientific knowledge to locally defined and selected economic development issues; and

WHEREAS, the scientific resources of the University of Alaska, state government, and other Alaska organizations have not been effectively mobilized to meet technical and economic development and health needs identified by local leaders; and

WHEREAS, the state administration has proposed to establish and endow the Alaska Science Foundation to provide and focus scientific and technical resources on clearly defined Alaska needs.

THEREFORE, BE IT RESOLVED that the Alaska Conference of Mayors urges the legislature to establish the Alaska Science Foundation; and

BE IT FURTHER RESOLVED that municipal and community and industry leaders be provided formal representation on the governing board of the Alaska Science Foundation to insure a practical and applied orientation to the research.

Adopted this 10th day of February 1988.

Erling T. Johansen, President
Alaska Conference of Mayors

ATTEST:

Scott A. Burgess, Executive Director
Alaska Municipal League

Alaska State Legislature

Please enter into the record my testimony to the House HESS committee name

committee on HB 390 & HB 391 bill/subject, dated February 23, 1988.

We believe HB 390/HB 391 is an investment in Alaska's future and we therefore strongly support it and hope you will as well. One of Alaska's greatest resources is the creativity of its citizenry. This fact has been demonstrated time and again. HB 390/HB 391 provides an opportunity to draw upon that creative resource and direct it to applied research leading to enhancement of economic development, enhancement of public health and enhancement of technological innovation in and for Alaska.

Some additional points we would like to make:

1. Because of the large engineering profession that exists in Alaska - engineers have played a vital role in the past and present development in the state and will be a critical element in the future of the state - we believe the name of the bill should be changed to Alaska Science and Engineering Foundation. Consider if you will the role engineers have played in the design, construction and operation of the North Slope oil fields or their role in improving public health facilities in rural and urban Alaska.

2. To ensure balanced representation of science and engineering on the Board of Directors of the Alaska Science and Engineering Foundation (Sec 37.17.040) we recommend that the section be amended so the:

Two members residing in Alaska be one scientist and one engineer

Two members residing outside Alaska be one scientist and one engineer

3. Finally, we believe the emphasis of the research projects funded by Alaska Science and Engineering Foundation be on applied research. I mean by this research directed at solving Alaska's problems, the type of problems that engineers can provide a leadership role in solving.

Signed: _____

Testifier - John P. Zarling, Ph.D., P.E., Director
Institute of Northern Engineering, University of Alaska Fairbanks

Representing (Optional)

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AN ECONOMIST'S VIEW OF THE PROPOSED ALASKA SCIENCE FOUNDATION

David M. Reaume, February 22, 1988

In a review of the professional literature on the relationship between research and development expenditure and economic growth, Morton Kamien and Nancy Shwartz of Northwestern University's graduate school of management had this to say: ''All of the evidence at the level of the firm, industry, and economy indicates that the contribution of R&D to economic growth and productivity is positive, significant, and high.'' [JOURNAL OF ECONOMIC LITERATURE, Vol. XIII, No.1, page 11 (1975)]

Nothing that has happened since their survey was conducted has changed that conclusion. The present consensus opinion among professionals who have studied the issue is that the gross social rate of return to R&D expenditure lies between 30% and 50%; where by ''gross social return'' is meant the profits of the innovator plus any profits which accrue to imitators or which can be directly attributed to the use of the innovation.

A question immediately arises. Can a government funded and managed R&D program be expected to perform as well as the average of those which have been shown to yield such large gross social rates of return ? In the body of this report I will address two aspects of this question of interest to those who wish to judge the merits of the proposed Alaska Science Foundation. (1) Why should state government involve itself in R&D; and (2) What can Alaska expect to realize in the form of a return on its investment in R&D ?

WHY SHOULD STATE GOVERNMENT GET INVOLVED ?

There are five justifications for Alaska state government involvement in an R&D program aimed at broadening our economic base: (1) the widespread sharing of risk and thereby its effective reduction; (2) the possibility that industries important to Alaska's future cannot or will not optimally invest in R&D; (3) the tendency towards under investment in R&D by the private sector that follows from the inability of innovators to capture all of the rewards of their innovations; (4) the desire on the part of some players to protect their investments in what may be obsolete skills and technology; and (5) government's accepted role as guardian of the interests of the unrepresented, in this context future Alaskans.

(1) RISK SPREADING/REDUCTION-- Investment in research & development even under ideal circumstances is risky. Although the average (mean) return may be as high as 50 percent, the variance of returns is also high, possibly comparable to the variance of results in oil exploration. In other words, the R&D equivalent of finding a dry hole is a very common experience. Government funding of R&D helps to spread the losses from R&D dry holes over a larger number of players. This has the effect of making more attractive many actuarially sound but risky R&D plays that might otherwise be left unexploited. If the additional players stand to benefit from the R&D, their participation may be justified.

(2) INDUSTRIES IMPORTANT TO ALASKA ARE AT THE BOTTOM OF THE R&D PILE-- New products and better ways of producing existing products will be found only if they are sought. Alaska's non-oil workhorse industries are near the bottom of the national ladder in terms of R&D expenditure measured either as a percent of sales, as a percent of pre-tax profits, or per employee. For example, in 1985 the metals and mining industry spent only 1.5 percent of sales on R&D, compared to 4.1 percent for the aerospace industry, 3.5 percent for the automobile industry, 7.8 percent for the drug industry, and 4.4 percent for the electronics industry. The food & beverage industry nationally spent an even lower percent of sales on R&D than did metals and mining (0.8 percent). For whatever reason, (a shortage of funds is likely part of the answer), we cannot expect Alaska's existing basic industries to provide the product and process innovations needed if Alaska is to prosper. (Data from Standard & Poor's Compustat Services as published annually in BUSINESSWEEK magazine's R&D Scoreboard.)

(3) INNOVATORS CANNOT CAPTURE ALL OR MOST OF THE REWARDS-- It appears from the research conducted over the past twenty years that between one-third and two-thirds of the profits directly attributable to an innovation are typically captured by imitators and by others, and not by the person or firm making the breakthrough. What this means is that many advances that are expected to produce more than adequate total profits are not pursued if too large a fraction of the total can be captured by parties other than the innovator. The patent system is an imperfect guarantor of property rights. If many Alaska players gain from a single innovator's breakthrough, state government funding may be needed to assure that good projects with dispersed benefits find their way onto the R&D agenda.

(4) ENTRENCHED INDUSTRIES MAY SUPPRESS R&D IN ORDER TO PROTECT EXISTING INVESTMENTS-- This is another way of saying that the goals of companies doing business in Alaska need not include growth and expansion if the risk to existing products and technology is perceived as great. In such cases new products may be much delayed or may be developed by others at some cost in terms of missed Alaska opportunities. Satisfaction with the status quo and mis-estimation of potential demand have been identified as other reasons why R&D may be suppressed. (Examples on request.)

(5) GOVERNMENT HAS A SPECIAL OBLIGATION TO FUTURE ALASKANS-- Future citizens are the special concern of government, or at least have been considered so at most times in U.S. history. Operationally, this means that government in its role of guardian of the interests of the unrepresented should be somewhat more forward looking than a citizen concerned solely with his or her own future. In the context of our discussion of the merits of the proposed Alaska Science Foundation, this means that the long lead times inherent in R&D processes should not weigh heavily against endowing the Foundation.

WHAT RATE OF RETURN CAN BE EXPECTED ON AN INVESTMENT IN R&D ?

The consensus is that in the long run the mean gross social return to investment in research and development lies between 30 percent and 50 percent. Of considerable importance is the generally accepted fact that there is a great deal of variation across programs, and for a given program over time. An investment in R&D is risky and acknowledged to be so. Many well designed and well implemented R&D programs show zero or negative returns on investment. It is expected that there will be numerous failures before a success is achieved, just as it is expected

that an oil company will drill many dry holes for every discovery. (An excellant summary of research into the impact of R&D on growth is TECHNOLOGY, LABOR, AND ECONOMIC POTENTIAL, by Roger E. Brinner, Data Resources, Incorporated Study No. 29.)

In major piece of research conducted for the National Bureau of Economic Research, John Kendrick and Eliot Grossman had this to say:

''The most important determinant of productivity growth is what Denison calls 'advances in knowledge'-technological and organizational-as applied in production. It results from cost-reducing innovations in the ways and means of production.'' (PRODUCTIVITY IN THE UNITED STATES TRENDS AND CYCLES, Johns Hopkins University Press, 1980, page 16)

Of the 30 percent to 50 percent mean gross return on R&D investment about one-third to two thirds is typically captured by the investor with the remainder accruing to other players. The IBM company benefited greatly from prior investments by Apple Computer. Other companies, some outside of the United States, benefit from the developments pioneered by Apple and by IBM. In principle there exist many innovations with a more than adequate gross social return on investment which will not come to market or which will be delayed for some time because the innovator cannot capture enough of the return.

Translated into direct impacts on Alaska these observations can be restated in the form of a small set of propositions.

Proposition #1: There are no guarantees that an expenditure on R&D will have any measurable impact on the Alaska economy beyond the creation of R&D jobs per se.

Proposition #2: For every $1 million invested in Alaska R&D an expected return of 40 % on investment means that the possible outcomes measured in terms of annual income created center around $1.4 million per year.

Proposition #3: The potential for a bonanza exists. Publicly funded R&D could lead to breakthroughs with very large rates of return.

A well-designed Alaska Science Foundation is a good idea. On average, the results can be expected to be unexciting but solid; the downside loss potential is minimal (at most we lose the interest on the endowment); and the upside potential is worth reaching for.

MINUTES
Alaska Science Foundation
DRAFT COMMITTEE MEETING
January 4 & 5, 1988
Westmark Hotel
Fairbanks, Alaska

Ed Clinton called the official meeting of Governor Steve Cowper's appointed Draft Committee to order on January 04, 1988, 9:00 a.m., at the Westmark Hotel in Fairbanks, Alaska. This selected group was asked to critique a draft Senate Bill written by the Governor. The Draft Bill is "An Act establishing the Alaska Science and Technology Foundation."

MEMBERS PRESENT

Ed Clinton, Businessman/Inventor
Dr. Don Behrend/Vice-President/University of Alaska
Dr. Alex Hills/Staff University of Alaska
Dr. Rogz Basi/Professor/Pacific University
John Carman/Lyons Bank/Anchorage
Fay Pye/Senior Project Engineer/ARCO

GUESTS PRESENT

Dr. William R. Wood
Mr. Paul Gavora

OPENING COMMENTS: (By Ed Clinton)

Background Information:

Ed Clinton presented historical data on the Draft Bill that he had received from Governor Cowper's office on New Year's day. Clinton had received the idea from his good friend Dr. Alex Hills, who had received a grant from the Federal Government. He had spoken with the Governor on December 19, 1987. At that time, Clinton prepared a brief paper on what he thought was a possible approach for applying basically the same sort of program in Alaska that the Federal Government does nationwide. He gave the governor a rough outline of this program.

The Governor responded to this by suggesting that an 'a-political' group be formed to see if they could come up with some form of legislation that would employ basically those same ideas that the SBIR has in the State of

Alaska. He said that he would. Clinton had received the draft Bill from the Governor on December 31, 1987. This incorporated some of the ideas that Clinton had given to the governor from the SBIR section.

Clinton stated that he had mailed to as many individuals as was possible a copy of this draft. He made reference to an agenda and hoped that the committee could come up with a form of draft legislation that would meet the governor's requirements and possibly broaden the base of industry in the State of Alaska. He stated that two other people were invited and had not yet arrived for this meeting. Dr. Don Behrend and Fay Pye had also been invited to attend the committee meeting. Clinton informed Dr. Wood and Mr. Gavora that they would receive copies of everything that has been done thus far, including their input.

The time frame to get the Senate Bill back to the Governor was set for Thursday.....January 7th.

The governor had requested that the committee present to him the draft Senate Bill in a final form to give to the Legislature on January 10th; to be one of the first bills that goes to the Legislature. He explained that this work had to be done as expeditiously as possible.

Ed Clinton stated that he realized that the comments by Dr. Wood and Mr. Gavora may differ from those suggestions by the Governor. The governor would receive a copy of the transcript of the minutes. All present at the meeting read over the Draft Bill.

COMMENTS ON DRAFT BILL FROM GOVERNOR COWPER:

Dr. William R. Wood made reference to the fact that a group of citizens had been working on a similar Science Foundation bill for at least four years. They had been assured that an earlier bill would pass. The document that was before the group is similar to the one that they had raised money for. Their document was two-fold; not a dime of government money; no corporation money; all individuals. The money represented $1,000.00 cash 'on the barrel head' from approximately 365,000 Alaskans.

In making reference to the Board that was set up as a Scientific Advisory Commission to the Foundation, Dr. Wood stated that the business industry and government; whether it was local, state or federal or other country government including the academic fraternity is the principal that needs to be preserved in whatever legislation that will come out. Dr. Wood

stated that the Commission can't function as a department of government. He suspects that there will be a lot of opposition from the established agencies of the same government. He felt they might not get the support of the academic world.

"The Foundation should be set up as far away from the Legislature as possible. You can't mix strategy and tactics in the same office if your enterprise is beyond the embryo stage. You have to have the policy part; the priority part in one package. In the other package, you have the 'how to do, the when, the where'. In the field of science, you have science administration in one package and you have the science practice in the other."

Dr. Wood advised that the Office of Science and Technology should be through the governor. The State should decide what the policy will be. The advisory group should inform the governor.and priorities should be identified. This is a job that only the Legislature can decide; however they do it under the advisement by the Governor. The Foundation would provide a liaison function. Dr. Wood suggested that someone of stature needs to represent the State. Dr. Wood felt that it should be someone who knows their way around and can sit down with the top dogs at the federal level.

He further suggested that people need to be made aware of the geopolitical conditions of the world today. The Arctic zone or area of the North is in mid-stage of geopolitical consideration around the world, which leads to the military buildup in Alaska; leads to all of the electronic wizardy that we're getting - established to the State by the Federal Government. This is a geopolitical interest. This is probably the most important position the State has. It should be non-political.

In summary: the existing Alaska Science and Technology Foundation that Dr. Rasmuson helps support could be what Dr. Wood described as 'establishing direction to the program.' Dr. Wood stated that it must be separate; developing programs, specific projects, and funding. "**Do not leave it as a Department of Administration.**"

Comments from Paul Gavora:

Mr. Gavora agreed that even if the bill does pass it would be limited in its scope, because the financial participation and so-forth should be wider than the State of Alaska. It should be able to attract funds from throughout the whole nation's industry; academia foundations.

Committee Member John Carman stated that they all agree that it shouldn't be part of the Dept. of Administration. He did wonder what it could be legally though.

Dr. Wood then suggested it could be a State Corporation; maybe something similar to the Railroad Authority. It is quasi independent but is close to be totally independent as it can be humanly divided. He showed concern that the Legislature would spread it all out, doing this for political reasons; done on the basis of 'let's just distribute the wealth that we have'. Dr. Wood recommended that there be no department; not in the University; not in the office of the governor. The Governor must have an advisory council at a level that is beyond politics.

Paul Gavora was also concerned that it would be a part of the funding of the State Budget and felt it would be lost.

John Carman commented that the funding would come automatically through the endowment; would not be subject to refunding each year through the legislature. The spending and allocation of the grant would be done by a board and would not be subject to legislative approval. He felt that they were going in the right direction.

Ed Clinton stated that he didn't feel that they were at 'cross-purposes'. He agreed that the statement of purpose needs to be more precisely defined. In reference to Section 37.17 (b) he relayed that he felt this should be made more specific. Dr. Wood stated that he didn't feel it should be made too specific.

Mr. Clinton clarified comments made by Dr. Wood to make sure that he understood exactly where he was coming from. He felt that Dr. Wood wants this removed as far as possible from the control of the legislature and should be a-political.

Dr. Wood made reference that the Legislature are in total control of the vital part; they are in control, and nobody else can be by the Constitution of the State, except the lawmakers.

Ed Clinton agreed with this. He suggested that the Board of Directors shall appoint the Executive Director. If this Bill were to become legislation, the people who evaluate the proposals and the grants should be totally removed from legislative control; should be experts in their

field; and it shouldn't be the responsibility of the continuing Board of Directors to judge the merit of the value of the proposals for grants.

Dr. Wood commented about Sec. 37.17.040, **The Board of Directors**. . . he felt this needed some attention. He felt that it is good that there are some members from outside of Alaska; it's more important that they have some top people outside of Alaska among the advisors to the governor's office; on what's happening around the world; what's happening in the U.S. and Canada, and what's happening in Alaska in the multi-national efforts. He felt that it is more important to have the real top people from outside of Alaska on that Board than on the operational Board; on the policy and priority one. In addition to scientists, he felt there should be some people from industry; specify that they must be scientists associated with industry in a major executive capacity. Industry must be recognized at the very top. He suggested that nobody but principals should have a vote on the Board of Directors.

Ed Clinton made reference to a document from the SBIR; a paragraph on the section where people have submitted requests for grants. A panel of judges have been picked by the Board of Directors of this organization to judge the merit of these grants.

> "The submitted proposals would then be evaluated by a panel of judges made up of distinguished scientists, educators and industrialists. For example, the USSR could be asked to send a member of the Soviet Academy of Sciences; Royal Dutch Shell, Director of Engineering; Hewlett Packard, a Research Scientist. This panel would be flown to Alaska; their fees and expenses paid for by the State. Their spouses would be invited to accompany them. A possible location for the panel to convene would be the University of Alaska - Fairbanks in July. The University and its faculty would act as the hosts for the State. The judging would take place over a two or three week period. The panel's stay in Alaska would be made as pleasant as possible. Tourist, fishing, and cultural exchange would be encouraged. It is envisioned that the good will of interest created between the judges and the State by such an event would have wide ranging benefits for the State. The cost to the State for those panel's expenses would certainly be less than $100,000.00."

Dr. Wood commented that this was exactly the proposal that they had presented to the State two years. The model is different, however. He felt that this was 'exactly right'. He felt this is a good proposal.

In reference to Sec. 37.17.040, he stated that this must be reworked with care to get the balance and the partnership. He suggested that Item No. 4 be deleted.

Paul Gavora commented that he felt that the 'four year term' is wrong; the staggered term is workable. He stated that there should be a minimum of a six year term. He explained that if they did this this would not be politicized.

Dr. Wood elaborated that it takes at least two years to get to the point where you really dare raise your voice on a subject. He felt that it will take some time for these people to get familiar with some of the things that they will need to 'wrestle' with; proprietary information. There is going to be a tremendous interchange of information.

John Carman explained that if there is a 9 member board on four year terms; this would mean that there would be two new members. He assumed that there would be nothing to prohibit some of them from being appointed for a second four year term. But, assuming that there weren't, there would be two new members every year.

Paul Gavora showed concern that a new governor could be negative and could cause problems. He felt that a longer term should be chosen to make sure it would work properly. He did not feel that four years would do it.

Dr. Wood reminded the committee that "this is not kid's play; this is not routine politics; this is not vote getting. . . this is survival of the State of Alaska as an entity in the Union." He stated that it is necessary to have a network of information that will be available to the public; at least on the need-to-know basis.

Ed Clinton made reference to the Uniform Trade Secrets Act. He explained that it is a law in 26 states which protects innovative ideas and processes from the time that they're conceived until such time as a copyright is granted or denied, or a patent is granted or denied. That passed the Senate last year; is being held up presently. It does offer a lot of protection. He hoped that this will become law.

In response to a question by Mr. Clinton concerning the resemblance of this bill and the one that Dr. Wood's group had presented, Dr. Wood stated that it incorporates some the things that were in the previous bill.

Mr. Gavora said that the spirit is there; the mechanics are political. He had a problem with the selection of limitations. One of the major objectives should be here, not only utilization in the State; the resources and talent and brains, but attracting additional brains and talent into the State; as long as it addresses the North. He felt that "we should look throughout the whole world to get the best damned brains in here."

Mr. Clinton made reference to the last paragraph on Page 2 of the statement sheet entitled "Establishment of a High Tech Industrial Base in Alaska":

> "The winners of the grants will then be notified of their awards. There will be certain stipulations attached to the grant awards. One would be that the grant awards must, in large part, perhaps 90 percent, take place in Alaska; in addition to a strict time frame, and the State would help them with housing. The State owns lots of housing, and a building. . . help them get licenses. . . " (The statement was read into the record.)

Dr. Wood stated that they would not be ready for any grants the first year. A lot of time will be spent to develop a program.

In response to a question by John Carman concerning the dollar amount of funding that would be appropriate on an annual level to create something that would be viable and have value to the State, **Mr. Gavora** replied thusly: "$300 million would be a nice place to start."

The committee were astonished at this amount.

Mr. Carman stated that to create a $100 million a year in income you'd have to have an endowment. . .

Mr. Gavora stated that this is ultimately what is needed. They would have some seed money and then their group tried to figure out some place to get a portion of a future income, which is going to come to the State, which is not appropriated today; case-in-point, North Slope Gas. This would grow over a period of 15 years; a long time. He stated that there are a lot of catch-ups to do. . . **Dr. Wood** stated that the "State is totally dependant on what people want of us on the outside." This project would be a start for the State to stand on their own two feet.

Dr. Don Behrend arrived at this juncture in the meeting. Dr. Behrend was briefed as to what had transpired thus far.

Dr. Wood reminded the committee that the Governor has addressed the real legislative concerns in his draft Senate Bill and is making progress.

Paul Gavora stated that Dr. Wood had already addressed many of his thoughts. He made reference to talk about 'science for science sake'. He reiterated that Science can be big business. He felt that examples of economic models should be brought out to be reviewed. The plan is long-range; a certain amount of pure science in this type of work should not be eliminated; reaching for new frontiers rather than just adaptation. It is necessary to have both.

Dr. Behrend commented that if you don't have both basic science and directed applied work that you condemn this effort to one that's more of an aggregation of projects that will be jerked around for their own particular constituencies. Basic Science can provide real continuity and real strength to it. He agreed that everything had been written broadly enough to include both basic science and directed research and technological development.

Dr. Behrend asked Dr. Wood about how a corporation such as this can be set up to receive private, federal, and state monies? He wondered if the procedure for a private foundation was well established in this state.

Dr. Wood stated that if it is set up as a department of government, they should forget the whole thing.

Dr. Basi asked how the Alaska Railroad Board was set up. Dr. Wood replied by stating that this is a good model to examine. He made reference to the Alaska Power Authority. He suggested that they look at these examples.

Mr. Gavora commented on two things that he felt that the Act is not addressing. . . 1) there is a great need in non-proprietary knowledge within the State; 2) a need for the collection of the information which is going to be created. There needs to be a place to store the non-proprietary knowledge; should be available to be retrieved.

Dr. Wood agreed that there should be an electronic information network for the Alaskan based information; The Rasmuson is ranked No. 1 on Alaskan data. Alaska Environmental Information Data Center (AEIDC)

would be a tremendous beginning. He made reference to the Arctic and Anarctic Institute in Lenigrad; also cooperate with the laboratories in Northern Japan.

Mr. Gavora stated that one reason they went out with the white paper was to try to create an awareness on the street of everyday Alaskans; of the need of having something like this foundation. They not only agreed, but people gave $1,000.00.

Mr. Clinton asked why their proposal was not reintroduced?

Mr. Gavora answered that they went for a constitutional amendment because of the allocation of the resource's issue. The Legislature cannot allocate those resources.

Mr. Clinton showed the group that it is quite impossible to get their proposal to the governor by the 10th. Dr. Wood stated that it is already there in the files so there would be no need.

Dr. Wood explained: "In our original legislation, we were going for a vote of the people, the way they did for the Permanent Fund; to get the allocation of a resource that would go against the dedicated funds provision of the Constitution of the State. That was the point that Paul was making here."

Mr. Clinton stated that the ultimate goal of their white paper could be achieved through this legislation and would depend on the action of the Board.

Dr. Wood responded that if it's set up as a department of government, one will not get one 'cent'. He reiterated that this is a 'common-sense approach'. He felt that the logistics are there. He felt that the public would accept this, avoiding the boom and bust, which has always been controlled outside of Alaska; a pretty basic point.

He reminded the group that there is a tremendous amount of monies and effort to get this program on its way.

Mr. Clinton responded by saying that the compilation of the list is going to require a lot of effort from a lot of people; no single board is going to do it.

Mr. Carman asked for some clarification . . . he wondered if Dr. Wood wanted the legislature to address the policy of priorities? Dr. Wood answered by saying, "Exactly." Mr. Carman stated that the Legislature cannot direct the inventors or the scientists as to where they're gonna come up with ideas. He felt that ideas have to come first, in this case.

Dr. Wood responded that the State cannot fund the ideas that come in at random; they've got to have a plan. There is a need for more knowledge in these areas.

Dr. Basi stated that he felt that they would be better off by seeking the guidance from scientific experts.

Dr. Wood argued that nobody is authorized to make policy for the State of Alaska except the elected representatives of the people in the law making body. If the Legislature would rather play around with projects without policy, it's up to the Governor to take the leadership and feed in the information upon which policy is to be established. And he does this. He distinguished between the words policy and practices. Dr. Wood reminded the group that the only definition of policy that has legal viability is the constitutional one.

Dr. Behrend made an attempt to make the definition of policy clear. The Legislature makes the policy (the governor giving some good ideas for it); the Board; a Science Board is called further; explicates that and sets priority areas for emphasis, and then the operation's arm of the Board proceeds to advertise for proposals; entertains proposals; evaluates and somehow gets on with the research.

All the committee agreed that this is true.

Mr. Clinton stated that it would be practical to continue on with the Agenda. He appreciated their comments and felt that there were no major problems; there may be some administrative details that may be in conflict with each other. He did not feel that there is a conflict with the General Goal and desired to get on with business. He invited Dr. Wood and Mr. Gavora to return the following day at 1 o'clock. Dr. Wood said that he would not be able to attend because he had surgery that day. Mr. Gavora stated that he would be back the following day. A recess was taken.

Mr. Clinton suggested that the committee elect an Acting Chairman.

Motion No. 1

MOVED BY FAY PEY AND SECONDED BY DON BEHREND TO ELECT EDWARD CLINTON AS ACTING CHAIRMAN OF THE COMMITTEE TO DRAFT A BILL FOR AN ACT ENTITLED, "AN ACT ESTABLISHING THE ALASKA SCIENCE AND TECHNOLOGY FOUNDATION."

Motion No. 1 passed unanimously

Chairman Clinton asked that the record show his disappointment that Dr. Alex Hills had not yet arrived at the meeting and hoped that he would be able to join them soon. He hoped that when Dr. Hills arrived that he will agree with their decisions. If not, he hoped that another vote could be taken; if he disagrees. There was no objection to his request.

He then requested that the group go through the Governor's draft, line by line and make suggestions, coming up with final phrasing; collectively trying to put something together that will be satisfactory.

STATEMENT OF PURPOSE:

(Views from Committee on Purpose of Science Foundation)

Committee member Pey requested that a definite statement of purpose be determined. Reference was made to the Draft Page 1, Item B . . . this will be the first thing that the Legislature reads and is the single most important phrase.

Ms. Pey showed concern with the $300 million request that Dr. Wood suggested. The Chairman commented that he did not feel that the large request is a political reality.

Committee member Carman conceived that it was possible that the previous proposal was too research oriented and not technology oriented/and applied technology oriented, and felt that this was the problem that the Legislature or the Governor had with it. He made reference to Dr. Basi's comment about the small garage inventor, or the smaller projects that might have more specific value added to the State as opposed to large scientific projects like studying the Aurora Borealis.

Dr. Basi had received the impression that there was much too much research orientation. This is a basic question that needed to be examined.

Ms. Pey commented that she understood that the purpose of creating a foundation was more to create the industries and/or expanding existing ones; establishing industries; at least a little bit more result oriented.

Mr. Clinton suggested: "The purpose of the Foundation is to promote and enhance technological development in Alaska with emphasis on increasing the industrial base through practical applications of the technology developed by the recipients of the grants made available through the Foundation."

Some discussion followed concerning the word 'research'. Dr. Behrend suggested that it might be necessary to have the University as the catalyst and be the prime mover in the implementation of this program.

Chairman Clinton reminded the group that the prime mover and those who will control this is the Board of Directors of the Foundation. He suggested that the purpose of the Foundation be defined as broadly as possible without offending anybody; obtain the money; and get a Board of Directors beyond the reach of the legislature, once they're in.

Mr. Carman suggested the wording might be 'through practical application of the research and technology developed by . . . He felt that 'research' should be read into the statement somehow.

Ms. Pey pointed out that the Foundation should not take the 100 percent risk of funding the entire project; they should ask a bank to assist. The committee wholeheartedly agreed.

The Chairman requested that each committee member write down what they felt would be a proper opening phrase for the purpose of the Foundation.

Discussion followed, trying to come up with an acceptable statement.

STATEMENTS BY COMMITTEE MEMBERS
(Proper wording for Purpose of Foundation)

John Carman stated that he tried to incorporate Fay Pey's consideration in his statement that the product consideration not only be the value

added to the State, but the non-availability of alternative funding; want to use these funds where they wouldn't otherwise be funded. One would not want to fund a project just because it's a good project if it would be funded through some other source anyway.

Don Behrend agreed that this should be incorporated in the implementation of any program. He didn't feel that this should be put in the purpose statement. This could be put under regulations, policies, and by-laws. This is a policy document.

Ed Clinton stated that it would be necessary to spell out what type of information is going to be freely disseminated. He made reference to the possibility of the Uniform Trade Secret Act will pass the House this term. He stated that the phrase that is used should be fairly straight-forward.

Fay Pey suggested using the words 'availability of information'.

John Carman summarized his interpretation of what the committee as a whole intend the purpose of the foundation to be in reality. Ed implied that the foundation is to promote development. For example, in order for the inventor to come in and apply for a grant and work under this system, he also has to feel that the reward is out there for the patent and his ideas; for him to get some reward for that. Carman got the impression that what was needed was more of that development and technological expertise in Alaska.

Dr. Behrend suggested that people from the University and the private sector should be put together. Mr. Clinton disagreed. He felt that they would automatically come together.

John Carman stated that, if the Uniform Trade Secret Act is enacted, then the information can be disseminated as soon as it is available. Mr. Carman stated that the committee will have to decide whether they're more concerned with dissemination of information; will this attract more industry? Or, will providing these patent rights and protecting trade secrets provide more technological development. Dr. Basi found this most interesting. Carman felt that it seemed that the University would be the catalyst to disseminate information and the Foundation's primary function would be primarily to promote the development through maintaining proprietary information and protecting trade secrets.

Ed Clinton spoke on the Trade Secrets Act and how important it is.

Dr. Basi teaches Entrepreneurship at Alaska Pacific and had many experiences with students giving away their secrets.

Dr. **Behrend** stated that one function of the Foundation is to conduct research in the State which will promote the economic development of the State, some of which will not be attracting companies that are going to be in the research and development business also.

Dr. Basi read his statement into the record. "The purpose of the Foundation is to promote economic and social advancement of Alaska through enhancing science and technology, facilitating a program of R & D for diversification of the value added base of Alaska." The overall purpose is the economic and social advancement of the State of Alaska.

Chairman Clinton commented that if the phrase 'the free dissemination of information' is included in the opening statement, that it needs to be clarified. It might be better not to address it here. It should be addressed in other legislation.

John Carman stated that, in order to make the statement simple, they would have to say that what they want to do is promote and enhance economic and social advancement through technological development of Alaska basically through grants.

Dr. Behrend statement read, "To promote and enhance the diversified economic and social advancement of Alaska through Science and Technology, including wide basic research and the appropriate dissemination of scientific and technological can be information or knowledge -- in keeping with protection of proprietary interests. . . . "

Fay Pey suggested that she felt it inappropriate to place 'economic and social development' in front of the statement; this is a by-product. She felt that the primary purpose of the foundation is to promote enhanced technological development. This will enhance the social and economic development.

Dr. Behrend commented that it should then be called the Alaska Technological Foundation. This was not his understanding ever of what this whole thing is about.

Fay Pey's understanding was that the purpose was for innovative technology and to create new industries. She wished to put the emphasis on the scientific and technological rather than the economic and social

development because she felt this was too broad. Alaska would be improving economic and social development by improving scientific and technological development.

Dr. Basi understood that the Governor was trying to come up with a package, and this statement is one of the pieces which would enhance economic and social development of the State.

The differences between the terms 'scientific' and 'technological' were discussed at length.

The Chairman stated that it would be impossible to put everyone's wish list into the paragraph. There should be no hidden agendas; there needed to be something basic.

John Carman's statement read as follows: "The purpose of the foundation is to promote and enhance scientific and technological development in Alaska through grants for research and development."

Motion No. 2

MOVED BY JOHN CARMAN AND SECONDED BY DON BEHREND THAT THE COMMITTEE AS A WHOLE AGREE THAT SEC. 37.17.010 (b) SHOULD READ: "THE PURPOSE OF THE FOUNDATION IS TO PROMOTE AND ENHANCE SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT IN ALASKA THROUGH A PROGRAM OF RESEARCH AND DEVELOPMENT FOR DIVERSIFICATION OF THE ECONOMIC AND SOCIAL BASE IN THE STATE OF ALASKA."

Motion No. 2 passed unanimously

Dr. Behrend asked that a semi-final draft be presented the following day so there could be some 'fine tuning' of the document that will be sent to the Governor. The Chairman also requested that Dr. Hills should have an opportunity to ask questions and there might be possible changes.

SEC. 37.17.010 FOUNDATION ESTABLISHED:

The Chairman made reference to Sec. 37.17.010. FOUNDATION ESTABLISHED. It was determined that 'non-profit' should be inserted between public and corporation.

SEC. 37.17.030. ENDOWMENT INCOME EXPENSES. GRANTS:

A discussion followed as to how large the endowment should be. The Chairman asked if the group felt an amount should be inserted. Dr. Behrend stated that the most important thing would be to get the framework established; and then to have an appropriate bill presented.

Dr. Behrend stated that he preferred that there be two separate bills, but introduced together. John Carman commented that the appropriation's bill could be done this year and next year another $20 million could be added. Dr. Behrend felt that if this was defeated this time, and they wouldn't have another 'whack' at it.

The Chairman suggested that a discussion should take place on the appropriation.

John Carman stated that he felt that there should be a minimum amount to establish the corporation and the "more additional funds you can get added to it, the more value you'll have to the State of Alaska."

It was suggested that monies could be put into a permanent fund. Dr. Behrend commented that it will take time to get into this new field. Clinton suggested that perhaps the amount of grant's percentages is based on an 8 percent return on an endowment of $30 million. He felt that it would be necessary to have a basis for everything that is done from this time forward; an approximate amount that will be received. He felt that there would be less bookkeeping this way.

Dr. Basi suggested that the word 'initial' be placed before 'endowment'.

Dr. Behrend assumed that the Foundation would receive monies from federal, private and other sources to add to the corpus, or to use in its operations to promote.

It was suggested that the last sentence be taken out. It shoud now read. (a) Upon application of the Foundation's board of directors or its

authorized representative, the Alaska Permanent Fund Corporation shall pay to the Foundation all net income then accrued from the endowment.

Dr. Behrend suggested the following: a change in item (b): to place 'hold and' between also and disperse. It should read: (b) In addition to endowment income, the board may also hold and disperse money that is received by the Foundation for special or general purposes.

Ms. Pey was concerned about the amount and how often grants will be distributed. Dr. Behrend felt that these types of things should be the policies and placed in the by-laws of the Board.

CORRESPONDENCE:

The Chairman made reference to a letter that Governor Cowper wrote to Jan Faiks. He had highlighted parts of the letter, making reference and reading a portion into the record.

> " The substantive bill requires the Center to submit annual reports to the legislature and repeals the statute that provides for establishing the Center. The repeal takes effect in 10 years, so that the Legislature can, at that time, review the Center's value and future desirability. It also requires them to report annually to the Governor."

Mr. Clinton desired to know if the Committee wished that this statement be contained in the bill. He was not certain that the Governor left this out intentionally. It could be that he does not want it in. Clinton stated he would respect the consensus of the group.

Suggestions were offered by various committee members. John Carmon could see that, for political expediency, it would be nice to have it in the bill. He felt that the word 'review' should be used.

Ms. Pey stated that she felt it should be in there, but 'not repealed'.

SEC. 37.17.040. BOARD OF DIRECTORS.

Fay Pey favored four year terms. She had earlier contemplated that two might be sufficient. All Committee members agreet that the terms should be staggered. They had various ideas for their selections.

The Chairman showed some real concern about item (h). He felt that some limitation would be necessary. Clinton read a statement into the record.

> "The winners of the grants would then be notified of their awards. There would be certain stipulations attached to the grant awards. One would be that the grant work must, in large part, perhaps 90%, take place in Alaska. In addition, strict time frames would apply for completion of the grant to work. In addition to the grant award, the State should be prepared to provide other assistance to the winners. It could take the form of subsidized housing; subsidized buildings; subsidized use of the State's communication systems; summation of information; contact the State government to assist in permits."

Dr. Behrend made reference to a statement made by a governor friend of He thought this might serve as an example of what could happen in this situation. He read the statement into the record.

BOARD OF DIRECTORS DETERMINATION:

The Board of Directors would consist of nine persons. After lengthy discussion, it was determined that they should recommend that "The foundation shall be governed and administered in accordance with applicable law by a board of directors, all of whom are appointed to staggered six-year terms by the governor, with the consent of the legislature. Two members must be scientists (technical experts); two members must be scientists residing outside Alaska; three members of the Alaskan public; and one member shall be nominated by the speaker of the house, and one member by the president of the senate."

It was suggested that the Board of Directors should be Alaskans, however the panel might be a mixture from all over.

Chairman Clinton reminded the group that the basis of the foundation is to broaden the economic or value added base. And he stated that the only way to do this is to bring in outside ideas and talent, because the ones that are here are doing it now; by giving them more money doesn't mean that they're going to increase their abilities or capabilities.

Clinton felt that it is up to the State and the people of the Board to encourage those individuals to stay here. This can be done by tax breaks, for example.

PATENTS:

Clinton explained that a corporation cannot have a license to a patent; this has to go to an individual; that individual has the right to license other individuals to patent that, or has the right to offer that license to a State, for example. One could say that the State has the right to the license to this patent, in addition to the inventor, and the State has the right to give this license to other individuals. So, if this individual leaves the State, the State has the right to offer free use of this patent to somebody who comes into the State and uses it. The only way he is going to be able to protect his patent is to stay in Alaska.

The State could say, "We've got this patent right and we're looking for someone to come in and produce it."

Dr. Behrend reminded the group that once you start dealing with patents, and licenses, and rights with people from other nations -- they have whole different cultures and legal bases, and it can be very complicated. This is no reason, however, not to open it up to everyone. Anyone can apply, however they will have to agree to the State's 'operating terms'.

BOARD OF DIRECTORS DISCUSSION (Continuation)

Fay Pey stated that she, at one point, thought that two years would be enough, however now felt that four would be a better number.

John Carman agreed that four would be appropriate. He said that he could understand the written argument for six. There is a definite negative on the four year term, however it will totally reappoint the Board in every governor's term. He did agree that six years is a long time.

Dr. Basi opted for the six year term. The fact that the governor can change the entire board bothered him.

Dr. Behrend agreed that a six year term would be appropriate. They will be changing. Not all will be chosen for a six year term; the terms will be staggered.

Ed Clinton concurred with the six year staggered term. He was not so sure that this group should determine who should get to give the six year terms. He wondered how this should be addressed to the Governor or incorporate it into the Bill.

John Carman reviewed the term staggering process by saying, "You'd almost have to go: "two six-years, one five year, two four-years, one three-year, two two-years and one one-year." Then after that, everybody else that gets appointed, gets appointed for a six year term.

Chairman Clinton suggested that members appointed from the State of Alaska, should they leave the State of Alaska, will automatically cease to serve and that their position will be replaced for the remainder of the term.

There was some discussion about the Governor's intention when stating: "One member shall be designated by the speaker of the house, and one member by the president of the senate." Members did not see anything inappropriate about the speaker of the house and the president of the

senate appointing a member of this board. It was decided that the word 'designated' should be changed to 'nominated'.

BOARD OF DIRECTORS DETERMINATION:

It was determined that there would be nine; two members must be scientists residing in Alaska; two members must be scientists residing outside Alaska. Three members would be members of the Alaskan public and It was determined that they must be scientists (technical experts). After some deliberation the Committee agreed to the following corrections, deletions, or additions to Sec. 37.17.040. BOARD OF DIRECTORS. (b) "the board of directors consists of nine persons; to be appointed as follows: 1) two members must be scientists (technical experts) residing in Alaska; 2) two members must be scientists residing outside Alaska; 3) three members of the Alaskan public; and one member shall be nominated by the speaker of the house, and one member by the president of the senate; 4) Alaskan nominees who change their Alaska Residency status shall forfeit their membership on the board; 5) The replacement for any vacated position shall be nominated by the office of the original nominator, consistent with the categories 1 through 4 above."

GRANT PROCEDURES, LIMITATION, AND REQUIREMENTS:

The items under Sec. 37.17.060 were scrutinized carefully and a considerable amount of time was spent arriving at final wording for this section.

Dr. Behrend explained to the Committee how proposals for Grants of $20,000 or more are normally handled. He felt that it will be extremely difficult for the committee to detail a procedure that will work. Honorariums were discussed. Dr. Behrend suggested that the outfits that support research, first have their proposals reviewed for scientific and technical merit. That's what an individual reviewer will do. They are not asking a reviewer to deal with it from a standpoint of policy. They are dealing with the scientific and technical soundness of the project.

The Chairman stated that he would like to see a panel of at least three; at least one person that has first-hand knowledge of the problem. These qualified persons should be anonymous.

It was determined that it would be advisable to have not less than three qualified persons, whose identities will be kept confidential until the grant is awarded. The board shall consider the recommendations of the

reviewers, other possible sources of funding and the Foundation's stated purposes in deciding to award grants.

Fay Pey showed concern that there was not a proper definition of what a grant proposal is. There was then considerable discussion concerning Item (b) "Not less than 60 percent of the income distributed as grants by the foundation in each fiscal year must be grants of $100,000 or less, exclusive of other funding."

It was determined that most all the parts of the section needed to be changed. Dr. Behrend stated that some of the details should be left to the Board in putting together its own policies, operating procedures and guidelines that are going to govern what happens. The committee proceeded to eliminate portions of the section, constantly commenting how important the presentation will be to the Legislature.

It was the consensus of the Committee that Item (k) might be eliminated in its entirety and changed. Each member wrote down their thoughts on each item. 'k' was tackled thusly:

Dr. Behrend's statement read: "Any individual, association, organization or institution may apply for grants under this chapter, but a majority of the research and development must be conducted within the boundaries of Alaska or by persons employed by Alaskan businesses or institutions."

Dr. Basi's statement read: "Any individual or association or institution may apply for a grant. If a grant is, however offered and accepted, the recipient would agree to perform at least 90 percent of the proposed work in Alaska."

Fay Pey stated, "Any group or individual can apply for grants under this chapter. . . "

John Carman stated, "Any person may apply for a grant from this foundation, however strong consideration will be given for a portion of the work to be conducted in the State of Alaska."

Chairman Clinton suggested, " Strong consideration will be given to those responses whose work -- majority of the work will be carried out in the State of Alaska, which has the possibilities of creating an additional economic base for the State."

The final determination for Item (k) was: "Any person may apply for a grant from this foundation. Strong preference will be given to proposals and projects to be conducted in the State of Alaska."

The Chairman suggested that examples of language to be used in a grant proposal should be presented to the Governor in the 'white paper'. A sample statement could be: "The State has given a license and transferable rights to patent copyrights; that they might stipulate that for $1.00 value considered, that the State has the right to utilize the patent at no fee, or should the individual leave the State to carry on the research outside the grant proposal, the State has the right to reassign this license or patent to an individual or corporation residing in the State."

Dr. Behrend commented that the whole business of getting patents and licenses is complicated and expensive. Small individuals would have a tough time. He asked the committee whether the foundation should actively engage; be pro-active in the pursuit of patents and licenses? The Chairman did not feel that the foundation should be responsible for going after patents on its own. Individuals doing the research ought to be allowed to have those patents.

The Chairman was able to answer questions concerning royalties as he is an inventor himself. He stated that royalties don't have the same values to the private individual. If the patent is granted to an individual and it does have value, the State will have the right to use it or assign it. The object of the foundation is to encourage the individual, not to make him/her lose their motivation., "I think that if a person has a valid patent and the processes are valuable, and the patent itself is valuable, before going into this is assigned the transferable rights to the patent or process to the State, and he leaves the State, then the State has the right to bring somebody else in; to set 'em up and let 'em make it. That negates the value that a patent would have." He further felt that a tax free zone should fall outside this group. If the State had a transferable license from that inventor, he would be foolish to go 'outside', because the only advantages that a patent has is that it excludes unfair competition; it gives you a monopoly on that patent for 17 years. It is important that there is a base of manufacturing in Alaska.

Item (k), which would later read (j) was revamped.

Dr. Behrend suggested that all income from licenses and patents resulting from research under this chapter shall be distributed as follows: 1) income derived from manufacture and utilization of commerce within

Alaska 100 percent with the inventor; 2) for income derived from sources outside of Alaska; 50 percent to the inventor; 50 percent to the principal of the endowment.

Dr. Basi suggested that all patents generated follow-up licensing and/or manufacturing work will be expected to be undertaken in Alaska. If a patentee goes outside; moves outside of Alaska, the State will have the right to transfer patent rights to the foolish, and the foundation will have the right to assign patent licenses or production to another entity in the State. Also, if any patent related licensing production income is generated outside of Alaska, such income will be shared 50-50 between the patentee and the State (foundation).

Mr. Carman desired to make the statement relatively broad and stated that he felt that the Board should make the specifics. His statement was, "As a condition of all grants awarded under this chapter, the board of directors shall attempt to assure that a fair and reasonable percentage of income from licenses and patents produced as a result of the grant be paid into the principal of the endowment. In order to create additional incentive for Alaskan production, this condition may be waived for all income derived from Alaskan manufacture or production."

Fay Pey statement read "As a condition of all grants awarded under this chapter, the board of directors shall require that the licensee rights shall be transferable to someone designated by the Alaska Science Foundation, should the inventor discontinue residency and a reasonable percentage of any income generated outside the State from the patent shall be paid into the principal of the endowment."

Chairman Clinton's statement read: "As a condition of all grants and awards under this chapter, the board of directors shall require that the recipient of any grant assign all rights and patent rights that may accrue to the inventor to the foundation in the form of a transferable license. In addition the recipient promises to pay to the board 50 percent of all income derived from out of state manufacturing to the foundation. Income derived from sales of finished products manufactured or assembled in Alaska will remain free of assessment. Repayment of the grant amount will not release the recipient of the liability under this clause." He explained 'sale of finished products'. He brought up the example of an automobile which would not be manufactured here. He felt that they should be allowed to bring in certain items that are not available in the State.

Mr. Carman had made a general statement, not saying what the specific condition would be. The committee found this interesting and were impressed. It was decided that they would go with this, probably only changing one word. This would give more flexibility to the board. He had a problem with the word 'shall', 'will', 'may'. It was decided that the word 'shall' should be put in. They wanted this to happen without question.

Item (k) would now read as follows: "As a condition of all grants awarded under this chapter, the board of directors shall **attempt to assure** that a fair and reasonable percentage of all income from licenses and patents produced as a result of the grant be paid into the principal of the endowment. In order to create additional incentive for Alaskan production, this condition **shall** be waived for all income derived from Alaskan manufacture or production."

Item (i) was altered to read: "The board shall disseminate to the scientific community and to the public, on a regular basis, the results of projects sponsored by the Foundation except those deemed as proprietary information."

The Chairman suggested that the board should report to the governor yearly, at least, on the progress report.

Item (g) was discussed and it was suggested that it should be deleted in its entirety, reasoning being that Item (h) states already that "the board may award grants to a recipient of other funds for related or similar research."

CONFIDENTIALITY OF PROPOSALS:

Chairman Clinton suggested that anything that comes to the Board in the form of a proposal will be held in confidentiality. Dr. Behrend questioned whether these could be held in confidence, referring to the Open Meeting Law. Mr. Carmon stated that it should be stated somewhere that the Committee realizes that the board will be dealing with proprietary information; that it is in the public's interest that this information be held proprietary. The Chairman referred again to the Uniform Trade Secrets Act becoming law in the State before the Alaska Science and Research Foundation Senate Bill goes through; the importance thereof.

It was the consensus of the Committee that it would be important to add in the wording that would state the valid public purpose to keep the information proprietary that is submitted to the board.

Item (g) was discussed. Fay Pey showed concern stating that this should not be deleted. After some discussion, it was decided that it would be appropriate to delete in its entirety.

Item (c): Dr. Behrend commented that he did not like the statement in its present form. The committee agreed that it should be a positive statement. After several written versions were presented, the statement became: "Grants may be made for a specific period of time from one to three years. Applicants with projects that show significant promise may be encouraged to apply for additional one year grants."

The Chairman stated that the initial proposal should be set up in such a way that it sets out a goal. At the end of this time, there should be a natural lead in. It may not be possible and it is unlikely that the initial grants will be able to come up with something that's manufacturable in the State; that's going to be a finished product. He hoped that the person receiving the grant would treat the monies received with a great deal of respect, as if it would the their own; it is his/her money.

Reference was made again to Item (b). John Carmon suggested to change it to read 'not less than 60 percent of the **grants** (instead of **income**) distributed by the foundation in each fiscal year must be grants of $100,000 or less, exclusive of other funding'. Clinton felt that this is extremely biased towards the backyard inventor as opposed to the large University researcher. At this juncture in the meeting, the amount '60 percent' was left in the statement in Item (b) to be possibly changed at a later time in the meeting.

The meeting was adjourned until the following morning. At this time, it was hoped that the draft would be in its final state and a white paper would be prepared to explain details concerning decisions made.

RECONVENED MEETING: (January 5, 1988)

All were present except Dr. Alex Hills, who was expected later on in the morning. The meeting was called to order at 8:00 a.m.

The Court Reporter presented a second draft of the Senate Bill prepared from notes and tapes from the previous day's meeting.

Changes were notated. Item (a) was not changed.

Item (b) changes would be finalized at the end of the meeting.

Under Sec. 37.17.020. ENDOWMENT ESTABLISHED; INVESTMENT. Item (a) between 'benefit' and foundation' should be inserted 'and Foundation'.

Dr. Behrend commented that Mary Hajdukovich of Golden North Reporting Service and Recording Secretary for the Committee meeting had done a remarkable job of preparing and presenting the second draft for the committee's review. She had listened to all the tapes, reviewing comments by committee members, and came up with a document which was readable and helpful in preparing the final draft which would be sent to the Governor for his approval.

Corrections as follows:

Dr. Behrend suggested that Item (b) be changed to read '**hold and disperse**'. He also suggested that numbers (3) and (4) under Item (b) be combined by replacing 'and' with the number (4). Number (5) then became (4) and was changed to read, 'Alaskan nominees who change their Alaska residency status shall forfeit their membership on the board as suggested by Fay Pey. Number (6) became (5) and should read, "The replacement for any vacated position shall be nominated by the office of the original nominator, consistent with the categories 1 through 4 above. (c) was inserted to read, "The Board shall elect a chairperson annually."

Dr. Basi stated that he still did not like (c), concerning the 'not less than 60 percent of the grants distributed'. Dr. Basi commented that he felt the

main objection of the Foundation is economic development and research and development. He felt that small businesses should be encouraged.

Dr. Alex Hills arrived at the meeting at approximately 9:00 a.m. The Chairman introduced the committee to Dr. Hills and gave him an overview of what had previously transpired and how they had came to the draft they had on the table.

Fay Pey desired to alter Item (f) to read 'shall be made' rather than 'may be granted'; 'will' should be changed to 'may'. All agreed that it would read better this way.

After spending approximately 15 minutes of talking back and forth, a final statement was arrived at concerning Item (g). It was altered to read, "Proposals for Grants of $20,000 or more from the Foundation shall be submitted for review to not less than three qualified persons, whose identities will be kept confidential until the grant is awarded. The board shall consider the recommendations of the reviewers, other possible sources of funding and the Foundation's stated purpose in deciding to award grants."

Item (h), which was originally (i) remained the same. "The board may award grants to a recipient of other funds for related or similar research."

Item (i) would now read, "The board shall disseminate to the scientific community and to the public, on a regular basis, the results of projects sponsored by the Foundation except those deemed as proprietary information."

Item (j) was altered slightly. It would now read, "As a condition of all grants awarded under this chapter, the board of directors shall attempt to assure that a fair and reasonable percentage of all income from licenses and patents produced as a result of the grant be paid into the principal of the endowment. In order to create additional incentive for Alaskan production, this condition shall be waived for all income derived from Alaskan manufacture or production."

Item (k) would become (c) and be moved to its proper section without any changes. "The board of directors may administer and pay out awards, grants, or other money appropriated to the Foundation."

Item (l) would read: "Any person may apply for a grant from this Foundation. Strong preference will be given to proposals and projects to be conducted in the State of Alaska."

Dr. Hills asked if there was some language which reflects back on the basic purpose of the entire Foundation; to stimulate industrial and economic development. He was referred to Item (g) which explained this clearly.

Dr. Basi requested some changes in the last item. The final statement would read, "The Board of Directors shall submit annual reports to the Legislature as well as the Governor. The Alaska Science Technology Foundation shall be reviewed every 10 years from the date of establishment."

Dr. Hills reminded the committee that the technical writers will make things read properly when necessary. He felt that the Governor would probably want the Foundation to go out of business unless renewed by the Legislature.

The Chairman hoped and the rest of the committee agreed that they did not think the governor would want the Foundation to go out of business. Dr. Basi did not suggest sun-setting. However, the Legislature could cut it off at any time if they so desired.

Item (k) was discussed and the committee were opposed to having the equipment become the property of the University of Alaska explicitly. It was decided to allow the Foundation to dispose of the equipment at the discretion of the Board. The Chairman thought that it could become the property of the Foundation.

The committee concluded that the following would be acceptable: "A grant may include equipment. The equipment becomes the property of the Foundation, to be disposed of at the discretion of the Board."

INQUIRIES BY COMMITTEE MEMBERS:

Dr. Hills had a problem with Items (4) and (5). He was informed that they were changed just prior to his arriving at the meeting. He agreed that the significant changes were in order. Dr. Hills had some questions about appropriation. He questioned how staff would be hired and how the office equipment would be acquired. He presumed that the Foundation would be a part of a state agency and reminded the group that the

bureaucratic things would have to be accomplished. This did not fit into any model that he was familiar with. He thought maybe the technicians would deal with this.

He wondered if it would be appropriate to instruct the Foundation to enact regulations. He believed that they would do this though. Dr. Hills was reminded that a transmittal letter would be sent along with the draft.

Dr. Hills suggested that it might be appropriate to make a list of examples of things that the Foundation might be able to fund. This is sometimes included in the legislation itself. Dr. Behrend stated that he felt that this list might become controversial. Chairman Clinton commented that this had merit and should be considered a little later on in the meeting.

ITEM (b) DISCUSSION & DETERMINATION:

John Carman wanted to discuss the 60% issue. Carman explained that obviously you use 60% of the income. "You are directing the grants towards smaller grants, which would tend to direct the grants towards in-state use by smaller individual type people as opposed to foundation type grants. The larger the grant the more you're going to attract Cornell University to apply for it." He stated that if you take 60% by income, that's a much larger percentage of that 60% by number of grants. The way the governor had this written '60% by income' really sckued the whole process towards in-state use of the money as opposed to institutional type applications of the money. Dr. Behrend felt that this would inhibit people to apply for grants as it is. Fay Pey did not feel that $100,000 would bring a lot of people into Alaska. Dr. Basi disagreed. This item had been argued for a considerable amount of time.

The Chairman did not feel that this should be changed in due respect to the Governor.

The Chairman stated that many liberties had been taken with many items in this bill, and he felt it was the responsibility of the committee to do the best they could to get it to pass; at the same time they should try to improve the internal structure. Dr. Behrend stated that he couldn't make political judgment, but the governor 'can and will'. He suggested that a statement be made in the transmittal letter stating, 'we've made these changes; we have a rationale for them that we'll be glad to discuss them with you. We recognize that you have considerations . . . and so-forth'.

The Chairman wondered if the language might be, "Recipients of grants must still assign the right to any products or process developed under the grants even if the product or process is not successfully completed during the term of the grant. This clause should be effective for a period of five years after the end of the grant period." Dr. Basi found this to be a very good point.

John Carman felt that they could lose a lot of entrepreneurs by being too restrictive. Clinton felt that this could happen, but felt the people that they would be losing would not be contributing to the economy of the State anyway.

After much deliberation, there was a consensus that Dr. Hill's statement "In accordance with the purpose of the Foundation, a significant number of the grants awarded in each fiscal year shall be grants of $100,000 or less." would be an appropriate replacement for Item (c).

OVERHEAD:

Dr. Hills stated that there are some funding agencies; private foundations and federal government which specifically limit how much they're willing to pay in overhead. He wondered if overhead should be limited. Dr. Behrend agreed that it shoud be looked at with caution.

IN SUMMARY:

The Purpose of the Foundation was further enhanced by adding some new language. Dr. Behrend suggested an alteration of Item (b) under Sec. 37.17.010. FOUNDATION ESTABLSIHED would be in order and that the final statement should read: "The purpose of the Foundation is to promote and enhance scientific and technological development in Alaska through a program of basic and applied research and development for diversification of the economic base in the State of Alaska."

Dr. Basi asked what the group felt about electing the Chairperson. It was agreed that the Chairperson should be elected by the Board on an annual basis. This would be in Sec. 37.17.40. BOARD OF DIRECTORS. It would read sub-paragraph (c). "The Board shall elect a Chairperson annually."

The Chairman stated that Paul Gavora and possibly another person might appear at 1:00 p.m. The purpose of the afternoon meeting would be to explain what had transpired during the committee meetings. Dr. Behrend had to leave the meeting and stated that he would like to touch bases

with Wendy Redman, the legislative liaison and talk with President of the University. He would call in if things would come up that would be beneficial. "This is the Alaska Science and Technology Foundation, which is very broad in title." There is room to move in this; to expand it. He was happy to see that 'applied research' was put back into the purpose statement.

The meeting was recessed for lunch and would reconvene at 1:00 p.m. The final draft would be prepared during the lunch hour and presented to Committee members for their review at the after-lunch meeting.

RECONVENED MEETING:

The meeting was reconvened at 1:00 p.m. The final draft had been prepared during the lunch hour by the Recording Secretary and presented to the committee in its final form. It was understood that the Chairman would have his office make any final, final corrections and retype before mailing to the Governor.

ENDOWMENT INCOME:

Sec. 37.17.030. ENDOWMENT INCOME was discussed. There are different kinds of investments that the Endowment can make. Equity investments is where the 'capital gains' comes in. John Carman interpreted that the Governor intended that the endowment would be invested and probably commingled with the other permanent fund investments. He thought that it would be practical to use the same formula that the Permanent Fund uses and the board of directors could possibly do this at their own discretion.

He further stated that it might be the Governor's intention that the other half would be plowed back, then the original contribution would have to be a significant portion. No final conclusions were drawn.

Dr. Hill commented he was please that this group had been brought together to work on the Draft Bill. He felt that the work that the committee had done was quite an accomplishment. The Chairman explained a few details that he had missed because of his not being able to be at the meeting the day before.

The Chairman stated that he would be sending in the Draft, commenting on the changes that had been made. He would be cross-copying

everybody. He stated that the transmittal would explain why the committee changed 'thus and thus'.

Minutes of the meeting were discussed. It was agreed that formal minutes should be prepared. Dr. Hill was concerned about the expense. The Chairman said that he would take care of the fee charged by the Recording Secretary. Ms. Pey stated how important minutes would be. Mr. Carman offered that the data in the minutes would be beneficial to the Board of Directors also. It was the consensus of the Committee to have Ms. Hajdukovich prepare indepth minutes, whether or not the Senate Bill passes; reference data.

The Committee members showed disappointment that Mr. Gavora did not appear at the afternoon meeting.

The meeting was adjourned at 2:00 p.m.

Respectfully submitted by:

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Alaska Science and Technology Foundation

CSHB 390 (Fin)am / SB 469

What Does the Proposal Do?

- Establishes a Science and Technology Foundation as a public corporation within the Department of Revenue. The Foundation has a nine-member board of directors and expert peer review panels to evaluate grant proposals.

- Establishes an endowment account for the Foundation, consisting of appropriations made to the Permanent Fund's principal and invested on behalf of the Foundation by the Alaska Permanent Fund Corporation.

- Funds grants for competitively selected basic and applied research projects, with preference given to Alaskan applicants.

Why does Alaska Need a Science and Technology Foundation?

- To make Alaska competitive and help expand the economy. Applying technology to produce value-added products and encourage instate manufacturing will diversify Alaska's economy.

- To solve critical Alaska problems that will not be addressed by others. Examples include:

  - reduction of moisture content in Beluga and Healy subbituminous coal for Pacific Rim trade
  - development of a strategic minerals industry, including rare earths
  - improved engineering of roads and foundations on permafrost, including export of Arctic technology
  - one-step conversion of natural gas to gasoline
  - establishment of reliable data bases and models for long-term predictive studies on pollock, salmon and crab
  - improvement of telecommunications capabilities and information resources
  - development of northern nutritious grasses for a red meat industry, and other improved northern crops
  - reduction in threat of infectious diseases, injury and suicide

- To provide for the deliberate and long-term growth of Alaska's technical capability through the development of qualified personnel, laboratories and equipment.

Endorsements:

Alaska Conference of Mayors
City of Fairbanks, City Council
Interior Alaska Manufacturers Association
University of Alaska, Fairbanks
Bering Sea Fishermen's Association
Alaska Miners Association
Fairbanks North Star Borough, Assembly
North Slope Borough, Office of the Mayor
Geophysical Institute, Univ. of AK-Fairbanks
Sigma Xi Scientific Research Society

Office of the Governor, Division of Policy - April 25, 1988

Division of Policy
8 April 1988

CSHB 390 (Fin) am

SECTIONAL ANALYSIS

* Section 1

Sec. 37.17.010

The Alaska Science and Technology Foundation is housed in the Department of Revenue. Its purpose is to promote through basic and applied research: economic development and technological innovation in Alaska; public health; telecommunications, and sustained growth and development of Alaskan scientific and engineering capabilities.

Sec. 37.17.020

The endowment of the Alaska Science and Technology Foundation is managed along with other moneys of the permanent fund, but the interest on this money is distributed as grant funds. This interest will not be included in the computations that determine permanent fund net income for other uses, e.g. inflation proofing and dividends.

Sec. 37.17.030

a) Net annual realized capital gains may be split between the principal and income of the endowment. If approved under the Executive Budget Act, at the request of the board of directors the appropriated interest income from the endowment shall be released to the foundation.

b) In addition, to endowment income, the foundation can distribute money received from gifts, grants, and other aid; funds received by the foundation do not lapse.

c) The foundation's administrative expenses come from the endowment income, subject to the Executive Budget Act.

d) Grants are distributed through a competitive bidding process.

e) Subject to the Executive Budget Act, income may be deposited to the principal, but cannot be withdrawn by the board at a later time.

Sec. 37.17.040

The nine members of the board of directors are appointed by the Governor to staggered four year terms and may be removed for cause. The membership is specified and is designed to represent the interests of the scientific community as well as the general public with emphasis on resource development, manufacturing, finance, telecommunications, or public health. Four members must be scientists or engineers, two voting members from in-state and two non-voting members from out-of-state.

Sec. 37.17.050

The board shall elect its officers to terms of no more than two years.

Sec. 37.17.060

A majority of the voting members of the board constitutes a quorum.

Sec. 37.17.070

The board must meet at least twice a year. Members receive per diem and travel expenses.

Sec. 37.17.080

This section provides for the hiring of an executive director and additional staff. All employees are in the exempt service.

Sec. 37.17.090

a) Notice of all solicitations for grant proposals must be given at least annually. When soliciting proposals, preference shall be given to projects that would use or enhance basic and applied research capabilities in the state.

b) Grant proposals shall be reviewed by an anonymous peer review panel appointed by the board. Members of this panel receive travel and per diem expenses. Grants of less than $5000 may be exempted from this peer review.

c) Grant awards will be consistent with the policy and research priorities for the state set by the Alaska Science and Engineering Advisory Commission.

d) At least 50 percent of endowment income must go to grants of $100,000 or less.

e) The board will specify the amount of each grant that can be used for overhead.

f) Grant recipients will be required to file reports. Research results will be distributed to the public regularly (and in a format of the most use to the scientific community and the general public), unless deemed proprietary by the board prior to the granting of the award.

g) A fair percentage of income from royalties, licenses, and patents resulting from grant research shall be paid to the endowment principal subject to the Executive Budget Act.

h) All qualified Alaskans may be eligible for grants. Preference shall be given to Alaskan grant proposals be they individuals, firms, organizations, or academic institutions. Out-of-state recipients may have to associate with an Alaska organization. Grants must further purposes of the foundation to solve Alaska problems.

i) If grant money is awarded for equipment purchases, the foundation owns that equipment.

j) An annual report to the Governor and legislature is required.

Sec. 37.17.100

The Alaska Executive Branch Ethics Law shall apply to board members, and they shall adopt a conflict of interest policy for themselves and the peer review panel.

Sec. 37.17.110

This section permits the board to adopt necessary regulations.

**** Section 2***

Sec. 39.25.110

Adds the executive director and staff of the foundation to the exempt service.

**** Section 3***

Sec. 44.19.257(a)

The executive director of the foundation is added to the membership of the Alaska Science and Engineering Advisory Commission. Membership on this

commission is broadened to include a member representing an academic institution *in* the state, rather than *of* the state.

Section 4

Sec. 44.19.259

The executive director of the foundation is exempted from the staggered term provision of the Science and Engineering Advisory Commission.

Section 5

Immediate effective date.

Offered: 3/11/88 go0038hL
Referred: Rules

Original Sponsor: Rules/Governor

IN THE HOUSE BY THE FINANCE COMMITTEE

CS FOR HOUSE BILL NO. 390 (Finance) am

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act establishing the Alaska Science and Technology Foundation; relating to the membership of the science and engineering advisory commission; and providing for an effective date."

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

* Section 1. AS 37 is amended by adding a new chapter to read:

CHAPTER 17. ALASKA SCIENCE AND TECHNOLOGY FOUNDATION.

Sec. 37.17.010. FOUNDATION ESTABLISHED. (a) The Alaska Science and Technology Foundation is established as a public corporation in the Department of Revenue.

(b) The purpose of the foundation is to promote and enhance through basic and applied research: economic development and technological innovation in Alaska; public health; telecommunications; and sustained growth and development of Alaskan scientific and engineering capabilities.

Sec. 37.17.020. ENDOWMENT ESTABLISHED; INVESTMENT. (a) In order to support the foundation, the Alaska science and technology endowment is established, consisting of money appropriated to the Alaska Permanent Fund Corporation for the benefit of the foundation.

(b) The endowment shall be held and invested by the Alaska Permanent Fund Corporation as part of the principal of the Alaska permanent fund, subject to AS 37.13.120; however, net income from the endowment shall be distributed under this chapter. Net income from the endowment may not be included in the computation of net income

available for distribution under AS 37.13.140.

Sec. 37.17.030. ENDOWMENT INCOME; EXPENSES; GRANTS. (a) The distribution of the income and realized capital gains of the endowment is subject to AS 37.07. The net annual realized capital gains of the endowment may be equally divided between the income and the principal of the endowment. Upon application of the foundation's board of directors or its authorized representative, after authorization under AS 37.07 the Alaska Permanent Fund Corporation shall pay to the foundation the income appropriated.

(b) In addition to endowment income, the foundation may receive gifts, grants, and other aid. The foundation may accumulate income, gifts, grants, and other aid from any one year and distribute them in a later year.

(c) The administrative expenses of the foundation are subject to AS 37.07 and shall be paid from the income of the endowment.

(d) The board of directors shall distribute the income of the endowment through competitive grants under this chapter. The board may disburse money that is received by the foundation for special or general purposes.

(e) Subject to AS 37.07, the board of directors may pay into the principal of the endowment any part of the endowment income. Money paid to the principal under this subsection may not later be withdrawn by the board of directors.

Sec. 37.17.040. BOARD OF DIRECTORS. (a) The foundation is governed and administered by a board of directors appointed by the governor to serve staggered terms of four years. A member serves on the board until a successor qualifies and is appointed. A member of the board of directors may be removed from the board by the governor for cause.

(b) The board of directors is composed of nine members, as follows:

(1) two members must be scientists or engineers residing in Alaska who are recognized contributors in the science or engineering fields, one of whom is employed by the University of Alaska;

(2) two nonvoting members must be scientists or engineers residing outside Alaska who are recognized contributors in the science or engineering fields;

(3) four members of the public, at least two of whom have recognized expertise or experience in resource development, manufacturing, finance, telecommunications, or public health;

(4) one member who is employed by a department or agency of the state, other than the University of Alaska.

Sec. 37.17.050. ELECTION OF OFFICERS. The board of directors shall elect a chairperson and a secretary from its members, each to serve for a term not to exceed two years.

Sec. 37.17.060. QUORUM. A majority of the voting members of the board constitutes a quorum for the transaction of business.

Sec. 37.17.070. MEETINGS AND REIMBURSEMENT FOR EXPENSES. The board shall meet at least twice a year. Additional meetings may be called at the discretion of the chairperson. Board members are entitled to per diem and travel expenses authorized for boards and commissions under AS 39.20.180. Board members not employed by the state or the University of Alaska receive an honorarium of $200 for each day spent on official business of the board, not to exceed a total of 30 days per annum.

Sec. 37.17.080. STAFF. The board of directors shall employ and determine the salary of an executive director, subject to AS 37.07. The executive director serves at the pleasure of the board. The

executive director may, with approval of the board, select and employ additional staff as necessary. An employee of the foundation, including the executive director, may not be a member of the board. The executive director and the other employees of the foundation are in the exempt service under AS 39.25.110.

Sec. 37.17.090. GRANT PROCEDURES, LIMITATION, AND REQUIREMENTS. (a) The board of directors shall provide adequate and appropriate notice of all solicitations for grant proposals at least once a year. The board shall give preference, consistent with the purposes of this chapter, to soliciting proposals for research projects that are reasonably expected to use or enhance research capabilities for basic and applied research in the state. The board may actively solicit persons, organizations, or institutions to apply for general or specific grants.

(b) Grant proposals must be submitted for impartial and competitive peer review for scientific and technical validity by a panel of recognized experts appointed by the board of directors. Members of a peer review panel are entitled to per diem and travel expenses authorized under AS 39.20.180. The identity of members of a peer review panel is confidential until final action is taken by the board on the grant proposal. The board shall consider the recommendations of the panel in deciding whether to award a grant. The board may exempt grants of $5,000 or less from peer review.

(c) Grant awards by the board must be consistent with the policy and research priorities identified by the Alaska Science and Engineering Advisory Commission.

(d) Not less than 50 percent of the endowment income that is distributed as grants by the foundation in a fiscal year must be for grants of $100,000 or less, exclusive of other funding.