

ALASKA LEGISLATURE COMMITTEE FILES 1981-1982 8672

1507 SHESS SB 327 - SB 338 150

NOTE REGARDING THE FOLLOWING FRAME ON MICROFILM:

COMPLETE DOCUMENT IS AVAILABLE IN ORIGINAL FILES
IN ALASKA STATE ARCHIVES. TITLE PAGE ONLY HAS
BEEN FILMED.

**A PERFORMANCE REVIEW
OF THE
ALASKA STATE BOARD OF PAROLE**

May 9, 1979

**Commissioner of the Department of
Health and Social Services
Deputy Commissioner of the Department
of Health and Social Services
Deputy Commissioner of the Department
of Health and Social Services
Deputy Commissioner of the Department
of Health and Social Services**

**Dr. Helen D. Beirne
Allen Korhonen
Frederick McGinnis
Catherine M. Lloyd**

**Members of the
Alaska State Board of Parole**

**Chairman
Vice-Chairman
Member
Member
Member**

**William Lyons
Beverly Dunham
Dan Kosoff
Conrad Miller
Al Widmark**

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Appropriation changes for SB 339, recommended by the DEC:

Section 1. enlarging money for testing and evaluation from \$33,250 to \$60,000. Rationale is that major problems have been uncovered since original planning, and that public education and awareness programs be included.

Section 2. expanding amount for school repairs from \$500,000 to \$3,000,000 because of extensive damage in Anchorage school system(377,188 sq. feet fo sprayed on asbestos insulation in the main school areas. Diamond, Bartlett and West schools with the major problem being the damaged areas in boys locker room and pool at West). DOE did not address this problem at the HESS committee meeting because of the nature of the information and the school districts desire not to have any further publicity on the subject. Mat-Su also reports an estimated need of \$400,000 for repairs to badly water and air damaged asbestos insulation.

Section 3. enlarge appropriation for renovations to public facilities from \$500,000 to \$1,000,000. The DEC originally reported that state facilities were in need of only minor repairs that could generally be handled through routine maintenance at no extra cost(this info from DOT/PF Inventory and Condition Survey), and that the only facilities not inventoried were those in Anchorage. I only included the lesser amount in the appropriation bill since it appeared to be all that was needed until definite information would be obtained on Anchorage facilities.

I contacted Margo Partridge, Region X office of the EPA, about the questions raised about trained professionals needing to collect samples for testing. Her opinion was that the sample collecting is not difficult, and has been handled successfully in other school districts by maintenance personnel. The only thing vital is that the training be consistent, the personnel wear protective equipment, random samples be taken, and records be maintained properly in the school district. I believe the DEC has provided for all these possibilities, and I understand that the training materials are of excellent quality.

SUGGESTIONS RECEIVED FOR SB 338:

The Department of Labor would like to be notified of all renovation undertakings through the local school districts so that they can personally contact individual contractors concerning safety regulations. They would choose contact through Ray Jorgenson, Chief Industrial Hygiene, in the Anchorage office.

The Department of Community and Regional Affairs has agreed to send copies of the OSHA regulations for Worker Protection to each school district who receives a grant for renovation work.

ADDITIONAL APPROPRIATIONS REQUESTED FOR SB 339

- Section 1. Increase amount for analysis and information dispersal from \$33,250 to \$60,000 because of the increased amount of asbestos discovered in Anchorage and Mat-Su, and to provide a more comprehensive public information system.
- Section 2. Increase the amount for renovation to school buildings from \$500,000 to \$3,000,000 because:
- a. Anchorage School District has 377,188 sq. ft. of sprayed on asbestos ceilings. At an estimated cost of \$5.00/sq. ft., they will need \$1,885,940.
 - b. Mat-Su School District approximates a need for \$400,000 to replace damaged asbestos acoustical tile.
- Section 3. Increase amount for renovations to state and local government buildings from \$500,000 to \$1,000,000, to provide adequate funds for renovations to Anchorage buildings. (Approximate costs for renovations are estimated from the DOT/PF Inventory and Condition Survey which has not yet started facilities in Anchorage. Bud Forrest of DOT Planning has estimated the Anchorage survey to be completed in October-November 1981.)

Addition requests:

The Dept. of Community and Regional Affairs has requested the amount of \$29,500 for additional staff person and equipment.

The Dept. of Environmental Conservation has requested the amount of \$4,000 for FY 81, \$111,300 for FY 82, \$122,400 for FY 83, and \$10,000 for FY 84 for one additional staff and travel and contractual work. (Tom Hanna informed me that this was in case the Hazardous Waste Bill does not pass. If HB 72 should pass, they anticipate that the additional staff they acquire will handle the Asbestos Program)

TO: SEN. PARR, CHAIRMAN, SENATE U.E.S.S.

FROM: BILL MILES

RE: SB 338, SB 339 - ASBESTOS HAZARD PROGRAM

DATE: APRIL 15, 1981

You asked for information re: SB. 338 & SB. 339 and how the proposed program might affect the Harborview School District. The statistics provided by the District are as follows.

Thus far, the potential problem exists in 3 schools: Diamond, Bartlett and West. It can be treated for roughly \$5⁰⁰ per sq. ft. The extent of the problems are as follows:

Diamond (pool area including lobby, mechanical room, rifle range, lounge). No immediate danger. 4, 470 sq. ft.

Bartlett (antenna ceiling area) No immediate danger. 363, 390 sq. ft.

West (pool area including pool, storage, locker rooms, ceiling) Seven immediate danger in locker rooms. 9, 328 sq. ft.

TOTAL COST

\$ 1,885,940

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

REVIEW OF SB-338 AND SB-339
RELATING TO
FRIABLE ASBESTOS IN ALASKAN PUBLIC BUILDINGS

Presented Before the Senate Health and Social Services Committee

April, 1981

The Alaska Department of Environmental Conservation strongly supports the passage of SB-338 and SB-339, to provide effective diagnosis and correction of asbestos health hazards that might exist in Alaskan public buildings. Asbestos is an extremely toxic and cancer forming material, and even brief exposure where the material can be inhaled or ingested can pose a significant environmental hazard to public health. As a consequence any asbestos exposure hazard should be corrected immediately.

These bills, if passed, will for the first time provide resources to inspect, analyze, and make any needed renovations to protect against asbestos environmental hazards. The department would like to caution, however, that the proposed resources to establish an effective program are heavily dependent on the approaches taken. Our testimony and recommendations today will concentrate on clarifying the approaches, imposed by the bill, so that effective health protection measures can and will be established if the bills are enacted into law.

At the outset let me advise that we are not here to argue for another program to be established in DEC: Our real concern is that an effective program be conducted. You may wish to contemplate replacing ADEC with OSHA, retaining existing authorities of the bill in DOTPF and CRA. It is our view that that would be a more appropriate division of labor. What has really been needed is a reorganization of a potential problem and a means to provide testing and corrective measures.

BACKGROUND

The health hazards of asbestos are well known. It is virtually indestructable once introduced into the environment. It is lightweight and easily crumpled into small sizes which can remain suspended in the air for long periods of time. When inhaled, even in small quantities, it can eventually cause lung and other cancers. Until recently asbestos health hazards were normally associated with persons who daily worked around the substance and contracted the chronic and debilitating lung disease called asbestosis. This was normally considered an occupational health hazard and not a health risk to the general public.

More recently there have been findings that asbestos even in small concentrations can cause lung cancer, cancers of the chest, abdominal lining, esophagus, stomach, colon and other organs. It also acts as a potent cancer-forming agent in combination with cigarette smoking. Of considerable concern is that there often is a substantial period of many years between initial exposure and appearance of asbestos-caused cancer.

For a number of years asbestos was commonly used in many building materials. Most of these materials do not pose a health risk because the asbestos is tightly bound into the building material and cannot readily escape into the air. The materials which can cause a health problem, however, are those which can easily be crushed, worn or frayed. Typical problem materials are sprayed-on insulation on ceilings and walls, plastering materials, boiler and hot pipe insulation.

These materials are termed friable, and often must be removed, encapsulated, or enclosed to eliminate potential health hazards. The renovation process can be expensive, and a funding source for these projects should be readily available to assure that they are accomplished as soon as identification is made.

The department recently cooperated with the Departments of Health and Social Services, Education, and Transportation/Public Facilities to determine if potential asbestos hazards were present in Alaskan public schools. While this was a partial survey and results need to be reconfirmed, at least 13% of the schools had asbestos to be present in some of the sampled materials. There is a need, therefore, to follow up this initial survey with a more complete assessment of each of these schools, and to be able to correct any identified asbestos hazard that might be found as quickly as possible. The proposed legislation would provide this need as well as making the resources available for all stateowned facilities.

RECOMMENDATIONS

The department presented recommendations in March 1981 on how to train personnel, inspect facilities, and provide for correction of asbestos hazards in public buildings. Most recommendations became part of these two bills. However, some clarifications are needed to make certain that the department does not get committed to activities for which resources have not been budgeted. In addition, there now is more recent information on the need for asbestos material renovation.

There also are several other recommendations that the Department would like to present for the Committee's consideration, which if adopted should make both of these bills more effective in eliminating the health hazards posed by friable asbestos in public buildings.

Our comments and recommendations on these bills are as follows, and we have attached suggested language where appropriate for your use.

1. Recommendations for SB-339

(1) When the department originally made its recommendations on the needs for renovating school buildings, no major problems had been defined or uncovered. Since then extensive renovations in several schools have been identified which by themselves could cost up to \$2.5 million. As a consequence we recommend that SB-339 be increased by at least this amount.

(2) While the appropriation bill covers both public schools and "public facilities", the proposed funding does not appear to be enough. In the department's March 1981 recommendation concerning friable asbestos, it was recommended that \$500,000 be provided for state-owned facilities and an additional \$500,000 for local government-owned facilities.

This would make the total appropriation in this Section \$1,000,000, they have only \$500,000 in the proposed bill; we have added suggested language to make it clear that only state and local government-owned facilities are eligible for renovation funds under this bill.

(3) During the past several weeks a substantial amount of publicity has been given to the problem of asbestos in public facilities. After a recent meeting with the other departments involved with this program. Some funds should be made available for providing public awareness and information on asbestos. This would include ways to inspect and sample for asbestos contamination, and how to correct problems. An additional sum of \$10,000 should be added, therefore, to Section 1 of SB-339 to adequately provide this service.

The \$33,250 included in Section 1 of SB-339 should be adequate to provide for analysis of asbestos samples and training materials. However it should be noted that the Kodiak School District recently submitted a bill for \$1,057.50 to cover their complete resampling of all schools within their district. As a consequence the department is somewhat concerned that the increased awareness of asbestos health hazards by school systems, state and local government officials may substantially increase the amount of sampling and its attendant costs that would be done. Therefore, the Department recommends that the amount for sample analysis be increased to \$50,000.

This amount should more than adequately cover all expected sample analysis costs, and any unexpended funds would automatically revert to the General Fund.

II. Recommendations for SB-338

(1) SB-338 identifies the responsibilities of the Department of Environmental Conservation, Education, and Transportation/Public Facilities to carry out the asbestos health hazard program. However, the Department of Community and Regional Affairs is not mentioned, even though SB-339 appropriates the vast majority of funds to this department for distribution.

A section identifying the Department of Community and Regional Affairs' responsibilities under the Act should be inserted in SB-338, since this is the department which will be handling and distributing any funds for renovation of facilities under these bills.

(2) Throughout SB-338, reference is made to "public facilities". However, the term is not defined and could easily be misinterpreted to include federal as well as privately-owned facilities leased to government or serve public purposes. To make the purpose of the bill clear, the Department recommends that Section (1)(b)(4) be added, to clearly exclude renovation costs on

these types of facilities. Suggested language is included in the attachment, as well as suggested substitutions for the word "public" in other portions of the bill.

(3) Section 18.28.010 clearly states the purpose of the bill. However, reference to federal legislation as is done in the last phrase does not appear needed, and the department recommends deletion of this phrase.

(4) Subsection (a)(5)(B) in Section I of SB-338 indicates that asbestos air sampling has been conducted in the state. However, the department does not know of any air samples that have been taken, particularly those indicating high levels of asbestos. We recommend that this subsection be deleted, unless other departments or persons know of such test data.

(5) Section 18.28.020 (5) of the bill is not totally correct, since the department does not have nor is projecting the resources to actually conduct testing. This is intended to be the responsibility of the building owner and/or occupant, with the Department providing training and guidance. The Department recommends that this subsection be revised accordingly. The Department would still continue, however, to be responsible for paying the costs of sample analysis.

A similar change should be made in Section 18.28.050(5), to reflect the responsibility of the applicable school district to conduct the sampling. Suggested changes to the bill are attached.

(6) A slight change is recommended in Section 18.28.020(8), which requires the department to provide information, testing, and analysis services upon request. Because the department has not requested any new positions to carry out this program, it is recommended that this subsection be modified to make it clear that the department is not responsible for actually conducting the testing, but to only provide information on how to conduct and assisting those doing the testing. Clarifying language is included on the attachment.

(7) Section 18.28.040(1) indicates that the Department of Transportation/ Public Facilities will cooperate with the department in carrying out its responsibilities under the bill. It is recommended that the Department of Education also be identified in this subsection.

(8) A minor change to the act is suggested to Section 18.28.050(1), to require each school district to provide for appropriate training in the detection of friable asbestos problems, rather than require that they actually do the training. Training is stated earlier in the bill as a department function. Another minor addition which would be helpful, is to add a definition of the term, "friable asbestos". This will better assure that funds are properly used to their intended purpose.

III. Fiscal Note May be Needed

The department has not projected the need for additional personnel or travel to implement the bill, because the carrying out the inspection and testing is not intended to be done by department personnel. If the Committee wishes for the department to do these functions, it should be aware that a fiscal note will have to be prepared to reflect the need for at least two full-time positions for at least one year, if not two. A substantial amount of travel would also

be involved, with an approximate estimate of about \$125,000 to cover these functions. The department does not recommend this approach; rather, the building owners can and should be responsible for inspections and testing.

One other area which may require a fiscal note is to provide the needed public assistance, answering of the many questions that will come, and providing training needs under the bill. No additional positions will be needed, provided that one of the hazardous waste bills now being considered (SB-239 and HCS CSSB-29) pass with their attendant fiscal notes and positions.

If they do not, one additional position will be needed by the department, with sufficient travel to be able to support the program activities under the bill. This fiscal note is attached only as a precaution to assure that resources are available if the other bills do not pass.

With these changes, SB-338 and SB-339 should effectively allow all public agencies within the State of Alaska to inspect for and eliminate any identified health hazards caused by friable asbestos materials. The Department looks forward to carrying out the purposes of these bills, and in working with other departments and the general public to assure that public facilities are satisfactorily protected against these hazards.

We appreciate the opportunity to present testimony on this important legislation, and would be pleased to answer any questions or provide additional information that the Committee may need.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ATTACHMENT TO TESTIMONY ON
SB-338 and SB-339: RECOMMENDED CHANGES

FOR SB-339

1. MODIFICATION OF SECTION 1 OF SB-339, AS FOLLOWS:

"Section 1. The sum of ~~[\$33,250]~~ \$60,000 is appropriated from the general fund to the Department of Environmental Conservation for programs to train personnel of schools, public facilities, local governments and other institutions in inspection and sampling methods to assess asbestos health hazards, and to inform the public on ways to detect and correct those hazards."

2. MODIFICATION OF SECTION 2 OF SB-339, AS FOLLOWS:

"Section 2. The sum of ~~[\$500,000]~~ \$3,000,000 is appropriated from the general fund to the Department of Community and Regional Affairs for distribution to school officials in the state to renovate school buildings to eliminate asbestos health hazards."

3. MODIFICATION OF SECTION 3 OF SB-339, AS FOLLOWS:

"Section 3. The sum of ~~[\$500,000]~~ \$1,000,000 is appropriated from the general fund to the Department of Community and Regional Affairs for renovations of state and local government-owned facilities to eliminate asbestos hazards."

FOR SB-338

(4) DELETION OF SECTION (1)(a)(5)(B) OF SB-338, AS FOLLOWS:

"[(B) Asbestos concentrations far exceeding normal air levels are present in school buildings containing these damaged materials;]"

(5) MODIFICATION OF SECTION 1 (b) OF SB-338 AS FOLLOWS:

"(b) It is the purpose of this Act to

(1) provide testing and analysis of friable asbestos materials in school buildings, [and] all [other public] state and local government facilities, federal and privately owned facilities in the state.

(2) Same as in bill

(3) Same as in bill

(4) provide for the correction of asbestos health hazards in state and local government-owned facilities".

(6) DELETION OF THE PHRASE IN SEC. 18.28.010 OF SB-338 AS FOLLOWS:

".....in the state, [in order to insure state compliance with the Asbestos School Hazard and Control Act of 1980 (P.L. 96-270)]

(7) MODIFICATION OF SECTION 18.28.020 (5) OF SB-338 AS FOLLOWS:

"(5) establish guidelines for inspection and collection of samples of suspected friable asbestos, and [have them analyzed] provide for their analysis.

(8) MODIFICATION OF SECTION 18.28.020 (8) OF SB-338, AS FOLLOWS:

"(8) Provide information on asbestos health hazards and [testing and analysis services] proper means of inspection and analysis, and analyze specimens upon request by any local or state government of private business."

(9) MODIFICATION OF SECTION 18.28.020 (9) OF SB-338 AS FOLLOWS:

"(9) Coordinate with the Department of Community and Regional Affairs to administer state money appropriated to finance the asbestos health hazard program and "

(10) MODIFICATION OF SECTION 18.28.040 (1), OF SB-338 AS FOLLOWS:

"(1) Cooperate with the Department of Environmental Conservation and the Department of Education to insure inspection of schools and facilities in the state for asbestos health hazards and to insure that identified asbestos health hazards are eliminated and.."

(11) MODIFICATION OF SECTION 18.28.050 (1) OF SB-338 AS FOLLOWS

"(1) provide for the training of school personnel in the detection of friable asbestos in their respective school buildings;"

(12) SUBSTITUTION FOR SECTION 18.28.050 (5) OF SB-338 AS FOLLOWS:

"(5) Provide for the inspection of all school buildings within each jurisdiction and the taking of samples as may be needed, following guidelines established by the Department of Environmental Conservation to determine whether any asbestos health hazards exist.

(13) ADDITION OF A NEW SECTION 18.28.060 TO SB-338 AS FOLLOWS:

"Section 18.28.060. DUTIES OF THE DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS. To assist in implementing the asbestos health hazard program, the Department of Community and Regional Affairs shall

- (1) in cooperation with the Department of Environmental Conservation, administer state money appropriated to finance friable asbestos renovation projects
- (2) distribute available funds as necessary to eliminate asbestos health hazards, from schools, state and local government owned facilities, in the state."

(14) ADDITION OF A NEW SECTION 18.28.070 TO SB-338 AS FOLLOWS:

Section 18.28.070. For purposes of this Act,

- (1) "friable asbestos" means any material that contains asbestos as one of its constituents and can be crumbled, pulverized or reduced to powder in the hand

THE LEGISLATURE OF THE STATE OF ALASKA
ELEVENTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. SB-338, SB-339

Title Act establishing an asbestos health hazard program

Requested by Parr

Date 3/26/81

II. FISCAL DETAIL

Agency Affected Environmental Conservation, Department of

Program Category Affected Environmental Conservation

BRU, Program, or Sub program(s) Affected Environmental Quality Management, Env. Quality Operatic

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES			43.3	47.6	-	-
200 TRAVEL			40.0	44.0	-	-
300 CONTRACTUAL		4.0	25.0	27.5	10.0	-
400 COMMODITIES			1.0	1.1	-	-
500 EQUIPMENT			2.0	2.2	-	-
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL		4.0	111.3	122.4	10.0	-

FUNDING (Thousands of Dollars)

GENERAL FUND		4.0	111.3	122.4	10.0	-
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME			1	1	-	-
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

The requirements of SB-338 will obligate the Department of Environmental Conservation to oversee the establishment and carrying out of the entire asbestos health hazard program. This program will require the establishment of public information, inspection and testing guidance documents, identification of acceptable renovation techniques for correcting asbestos material hazards, providing of training materials and technical assistance to the general public in all matters involving friable asbestos materials in public facilities and schools.

It is projected that one additional full time person, located in either Anchorage or Juneau, will be needed to handle the administration and technical aspects of the program. This assumes that actual inspections and taking of samples are the responsibility of the individual building owners and/or occupants. Supporting

IV. DATE 4/15/81

PREPARED BY Thomas R. Hanna
AGENCY Dept of Environmental Conservation
PHONE 465-2666

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

costs for this position, including a substantial amount of travel in the event that on-the-site assistance becomes necessary or advisable, are included in this fiscal note as follows:

1. PERSONAL SERVICES	
One position (Range 18) for 12 months	\$ 43.3
2. TRAVEL	
\$15.0 in direct support of the new position	
\$25.0 in support of regional field officers providing technical assistance to rural areas	\$ 40.0
3. CONTRACTUAL	
\$15.0 in direct support of the new position	
\$10.0 for professional services, public information	\$ 25.0
4. COMMODITIES	
	\$ 1.0
5. EQUIPMENT	
	<u>\$ 2.0</u>
TOTALS	\$ 111.3

Costs for the administration of the asbestos health hazard program are not expected to continue for over two years, at which time the program purposes should be complete and the position terminated.

It should be noted that this position will not be needed, if one of the hazardous waste control bills now being considered by the legislature are passed. Both of these bills (SB-219 and HB 110-29) have fiscal notes which will provide the department with sufficient field personnel to be able to carry out the functions of this program as a function of the overall hazardous waste control efforts. If one of these bills pass, therefore, the resources in this fiscal note will not be used.

THE LEGISLATURE OF THE STATE OF ALASKA
ELEVENTH LEGISLATURE

FISCAL YEAR

I. REQUEST
Bill/Resolution No. SB-338, SB-339
Title Act establishing an asbestos health hazard program
Requested by Parr Date 3/22/91

II. FISCAL DETAIL
Agency Affected Environmental Conservation, Department of
Program Category Affected Environmental Conservation
BRU, Program, or Subprogram(s) Affected Environmental Quality Management, Env. Quality Control
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)
EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES			43.1	47.6		
200 TRAVEL			40.0	44.0		
300 CONTRACTUAL		4.0	25.0	27.6	10.0	
400 COMMODITIES			1.0	1.1		
500 EQUIPMENT			3.0	2.7		
600 LAND & STRUCTURES						
700 GRANTS/CHARGE ETC.						
TOTAL		4.0	111.3	122.4	10.0	

FUNDING (Thousands of Dollars)

GENERAL FUND		4.0	111.3	122.4	10.0	
FEDERAL FUNDS						
OTHER SPECIFIC FUND SOURCES						

POSITIONS

FULL TIME	PART TIME	TEMPORARY				

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

The requirements of SB-338 will obligate the Department of Environmental Conservation to oversee the establishment and carrying out of the entire asbestos health hazard program. This program will require the establishment of public information, inspection and testing guidance documents, identification of acceptable renovation techniques for correcting asbestos material hazards, providing of training materials and technical assistance to the general public in all matters involving friable asbestos materials in public facilities and schools.

It is projected that one additional full time person, located in either Anchorage or Juneau, will be needed to handle the administration and technical aspects of this program. This assumes that actual inspections and taking of samples are the responsibility of the individual building owners and/or occupants. Supporting

IV. DATE 4/15/91 PREPARED BY Thomas R. Moore
AGENCY Dept. of Environmental Conservation
Original: Legislative Finance
cc: Budget and Management
From: Spencer (First Legislator Name)
33-001 (Rev. 12/79)

costs for this position, including a substantial amount of travel in the event that on-the-site assistance becomes necessary or advisable, are included in this fiscal note as follows:

1. PERSONAL SERVICES

One position (Range 1B) for 12 months \$ 43.3

2. TRAVEL

\$15.0 in direct support of the new position

\$25.0 in support of regional field officers providing technical assistance to rural areas \$ 40.7

3. CONTRACTUAL

\$15.0 in direct support of the new position

\$10.0 for professional services, public information \$ 25.0

4. COMMODITIES

\$ 1.0

5. EQUIPMENT

\$ 2.0

TOTALS

\$ 111.3

Costs for the administration of the asbestos health hazard program are not expected to continue for over two years, at which time the program purposes should be complete and the position terminated.

It should be noted that this position will not be needed, if one of the hazardous waste control bills now being considered by the Legislature are passed. Both of these bills (SB-239 and MCS (SSB-29) have fiscal notes which will provide the department with sufficient field personnel to be able to carry out the functions of this program as a function of the overall hazardous waste control efforts. If one of these bills pass, therefore, the resources in this fiscal note will not be used.

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. SB 339
 Title A special appropriation for an asbestos health hazard program
 Requested by Senate Hess Committee Date 4-9-81

II. FISCAL DETAIL

Agency Affected Department of Community & Regional Affairs
 Program Category Affected Development
 BRU, Program, or Subprogram(s) Affected Local Government Assistance
 (Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES		25.5				
200 TRAVEL		-0-				
300 CONTRACTUAL		3.0				
400 COMMODITIES		.2				
500 EQUIPMENT		.8				
600 LAND & STRUCTURES		-0-				
700 GRANTS, CLAIMS, ETC.		-0-				
TOTAL		29.5				

FUNDING (Thousands of Dollars)

GENERAL FUND		29.5				
FEDERAL FUNDS		-0-				
OTHER (Specify Fund Source)		-0-				

POSITIONS

FULL TIME		1				
PART TIME		-0-				
TEMPORARY		-0-				

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

We anticipate 30 to 40 grants in FY 82 under this program. Personal Service costs are for an Accounting Clerk III for one year only. The program and this position would be supervised by existing Legislative Grant staff.

Accounting Clerk III - Range 10 Step A (General)

Salary	\$18,768.00	Contractual Costs		Equipment:
Benefits	2,884.64	Space	\$2,700	Desk,
SBS	2,004.00	Telephone	300	Chair, &
Health Insurance	1,848.00			Calculator
	\$25,504.64		\$3,000	\$800

IV. DATE 4-9-81

PREPARED BY McKie Campbell
 AGENCY Department of Community & Regional Affairs
 PHONE 465-4735

Original: Legislative Finance

(3) Dept CRA -

SUGGESTIONS RECEIVED FOR ER 338:

3 Inform the

The Department of Labor ~~would like to be notified~~ of all renovation undertakings through the local school districts so that ^{DOL} they can ~~personally~~ contact individual contractors concerning safety regulations. [They would choose contact through Ray Jorgenson, Chief Industrial Hygiene, in the Anchorage office.]

The Department of Community and Regional Affairs has agreed to send copies of the OSHA regulations for Worker Protection to each school district who receives a grant for renovation work.

POSITION PAPER

Senate Bill No 338

"An Act establishing an asbestos health hazard program and providing for an effective date."

Senate Bill No. 338 provides for cooperative efforts between the Departments of Environmental Conservation, Education and Transportation and Public Facilities in locating, analyzing, evaluating, record keeping and eliminating hazards associated with asbestos. The asbestos was used in some building materials utilized in the construction of schools and public buildings in past years. With time the buildings wear and deteriorate exposing the asbestos fiber. The asbestos particles, being very small, tend to easily break away from the material and float lightly in the air, subject to inhalation by the inhabitants of the building. As the amount of asbestos inhaled increases the statistical probability of a higher rate of asbestosis is present.

This bill is designed to begin a program of minimizing the incidence of exposure to Alaskans.

The Department of Health and Social Services feels this bill is needed and supports its passage.

Recommended by:

David Bruce

David Bruce, Deputy Director
Division of Public Health

Date:

April 6, 1981

Approved by:

Allen K. Bairne

Allen D. Bairne
Commissioner

Date:

4/13/81

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. Senate Bill No. 338

Title "An Act establishing an asbestos health hazard program and providing for an

Requested by Commissioner's Office Date 4/3/81

effective date."

II. FISCAL DETAIL

Agency Affected Department of Health and Social Services

Program Category Affected Public Health

BRU, Program, or Subprogram(s) Affected _____

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES	0	0	0	0	0	0
200 TRAVEL	0	0	0	0	0	0
300 CONTRACTUAL	0	0	0	0	0	0
400 COMMODITIES	0	0	0	0	0	0
500 EQUIPMENT	0	0	0	0	0	0
600 LAND & STRUCTURES	0	0	0	0	0	0
700 GRANTS, CLAIMS, ETC.	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER (Specify Fund Source)	0	0	0	0	0	0

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

IV. DATE 4/3/81

PREPARED BY David Bruce

AGENCY Department of Health and Social Services

PHONE 465-3090

Original: Legislative Finance

cc: Budget and Management

Prime Sponsor (First Legislator Named) M&B Approval M. Hubbard

DATE 4/8/81

POSITION PAPER

Senate Bill No. 339

"An Act making special appropriations for an asbestos health hazard program and providing for an effective date."

Senate Bill No. 339 is the funding mechanism for Senate Bill No. 338. The Bill provides funding for the inspection and sampling of substances suspected of having an asbestos content and funding for renovations where the substance creates a hazard.

We recommend SB 339 be amended to allow money to be expended for asbestos testing or assays. In reviewing the sum appropriated to the Department of Environmental Conservation and with knowledge testing or assays will be performed, it is recommended this sum (\$33,250) be reviewed to make certain it is adequate to perform the work assigned. This testing is expensive and to our knowledge no State Laboratory presently has the capability to perform this type of work. There will be high State start-up costs or the work will have to be contracted to a private firm.

The Department of Health and Social Services recommends the passage of this Bill.

Recommended by: David Bruce
David Bruce, Deputy Director
Division of Public Health

Date: April 15, 1981

Approved by: Helen D. Beirne
Helen D. Beirne
Commissioner

Date: 4/15/81

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. SB 339

Title "An Act making special appropriation for an asbestos health hazard program"

Requested by Dept. of Health & Social Services Date 4/15/81

II. FISCAL DETAIL

Agency Affected Department of Health & Social Services

Program Category Affected Health

BRU, Program, or Subprogram(s) Affected _____

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL	0	0	0	0	0	0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER (Specify Fund Source)	0	0	0	0	0	0

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

This bill does not directly impact the Department of Health & Social Services

IV. DATE April 15, 1981

PREPARED BY David Bruce

AGENCY DHS, Division of Public Health

PHONE 465-3090

Original: Legislative Finance

cc: Budget and Management

Prime Sponsor (First Legislator Named) M&B Approval *William Coatsworth*

Date 4/15/81

STATE OF ALASKA

DEPARTMENT OF LABOR

JAY S. HAMMOND, GOVERNOR

BOX 1149
JUNEAU, ALASKA 99811
PHONE:

Ph: 465-2700

May 4, 1981

Ms. Nancy Dietrick
Researcher, Senator Parr's Office
Alaska Senate
Pouch V
Juneau, Alaska 99811

Dear Ms. Dietrick:

Per your request, the following information concerns the funding necessary to staff the industrial hygienist positions for our Occupational Safety and Health program. These positions are included in the budget, 50% General Fund and 50% Federal funds. The following amounts should be added to the General Fund revenue amounts as federal funding is not anticipated for FY '82.

Personal Services	
PCN 2002 & 2006 (17,346 + benefits x 2) =	\$44,002
Travel (for 2 positions including moving costs)	27,800
Contractual	7,200

It may be difficult to receive OSHA approval to use matching federal funds for non-personal services for State funded positions. Therefore, the \$7,800 in travel is required to travel in-state to inspect work places. The \$20,000 in moving costs will assure that we will be able, if necessary, to recruit out-of-state because there are very few qualified industrial hygienists available in Alaska. We did not request moving costs in our original budget in order to stay within the budgetary level.

Thank you again for your interest and support of the Occupational Safety and Health program. Please advise if you need additional information.

Sincerely

Judy Knight

Judy G. Knight
Special Assistant

ASBESTOS AND THE ALASKA WORKER
(PRELIMINARY DRAFT)

Richard A. Fineberg and Helene A. Myers

May 20, 1981

A report commissioned by Alaska Health
Care Advocates

PRELIMINARY DRAFT

ASBESTOS AND THE ALASKA WORKER

A Report to Alaska Health Care Advocates

by

Richard A. Fineberg

and

Helen A. Myers, Ph.D.

May 20, 1981

This report was prepared by Richard Fineberg, with the exception of Chapter II, which was authored by Dr. Helen Myers.

May 20, 1981

Susan Johnson, Exec. Director
Alaska Health Care Advocates
P. O. Box 1037 D.T.
Anchorage, AK 99510

Dear Ms. Johnson.

With this letter I am enclosing the Preliminary Draft of ASBESTOS AND THE ALASKA WORKER, a report to Health Care Advocates by myself and Helen A. Myers, Ph.D., of the University of Alaska.

Because of the time constraints under which this report was prepared, I am unable to make more specific recommendations at this time. It is my belief that the proposed "Asbestos Health Hazard Program" bill (CSSB 338/9, offered 4/30/81 by the Senate Health, Education and Social Services Committee and referred to Community and Regional Affairs) needs amending to address items 1 through 4 of the policy recommendations of this report (see first section). Since the Asbestos Health Hazard Program contemplates extensive building sampling, followed (presumably) by asbestos removal or repair work as necessary, it is also my belief that amendments are needed for CSSB 338/9 to accomplish its goal.

In general terms, I would like CSSB 338/9 modified to insure that:

1. DEC take a leadership role in coordinating the overall program;
2. DOSH effect more stringent regulations than the present OSHA standard (2 f/ml for an 8-hour period with a 10 f/ml ceiling);
3. DOSH actively monitor early work projects to gather baseline fiber data and to enforce safe work practices.

In its present form, the bill is inadequate for several reasons, of which some are that:

- It strikes me that it would be inappropriate for the Department of Education to revise and update standards and keep abreast of new developments in asbestos-related policy as proposed [AS 18.28.030(2)(3)]. Rather, it is the responsibility of the agency within which the program is established (AS 18.28.010, proposed), which is DEC. Asbestos handling is a technical subject that requires expertise.
- As proposed, AS 18.28.050(6) instructs DOSH to apply standards set out in AS 18.60.075. I have two problems with this provision: first, as the enclosed report indicates, DOSH is inadequately staffed to carry out this kind of task; and second, the standards presently in force have been judged by authoritative reviewing body to be "grossly inadequate" to protect the worker.

I think the preliminary research you performed and the files you have established and maintained at Health Care Advocates provide an excellent base for additional research on this complex and important problem. It is obvious to me that you have devoted an extraordinary amount of time and energy to developing this body of information. Although it would not have been possible to prepare this report within this limited time frame without the aid of the wealth of knowledge you had previously gathered, responsibility for the contents of this paper -- and its shortcomings, whatever they might be -- rests with myself.

May 20, 1981
Fineberg

In addition to thanking you for your time and cooperation, I also wish to acknowledge the efforts of Helen A. Myers, Ph.D., assistant professor of medical sciences at the University of Alaska, Fairbanks. Dr. Myers graciously agreed to lend her time and expertise to the difficult task of describing the effects of asbestos exposure on health.

It has been a pleasure working with you, and I hope the enclosed preliminary draft will be of use to you and Health Care Advocates.

Sincerely,

Richard A. Fineberg
Box 81835 - College Station
Fairbanks, AK 99708
(907) 479-5363

Encl.

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RECOMMENDATIONS

General Recommendations

In view of the documented carcinogenicity of asbestos and its widespread use:

1. Alaska should develop asbestos standards based on a clear understanding of current medical knowledge about the effects of asbestos;
2. Alaska should gather accurate information on the amount of asbestos in public-use buildings, the best way(s) to deal with that asbestos, and the amount of asbestos in products and business operations that might result in hazardous exposures.
3. In cases in which hazards are uncertain, Alaska should reduce the probability of long-term health problems by minimizing exposure to asbestos.

Policy Recommendations

1. In view of the documented dangers of asbestos (Chapter II) and the unknown elements associated with those problems in Alaska (Chapter III-D), the State of Alaska should establish a Special Asbestos Group consisting of all state, federal and local agencies involved with asbestos problems, medical specialists, building specialists, labor and employer representatives, and others as deemed appropriate by the group. The purpose of the group should be to obtain the best available information on asbestos problems and procedures for abating those problems, to disseminate information relevant to Alaska, and to facilitate inter-agency coordination. The group should be under the leadership of the Alaska Department of Environmental Conservation and the Alaska Department of Labor.
2. Because the extent of asbestos materials present in public-use buildings is unknown at this time, and because building samples by different agencies have been conducted in an inconsistent manner (see Chapter III-B), the Department of Environmental Conservation should place special emphasis on coordinating and conducting surveys of schools and other public-use buildings that may contain asbestos. DEC should also enforce 40 CFR, Part 61, Subpart B, National Emission Standard for Asbestos (Chapter III-A).
3. The greatest demonstrated risk to humans is through the workplace; the Industrial Hygiene Section of the Department of Labor is inadequately staffed to perform workplace standards enforcement effectively (see Chapter IV-B). Therefore, the Alaska State Legislature should authorize funding for two additional Industrial Hygienists.

4. Knowledgeable researchers in the field believe the current 2 f/ml workplace standard (8-hour, time-weighted average ceiling 10 f/ml) is "grossly inadequate" to insure worker safety. The Alaska Department of Labor should promulgate and enforce a state asbestos standard similar to the 1980 recommendations of the NIOSH/OSHA study group (see Chapter I).
5. Because of the health hazards associated with asbestos exposure, Alaska should establish a training program similar to that of California, where an employee engaged in asbestos-related work must participate in a training program initiated by the employer and approved by the state.
6. If an asbestos hazard abatement program is implemented in schools and other public buildings, DOSH, in conjunction with DEC, should conduct monitoring and air sampling before, during, and after operations to insure health of building occupants and asbestos workers.
7. It is generally recognized that the workers' compensation system does not deliver services to victims of occupational diseases in an equitable manner (Chapter V). The Alaska State Legislature should consider whether statutory changes (such as the establishment of a special Workers' Compensation Board for Occupational Disease or a neutral investigating agency to determine the facts in occupational disease cases) would be of benefit to victims of occupational disease.

CHAPTER 1. ASBESTOS AND ASBESTOS REGULATION: AN OVERVIEW

Asbestos is a naturally occurring mineral whose fibers are virtually indestructible. Although the substance has been in use since antiquity, the development of steam-powered mechanical devices in the last half of the nineteenth century led to a sharp increase in the use of asbestos as an insulating product. Only a century ago, an estimated 50 tons of asbestos per year was mined and milled worldwide; during the first half of the 1970s, the United States alone consumed nearly 800,000 tons per year, roughly one-fifth of the world's total production. Because of its high tensile strength, flexibility, heat and chemical resistance, and frictional properties, asbestos has over 2,000 uses. Products containing asbestos include: floor tiles, gaskets and packings, vehicle brake/clutch/transmission components, paints, roof coatings and patching compounds, cement pipe, electric wire insulation, industrial paper products, asbestos-cement sheeting (to name a few). Until it was restricted during the 1970s, asbestos was sprayed on commercial building structures for insulation, fire protection and decorative purposes.¹

In addition to the qualities that make it a highly useful product, asbestos also possesses characteristics that make it extremely harmful to human beings. Asbestos fibers break down into submicroscopic fibers far too small for the eye to see. These fibers are easily airborne and readily penetrate the lungs; once inside the body, they tend to remain. Asbestos causes a scarring the lungs (fibrosis) known as asbestosis and a grim panoply of cancers.²

Few would dispute that asbestos is highly toxic. Over the next 10 years, the U. S. government estimates that 67,000 former asbestos workers will die of asbestos-associated cancers every year.³ Nevertheless, there is considerable debate over the degree of hazard posed by asbestos exposure to workers today, and to the general public. Part of the problem is that the cancer-causing mechanism is not clearly understood. To compound the problem, asbestos-related diseases take many years to develop, and the disease-producing asbestos fibers are too small to find and count without sophisticated laboratory equipment.

The severity of asbestosis appears to be directly related to the quantity of asbestos dust inhaled (most asbestosis fatalities have been associated with prolonged exposure to heavier dust than is generally permitted nowadays). The probability of developing cancer is also dose-related. Mesothelioma -- a rare and fatal cancer almost invariably identified with asbestos exposure -- has been reported in low-dose exposures to the families of asbestos workers. In several instances, the victims' only known exposure to asbestos was the clothes the worker wore home.⁴

Public policies regarding health are developed as scientific information finds its way into the political arena to interact with pressures created by private and public interests. In the case of asbestos policy, this process is made even more cumbersome by the difficulties encountered in measuring the offending agent and the diagnostic problems arising from the long latency of asbestos-related diseases. The history of efforts to control human exposure to asbestos in the United States shows striking time lags between confirmation

of the harmful effects of asbestos and the implementation of standards to reduce those hazards.⁵ The following chronology (Table 1) points out that time lag.

Table 1

<u>Year</u>	<u>Event/Standard/Agency</u>
1907	Asbestosis described in a group of textile mill employees. ^a
1931	Raybestos-Manhattan, Johns-Manville, and Metropolitan Life Insurance Co., complete study of asbestos workers begun in 1929. The results, unpublished until 1935, show 53% of workers had asbestosis, 17% had signs. ^b
1935	Lung cancer deaths reported in British asbestos workers. ^c
1938	U. S. Public Health Service study found asbestosis in long-term employees of asbestos textile mill. Tentative standard ^d of 30 f/ml proposed (Public Health Service). ^d
1947	Lung cancer found in 11% of British asbestos workers who died with asbestosis. ^e
1950	West Germany classifies cancer of the lung when associated with asbestosis as an occupational disease. ^f
1955	Lung cancer found to be more than ten times expected in a study of British textile factory workers. ^g
1960	Mesothelioma associated with asbestos exposure in South Africa. ^h U. S. government requires contractors conducting more than \$10,000 business with the U.S. to keep asbestos exposure below 30 f/cc (Labor Dept.). ⁱ
1964	Asbestosis and spectrum of cancers found common among insulators who worked with asbestos products. ^j
1968	Mesothelioma found in shipyard employees who worked near application or removal of asbestos materials. ^k
1969	U. S. government lowers contractors' standard to 12 f/cc (Labor Dept.). ^l
1971	12 f/cc interim standard for all industries covered under OSHA (May 29, 1971). ^m

. . . continued

^aSee note following table footnote for discussion of basis for asbestos standards.

Table 1 (continued)

<u>Year</u>	<u>Event/Standard/Agency</u>
1971 (cont.)	5 f/cc emergency standard adopted by OSHA (Dec. 7, 1971). ⁿ National Emission Standards for Hazardous Pollutants proposed by EPA include asbestos (Dec. 7, 1971). ^o
1972	OSHA adopts 5 f/cc standard until 1976, when standard will drop to 2 f/cc. ^p
1973	EPA national emission standard prohibits visible emissions of asbestos from various operations. ^q
1975	OSHA proposes 0.5 f/cc standard; preamble recognizes carcinogenicity; ^r EPA clarifies standard. ⁿ
1976	NIOSH proposes standard of 0.1 f/cc. ^l OSHA standard drops to 2 f/cc. ^u
1977	Consumer Products Safety Commission bans asbestos-patching compounds and emberizing fireplace logs. ^v
1978	Supreme Court rules EPA standard goes beyond Congressional mandate (but Congress broadens mandate, making challenge moot). ^w EPA closes loopholes that permitted decorative spraying of asbestos. ^x National Cancer Institute estimates 2.15 million former asbestos workers will die of asbestos-induced cancers over next 30 to 35 years (one every seven minutes). ^y
1980	After review of recent medical and technical publications, OSHA joins NIOSH in recommending lower, feasible standard (0.1 f/cc). ^z

Footnotes to Table:

- a Sellhoff, "Asbestos-Associated Disease", p. 568.
- b Motley, Ronald L., "The Lid Comes Off", Trial (April 1980), pp. 21-22.
- c Esterline, Philip L., "Asbestos and Cancer: The International Lag", American Review of Respiratory Disease, 118: 975-979 (1978).

. . . continued

Table 1 (Continued)

Footnotes (continued):

- d Nicholson, "Regulatory Actions", p. 294.
- e Ibid.
- f Ibid.
- g Ibid.
- h Ibid.
- i Ibid.
- j Sellkoff, I. J., et al. "Asbestos Exposure and Neoplasia", Journal of the American Medical Association, 188: 22-26 (1964).
- k Nicholson, "Regulatory Actions", p. 302.
- l Federal Register, 34: 7953 (May 20, 1969).
- m Ibid., 36: 10466 (May 20, 1971).
- n Ibid., 36: 23207 (Dec. 7, 1971).
- o Ibid., 36: 23239 (Dec. 7, 1971).
- p Ibid., 37: 11301 (June 7, 1972).
- q Ibid., 38: 8820 (April 6, 1973).
- r Ibid., 40: 47652 (Oct. 9, 1975).
- s Ibid., 40: 48299 (Oct. 14, 1975).
- t U. S. National Institute for Occupational Safety and Health, Revised Recommended Asbestos Standard (U. S. Dept. of Health, Education and Welfare; DHEW-NIOSH Publ. #77-169, Dec. 1976).
- u Federal Register, 37: 11301 (June 7, 1972).
- v Ibid., 42: 63354 (Dec. 15, 1977).
- w Adams Wrecking Co. vs. U. S., 11 FERC 1081 (1978).
- x Federal Register, 43: 26372 (June 19, 1978).
- y "Estimates of the Fraction of Cancer".
- z Workplace Exposure to Asbestos.

. . . continued

Table 1 (continued)

NOTE:

To understand how asbestos standards have developed, it is necessary to know a bit about how asbestos fibers are measured. Airborne asbestos counts are customarily given in terms of fibers per cubic centimeter of air (f/cc). The fiber count refers, however, only to fibers longer than 5 microns (a micron is about 1/25,000 inch; 5,000 of the 5-micron fibers end-to-end measure approximately one inch in length). Even smaller fibers believed to be toxic to humans equal or far outnumber fibers longer than 5 microns. The 5-micron index is used because that is the shortest fiber detectable using phase-contrast microscopy, the only technique available that can reasonably be used for routine monitoring. Phase-contrast identifies fibers with a 3:1 length-width ratio; this technique is not asbestos-specific. To measure asbestos levels with precision, it is necessary to use electron microscopy. But the sample preparation is slow, the process requires highly trained personnel, and the equipment is costly.

A sample that is said to contain 2 f/cc also may be said to contain an estimated two million fibers (longer than 5 microns) per cubic meter. When the smaller fibers are considered, the 2 f/cc sample may contain anywhere from 4,000,000 to 200,000,000 asbestos-like fibers per cubic meter. The present U. S. Occupational Safety and Health Administration (OSHA) standard -- 2 f/cc -- is also the standard of the Alaska Department of Labor's Division of Occupational Safety and Health (DOSH). Last year, OSHA and the National Institute for Occupational Safety and Health (NIOSH) reported the present standard is "grossly inadequate to protect American workers from asbestos-related disease" and recommended reducing the standard from 2 f/cc to 0.1 f/cc, the lowest level for which phase-contrast microscopy is capable.

See: Workplace Exposure to Asbestos: Review and Recommendations (U. S. Dept. of Health and Human Services; DHHS-NIOSH Publ. #81-103, Nov. 1980).

See also: Asbestos-Containing Materials in School Buildings: A Guidance Document, Part 2 (U. S. Environmental Protection Agency; EPA-450/2-78-014, March 1978).

There is little reason to believe that asbestos-related disease is any less of a problem in Alaska than anywhere else in the United States. The following facts dictate that Alaska make a strong effort to identify and minimize asbestos hazards to students, to workers, and to the general public:

- the widespread general use of asbestos products;
- the increasing evidence that airborne asbestos fibers are highly toxic to humans;

- the tendency for some asbestos products to crumble, releasing airborne fibers during installation and due to normal wear; and
- the documented time-lag in the policy arena between identifying and addressing confirmed asbestos-related problems.

Considerations such as these have prompted other states to deal with asbestos problems in a forceful manner. Massachusetts, for example, set up a special commission to supervise a thorough examination of schools and careful repair or removal of friable (crumbling) asbestos that posed a serious health hazard to students if untreated (and a similar hazard to workers and students alike if improperly handled).⁶ California requires special training and health precautions for workers who face possible asbestos exposure.⁷ In Washington State, the federal law that requires demolition contractors to notify authorities when they encounter a specific quantity of asbestos products insures that contractors know what they are dealing with -- and how to handle it safely.⁸

In Alaska today, none of these reasonable safeguards to protect school-children, the worker, and the general public are operating. This spring, the Alaska State Legislature has been deliberating on a bill addressing the problem of asbestos in schools and other public buildings.⁹ State laws and regulations designed to protect workers exposed to asbestos are relatively weak and inadequately enforced.¹⁰ Federal notification requirements concerning demolition of buildings containing asbestos products are ignored.¹¹

While conditions that might be causing fatal diseases in an unknown number of Alaskans continue to exist, workers already afflicted who face disablement and death due to previous exposure discover that the workers' compensation system does little to ease their burden.¹²

Although the weakness of public policy regarding asbestos in Alaska is known, the extent of exposure to asbestos in Alaska is unknown. To deal casually with asbestos in the face of uncertainty is a public policy that makes little sense. Gambling against asbestos is like playing Russian roulette with the possibility that uninformed and/or unsuspecting asbestos breathers could die early deaths that are needless and avoidable.

References - Chapter I

1. Becklake, M. R., "Asbestos-Related Diseases of the Lungs and Other Organs: Their Epidemiology and Implications for Clinical Practice, American Review of Respiratory Disease, 114: 187-227 (1976); Richard J. Levine (ed.), Asbestos: An Information Resource (Department of Health, Education and Welfare, 1978); Nicholson, Wm. J., "Regulatory Actions and Experiences in Controlling Exposure to Asbestos in the United States", Annals of the New York Academy of Sciences, 329: 293-303 (1979).
2. Myers, H. A., "Effects of Asbestos Exposure on Health" (see Chapter II below).
3. "Estimates of the Fraction of Cancer Incidence in the United States Attributable to Occupational Factors", National Cancer Institute and National Institute of Environmental Health Sciences, press release, Sept. 11, 1978.
4. Mesothelioma reports described in Irving J. Selikoff, "Asbestos-Associated Disease", Public Health and Preventive Medicine, 11th ed. (Appleton-Century-Crofts, 1980), pp. 587-588.
5. Nicholson, "Regulatory Actions", p. 293.
6. See 1980 Asbestos Commission Annual Report (Massachusetts Division of Occupational Hygiene, Publ. No. 12103-74-100-9-80-CR, 1980).
7. California General Industrial Safety Orders, Title 8, Section 5208, "Asbestos Regulations".
8. 40 CFR 61.22(d) (see Chapter III below).
9. SB 338/9 and CSSB 338/9.
10. For enforcement of 8 AAC 04.0102, see Chapter IV below.
11. The Alaska Department of Environmental Conservation does not carry out the provisions of the National Environmental Standards for Hazardous Air Pollutants mandated by the U. S. Environmental Protection Agency at 40 CFR 61.22(d).
12. See Chapter V below.

CHAPTER II. EFFECTS OF ASBESTOS EXPOSURE ON HEALTH

What is Asbestos, and Where Is It?

Asbestos is a silicate mineral with a fibrous structure that is exceedingly useful in many areas of industry and in many industrial products, particularly where its fire resistant properties are required. Unfortunately, the mineral has toxic effects, which, although first discovered at the turn of the century, are still in the process of being defined and quantified. Because of its ubiquitous use, many people are exposed to asbestos. For example, asbestos is found in some brands of hair dryers, spackle and filler compounds, paper products, cement products, textiles, construction materials (roofing, acoustical products), brake linings, electrical insulation, and insulation for heaters and buildings. Because of its toxic effects, substitutes for asbestos are being found and asbestos products are being replaced in buildings. People shown to have been exposed to the toxic effects of asbestos include: people directly working with asbestos (such as miners, transport workers and manufacturers of asbestos products); construction workers directly involved with the installation of asbestos products as well as others working at the site; maritime personnel and dockyard workers; electrical plant workers, people involved in maintenance and repair of buildings containing asbestos; brake repairers; and those in the vicinity of both the asbestos material and the worker (work clothes can carry considerable amounts of asbestos home to the worker's family). People subject to asbestos exposure are thus not just people working directly with asbestos. The general population, because of the ubiquitous presence of asbestos, may be more exposed than originally thought. Upon autopsy, more asbestos fibers and associated lesions are being found in urban than in country dwellers.

The mechanism underlying the toxicity of asbestos is unknown, although it seems to be related to the size and shape of the fiber (1,2). Experiments with animals have shown some other commercial mineral fibers of similar dimensions to have the same toxic effects. Although the safety standards only address fibers longer than 5 μ m,* the majority of the fibers found in tissues are smaller and are considered to be toxic. Asbestos occurs in various fibrous forms, the major commercial types being chrysotile and the amphiboles, crocidolite and amosite. While differences between fiber types exist, they are all toxic. The size of the fiber in the air, rather than its natural size, and the consequent ease with which it penetrates the body seem to determine the toxicity as much as the fiber type itself. It has thus not been possible to turn to a particular type of asbestos to avoid the diseases associated with asbestos use.

* μ m = micron (or 0.000001 meter).

Inhalation of airborne fibers is the principal route by which asbestos enters the body, although fibers in the water supply or those coughed up from the lungs may be ingested. Fibers can pass from the lungs or gastrointestinal tract to any part of the body by the blood and lymph vessels. Despite a seemingly continuous removal of fibers from the body via the urine and feces, fibers do accumulate in the tissues and have been found in the lesions presumed to be caused by asbestos. Most fibers are found in the lung area, however, since this is the primary entry site, and it is here that most of the pathology associated with asbestos exposure occurs.

Asbestosis

Covering the surface of the lungs, the inside of the rib cage, the diaphragm and heart is a thin continuous tissue layer called the pleura. The abnormalities associated with asbestos can occur within the lung tissue itself or in this pleural tissue, or both. Asbestos fibers stimulate a stiff fibrous growth referred to as "fibrosis". Calcium may be deposited in the fibrotic regions, much as it is in bone, making the tissue even stiffer. These lesions are referred to as bronchial or parenchymal fibrosis when seen in the lung tissue, or pleural fibrosis when they occur in the membrane covering the lung or rib cage. When these fibrotic areas occur in discrete, localized areas they are called "plaques". Fibrosis can also occur quite diffusely throughout either tissue. An accumulation of fluid called "pleural effusion" may also occur in the chest cavity. The fluid and the fibrotic regions may be detected by x-ray techniques. These abnormalities, when associated with asbestos exposure, constitute the disease called "asbestosis".

Asbestosis develops slowly after initial asbestos exposure, taking on the order of 10 years for plaques to appear (1,2). The stiffness of the lungs and the associated pleural effusion result in the principle physical symptom, a reduction in lung volume and the maximum amount of air a person can inhale in one breath. The ability of oxygen to move from the lung to the blood is usually impaired as well. When moderate, these impairments may not be noticed unless a person exercises, and many people remain active and employed. If the abnormalities are advanced, however, a person can experience considerable difficulty breathing, be short of breath, and feel considerable pain. Fibrotic lung or pleural tissue also makes the lung more susceptible to infections and places considerable stress on the heart. Death can result not only from the consequences of not being able to breath sufficiently, but also from respiratory infection or heart failure.

Cancer

Asbestos stimulates the development of cancer of the lung and of the pleural membrane, as well as cancer of a similar membrane, the peritoneum, which covers the organs and inner wall of the abdomen (1,2). Cancer of the pleura and peritoneum is called mesothelioma. Mesothelioma has been found almost exclusively in association with asbestos exposure, and is exceedingly rare in the general population.

Lung cancer, like asbestosis, has a latency period, appearing on the order of 15 - 35 years after onset of asbestos exposure. Lung cancer often occurs in association with asbestosis, but need not be preceded by it. The life expectancy of patients with lung cancer, generally five or less years, may be shortened by the fibrotic changes of asbestosis which not only further interfere with lung function, but also may prevent surgical removal of the cancer.

Mesothelioma spreads rapidly over the organs covered by the pleural and peritoneal membranes, rarely penetrating into the organs but nevertheless interfering with organ function. Breathing can be difficult and painful, as it is with lung cancer. The rapid spread results in a life expectancy of only 1 - 2 years; these tumors cannot be removed surgically nor is chemical treatment successful. Like asbestosis and lung cancer, mesothelioma appears after a long latency, often 40 - 45 years, following onset of asbestos exposure.

Other tumors associated with asbestos exposure include cancer of the larynx, esophagus, stomach, colon, and rectum (1,2). Although they are the cause of death much less frequently than lung cancer or mesothelioma, they may be found with the latter tumors.

Smoking and Asbestos Disease

Asbestos can cause cancer by itself. Asbestos also interacts with other carcinogens, such as cigarette smoke, to increase the mortality from cancer beyond that attributable to the sum of the mortalities of either carcinogen alone. For instance, in one study of over 12,000 asbestos workers, the death rate of the workers from lung cancer was 5 times that of the age-standardized control group that neither smoked nor worked with asbestos (3b). Cigarette smokers had 10 times the death rate of the control group. Asbestos workers who smoked had 50 times the death rate of the control group, or the product rather than the sum of the death rates for smoking or asbestos exposure alone. This multiplicative effect suggests an interaction between the two carcinogens. Experiments with animals show a similar interaction of asbestos fibers with the carcinogen nitroso-diethylamine.

While smoking increases the risk of dying from lung cancer following exposure to asbestos, it seems to have no such effect on the development of mesothelioma. Smoking also seems to exacerbate the symptoms and signs of asbestosis, as well as increase the risk of death. It has thus been strongly stated that asbestos workers should not smoke; ex-smokers among asbestos workers have lower death rates than their smoking colleagues. However, it should not be thought that a non-smoker is protected from developing asbestosis or lung cancer following exposure to asbestos.

Asbestos Diseases: Latency, Irreversibility, Susceptibility

The latency period before the onset of asbestos disease makes it fairly useless to rely upon medical examination to indicate when a worker is being exposed to too much asbestos (2). By the time the disease is apparent, often decades after the initial exposure, the damage has been done and the diseases, especially the cancers, typically progress regardless of whether asbestos exposure ceases. Even detecting the earliest signs of disease by x-ray and lung function tests has

proved to be of limited value in reversing asbestosis. It should be emphasized that there are no known cures for these diseases, even if they are caught in their early stages.

Even at the highest exposure levels, many of those exposed may never show symptoms of asbestos disease, which implies there are considerable differences in susceptibility to asbestos effects among individuals (2). Since it is not known what determines susceptibility at this time, it has not been very effective to screen individuals to determine which are unsuitable for work with asbestos.

No Known Threshold

The alternative left for avoidance of asbestos diseases, if medical examination will not help, is to keep the level of asbestos exposure low enough that no effects are seen. To find this "threshold" dose the relationship between the dose of asbestos and the magnitude of the responses to that exposure dose needs to be defined. Unfortunately, information is not good enough at this time to tell if there is a level of asbestos exposure that has no deleterious effect. It is the latency between exposure and response that is the primary problem. While investigators may know what the incidence of mesothelioma, lung cancer, and asbestosis is in groups which have been exposed to different levels of asbestos, they can only guess at the levels of asbestos actually present decades ago. It is necessary to wait another 30 - 40 years to see what the pathological responses to the levels of asbestos currently being measured will prove to be. The following discussion of the relationship between asbestos exposure and disease is thus at best sophisticated guesswork.

There are further problems in quantifying the exposure to asbestos. Because asbestos fibers remain in the body, continued exposure to asbestos results in an accumulated dose to which the tissues are exposed. To approximate this accumulated dose, the concentration of environmental asbestos should be multiplied by the duration of the exposure. (Thus a short, heavy dose is roughly comparable to a longer, lighter dose.) However, when the concentration is unknown, the duration of exposure is all that can be given. Another problem is that measurement techniques have changed throughout the years. It is not possible to reliably convert between measurements of the numbers of particles, or the numbers of fibers over 5 μm in length, or the weight of asbestos in a given volume of air. Comparisons between the work of different investigators are therefore difficult to make.

Despite these difficulties, it appears clear that the response to asbestos is proportional to the amount of asbestos exposure. If the duration of exposure is decreased, there is a decrease in the frequency of occurrences of asbestos diseases in the exposed population, as well as an increased delay between the initial exposure and the appearance of the disease (3d). If the latency, which is decades long, could be increased by lowering the dose the possibility arises that an exposure level exists that will delay the disease so long that the exposed person will die of some other cause unrelated to asbestos.

This factor can be seen at work even in the relationship between the three major asbestos diseases. In the first half of this century when little attempt was made to control the levels of industrial asbestos dust, people tended to die from asbestosis. At the lower dust levels found in factories in the 1940's, people exposed for over shorter periods of time did not develop as severe cases of asbestosis and lived long enough for lung cancer to develop and be the cause of death. People with even lower levels of exposure, either in terms of amount or duration, tend to develop mesothelioma preferentially. It thus seems that, if a person lives long enough, mesothelioma develops at low doses, while lung cancer and asbestosis may need higher doses to develop, and tend to develop faster (3d).

Current theory regarding carcinogenic agents states there is no threshold dose below which the agent has no biological effects although the effect may not appear until after a long latency. Indeed, no experimental dose of asbestos has been unequivocally without effect for either asbestosis or cancer. Extrapolation from the data for higher doses similarly predicts that there is no dose without an effect. It has been emphasized that studies of the effects of asbestos exposure must be carried out for decades to completely define the response (3d). An early study of factory workers in England originally indicated there would be only a 1% chance of showing signs of asbestosis for an accumulated exposure of 100 fiber-years /ml of air (ie, 50 years of exposure to 2 fibers /ml). It was from this work that the original standards for asbestos exposure were derived. However, after further following this group, it was seen that 10% of the workers died from asbestos related deaths (6).

Exposure Levels

It is worthwhile to examine what is known about the effects of asbestos doses that are likely to be encountered today. Several investigators have reported the occurrence of mesothelioma and even asbestosis in family members of asbestos workers who would be exposed to the low levels of asbestos brought home on the worker's clothing. Asbestos related diseases accounted for 10% of the deaths among this group of people (3a). Measurements showed these homes could have asbestos levels ranging from 100 - 1000 ng/m³* of air. By comparison, in public schools where asbestos containing walls, etc., were damaged, 50% of the air samples contained between 200 - 2000 ng/m³* (3c). This raises the possibility that the long term exposure of school children and teachers might well lead, in the latter part of the century at the end of the latency period, to an increased incidence of mesothelioma in the general population.

For comparison with the schools, ambient air samples in major cities in the United States range up to 100 ng/m³, with 64% of the samples being less than 2 ng/m³. Asbestos fibers are detected in roughly 80% of the residents of New York and London. Pleural calcification, common (30+%) in asbestos-exposed populations, was only seen in .02 - .5% of the general population in the 1960's (3a). Hopefully, after the latency period following the recent era of extensive use of asbestos, this incidence will not rise.

* ng/m³ = nanogram/cubic meter; 1 nanogram = 0.000,000,001 gram. Air quality standards are not defined in these terms.

Another study is relevant to industrial levels of asbestos exposure. Exposure for one month or less to an estimated 23 fibers /ml in an asbestos insulation factory resulted in an excess mortality of almost two-fold among the workers, compared to the general population, from deaths due to fibrosis and cancer. This excessive number of deaths was not seen until 17 - 27 years following the exposure. On a cumulative basis, this exposure would be roughly equal to an exposure of one year to 2 fibers/ml, the level of the present OSHA (Occupational Safety and Health Act) standard for asbestos.

Present Standards

The present occupational standard of 2 fibers/ml of air is recognized as not being adequate to prevent cancer, although it was originally thought that the incidence of asbestosis would be lowered more than it turned out to be. Since theory and experimental data suggest there may be no threshold dose for asbestos, NIOSH (National Institute for Occupational Safety and Health) has recommended that the standard be lowered as far as practically possible, to 0.1 fibers over 5 μ m length/ml, the minimal level that can be measured routinely with equipment readily available (4,5). The practical stance has been taken that it is best to keep the asbestos levels as low as possible, especially since there is no way of predicting at a useful time from medical examination when the individual has had too much asbestos. It is not yet even possible to predict which individuals are less susceptible to the toxic effects of asbestos, nor is there any way to significantly halt the progression of asbestosis, lung cancer, or mesothelioma.

Reference Bibliography - Chapter II

The number of articles on asbestos disease is quite large. The following references were selected because they are recent, fairly detailed summaries which contain lengthy reference lists for the reader interested in pursuing the topic in further detail.

1. Selikoff, I. J., Asbestos - Associated Disease. In Public Health and Preventive Medicine. 11th ed., John M. Last, ed; pp. 568-644. Appleton - Century Crofts, 1980.
2. Becklake, M. R., Asbestos - Related Diseases of the Lung and Other Organs; Their Epidemiology and Implications for Clinical Practice Amer. Rev. Resp. Dis. 114: 187-227, 1976.
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 - a. Anderson, H. A., et al. Asbestosis Among Household Contacts of Asbestos Factory Workers, pp. 387-399.
 - b. Hammond, E. C., et al. Asbestos Exposure, Cigarette Smoking and Death Rates, pp. 473-490.
 - c. Nicholson, W. J., et al. Asbestos Contamination in United States Schools from Use of Asbestos Surfacing Materials, pp. 587-596.
 - d. Seidman, H., et al. Short-term Asbestos Work Exposure and Long-Term Observation, pp. 61-89.
 - e. Selikoff, I. J., Mortality Experience of Insulation Workers in the United States and Canada, 1943 - 1976, pp. 91-116.
4. Revised Recommended Asbestos Standard. DHEW (NIOSH) Publication No. 77-169, 1976. (Reviews the information leading to the recommendation to lower the present asbestos standard.)
5. Workplace Exposure to Asbestos: Review and Recommendations. DHHS (NIOSH) Publication No. 81-103, 1980. (Updates the literature in the previous reference.)
6. Nicholson, W. J., Regulatory Actions and Experiences in Controlling Exposure to Asbestos in the United States. Ann. New York Acad. Sci. 329: 293-303, 1979. (Included for the historical perspective presented.)

CHAPTER III. ASBESTOS IN ALASKA: SOME SNAPSHOTS

Chapter I stressed the time lag between scientific knowledge of the diseases caused by asbestos and the adoption of regulations to reduce the likelihood of those diseases. The apparent failure of Alaska regulatory agencies to deal with asbestos problems in a forceful manner was also suggested. In Chapter II, Helen A. Myers, Ph.D., an assistant professor of physiology at the University of Alaska (Fairbanks), described the health hazards of asbestos. Reviewing the scientific literature on asbestos, Dr. Myers observed that once the disease is contracted, there is little possibility of halting asbestosis or other cancers, including mesothelioma (a rare and fatal cancer that is almost invariably associated with asbestos exposure), and that the present occupational standard of 2 f/cc is not adequate to prevent cancer. In this chapter, we begin to apply the information we have presented in the preceding chapters to Alaska today.

From a public policy standpoint, the importance of the information presented here depends on the extent to which friable* asbestos products exist in Alaska, or asbestos fibers are otherwise released into the environment (i.e., construction, brake repair work, etc.); the greater the release of this known carcinogen and fibrosis producer, the greater the need for regulation. Unfortunately, it is not known how much asbestos is released into the air presently; nor is it known how many workers are breathing air laden with asbestos fibers. Due to the lack of public attention to the asbestos situation, it is not known whether the following snapshots are indicative of a public and/or occupational health problem of major proportions. At the least, these examples point out the need for further study of asbestos-related problems and of the manner in which Alaska enforces regulations designed to mitigate the asbestos problem.

A. Z. J. Loussac Library, May 1980

It has been estimated that approximately three-quarters of all asbestos products are used in construction.¹ Some of that material has exhibited a tendency to crumble. When it does so, if special precautions are not taken, the fibers that break loose will break into still smaller fibers (sometimes called fibrils) that will settle slowly, invisibly, and will become airborne again when disturbed by contact or air currents.² Because these asbestos fibers are highly toxic to humans, the Environmental Protection Agency (EPA) prohibited visible asbestos emissions from several operations, including building demolition. (Asbestos was one of three substances whose visible emissions were banned as a hazardous pollutant; the other two were beryllium and mercury.) The regulation requires demolition contractors to take measures to avoid asbestos dust by removing asbestos materials carefully prior to actual destruction, wetting down surfaces when dust is unavoidable, removing all asbestos materials in sealed and marked bags. Additionally, any contractor who is dealing with more than 260 linear feet of friable asbestos pipe insulation or 160 square feet of surface asbestos materials must notify the agency 20 days before work begins.³

Enforcement responsibility lies with the Alaska Department of Environmental Conservation, but the regulation does not appear to be in force at this time. According to the Anchorage Daily News, a DEC environmental engineer

*Friable (asbestos-containing) material is that which can be crumbled, pulverized, or reduced to powder in the hand.

received a complaint about dust levels associated with the demolition of the Anchorage City Hall Annex several months ago and found the site contained asbestos materials. He instructed the contractor that asbestos waste must be taken to an approved dump and must be handled in a prescribed manner.⁴ The official did not deal with the question of worker exposure to the dust. He said his legal responsibility is to enforce air standards. He added that he is concerned about worker health and safety, but that responsibility for that subject rests with other agencies.⁵

The Z. J. Loussac Library, similar in construction to the Old City Hall Annex, is being torn down at this writing. Although asbestos is believed to be present in this building,⁶ if any efforts have been made to enforce safe work standards, this writer has been unable to learn of them. Before demolition began, state and municipal officials suspected asbestos was present and knew the project contract lacked a clause requiring the contractor to provide the necessary safeguards to protect workers from asbestos exposure; municipal authorities met with DEC to discuss the question of hazardous materials in buildings slated for demolition.⁷ Despite all this interest before demolition, officials exhibited little interest in the project.

Although no official agency appears to have taken samples from Loussac, and Health Care Advocates will not be able to have building samples analyzed privately in time for inclusion in the draft version of this report, observers believe the ceiling acoustical tiles and a layer of wallboard may contain asbestos. As the building awaits the wrecking ball, the wallboard is exposed in an interior wall near the front door where a hole approximately four feet high and three feet wide was torn, presumably to remove equipment. Debris, including fragments of wallboard, were swept into a pile beneath the hole and left for days. A smaller hole in the south wall was left by employees of a subcontractor who removed mechanical and/or ventilating equipment. In addition, light fixtures suspended from the ceiling are being removed by the contractor or a subcontractor. Individuals standing on a scaffolding removed the light fixtures by unscrewing them from supports above the tile ceiling. The screws passed through the tile. (A sample tile crumbled under light pressure, releasing a fine dust.)

This writer observed two subcontractor employees who removed the ventilation/mechanical equipment from the south wall. They did not wear protective equipment (respirators, clothing) and seemed unaware that they may have been working in the presence of a carcinogen. Although there was little visible dust, there was debris at their feet. It is not known how long the two employees worked on that wall; the hole was covered with a piece of newer wallboard. Although the light-removal operation has not been observed, it is probable that the removal took at least thirty hours of labor, perhaps more. (NOTE: The writer has little basis for this estimate.) In addition to an estimated three or four library personnel working regular hours in a back room while the front was dismantled, about half a dozen workers (presumably demolition contractors or people transporting materials to the new library) have been observed in the library building during demolition. Although a sign on the door says the library has moved, the area has not been posted clearly as a work area (or an area that could constitute an asbestos hazard).⁸

If asbestos is confirmed in the ceiling tile or interior wallboard samples, the contractor would appear to be in violation of 40 CFR 61.22(d). In view of the contractor's stated familiarity with asbestos procedures,⁹ this lapse is surprising. Even more surprising, however, is the fact that DEC apparently does not enforce this provision. Although an EPA official in Anchorage was unaware of this regulation, EPA officials in Seattle told Health Care Advocates the procedure is routinely enforced in the Seattle area, where contractors notify the Puget Sound Air Pollution Control Agency before they tear up buildings containing the specified amount of asbestos.¹⁰

NOTE: Since it is not certain at this time that Loussac contains asbestos products, it is not clear that worker health has been jeopardized, or that statutes or regulations have been violated. However, both the contractor and DEC's Harmon appear to be proceeding on the assumption that the building contains asbestos. Moreover, an asbestos worker who inspected the site for Health Care Advocates said he would guess that there was a 40% probability the wall sheetrock contains asbestos and a 50/50 chance that the ceiling tiles were asbestos. In the event that the walls and/or ceiling contain asbestos, it would appear that various persons in the building between May 1 and May 18 were at risk, and that EPA and DOSH regulations may have been violated. To this writer, the casual manner in which the asbestos question has been handled at Loussac is in direct contradiction to the National Academy of Sciences 1972 report that determined that, even though asbestos was too important to the U.S. economy to be banned outright, additional exposure to asbestos would be "highly imprudent".¹¹

B. Worker Exposure to Asbestos Dust, Prudhoe Bay, April 1981

Sam Owen worked in a cloud of asbestos dust for a day-and-a-half at Prudhoe Bay last month. For much of that time, he was exposing himself and about six other workers nearby to the dust. The pipe insulation he was using was later identified as amosite asbestos.¹² Studies have demonstrated that "workers exposed to amosite asbestos for merely a month showed a clear excess risk of cancer . . . Moreover, with very brief exposure increased cancer risk was found . . . after 25 years."¹³

Owen has been a member of Local 97, International Association of Heat and Frost Insulators and Asbestos Workers since 1975. He had never used asbestos pipe insulation because substitute products have been used since the early 1970s. For this reason, he did not recognize the product he was given by his employer, E. J. Bartella, Inc. The material, which Owen believes was shipped from Anchorage, had a canvas cloth covering and was broken into many pieces when it arrived. The calcium silicate insulation Owen usually uses has no jacket and arrives more or less intact. When he noticed the material was very dusty -- cutting it to fit the 20-foot section of pipe he was insulating was "like following a bus down a dusty road" -- he stopped working and asked a Bartella supervisor if the material might be asbestos. Although Owen has not worked with asbestos, the number of older members of his union who died prematurely of asbestos-produced diseases is a constant reminder that prerequisites of safe projects using asbestos include the following: taping off the area, warning signs, proper ventilation, a fine-mist hose to reduce dust, special bags for waste, disposable clothing (including headgear and booties), changing area to avoid spreading the dust to other areas, and full face mask and respirator.¹⁴

When the Bartells supervisor told Owen the material was not asbestos, he returned to work. Bartells' Anchorage Branch Manager Joe Churchill said, "We don't have anything with asbestos products in it at all (except asbestos cloth, which his firm sells in bulk but does not even cut)."¹⁵ Because of the condition of the material, Owen decided to take a piece back to Anchorage for analysis.

To find out if the material was asbestos, Owen contacted the Alaska Division of Occupational Safety and Health. If the material were asbestos, he wanted to file a complaint. He was directed to a voluntary compliance officer who tested the material, advised him it was asbestos, and returned it to him without asking any questions. The state official suggested that a local laboratory could perform a better analysis. Owen was surprised there were no questions asked. He didn't know voluntary compliance officers work with employers who seek help and information; they do not enforce regulations. Because the enforcement officers (also known as compliance officers) and the voluntary compliance officers do not exchange information, the enforcement arm of DOSH was unaware of the violation of 8 AAC 04.0102 governing asbestos, or of Owen's exposure to the health hazard that heads the Industrial Hygiene Section's list of priorities.

According to Owen, the chemist at the private laboratory that performed the microscopic confirmation on his insulation sample seemed far more interested in the source of the asbestos than DOSH.

C. Electricity-Generating Plant, May 1981¹⁶

It is hot, humid and dim. The turbines hum. The metal walkway vibrates constantly. A pressure-relief valve shoots a constant stream of steam at an asbestos-
pe five feet away. Down the steps and around the corner on another elevated walkway, a canvas-covered duct system is vibrating. Portions of the canvas have rotted away, exposing silky-soft asbestos fibers that undulate gently. There is a patched pipe with asbestos exposed in countless places. The tour guide reaches up and pulls out some asbestos fibers, crumbles them in his hand. "You want to see asbestos? If we had time, I could show you 200 places in here." His words are barely audible over the noise of power generation.

It is not possible to say whether the plant violates the present legal occupational standard of 2 f/cc. The utility does not sample the air. The asbestos question has never been raised before, a utility spokesperson told Health Care Advocates. The spokesperson said that utility has several other power plants, all much newer than the one described here.¹⁷

A study of workers in an electricity-generating power station who were exposed to asbestos levels apparently well below the 2 f/cc standard for 1 to 24 years noted that many workers showed asbestos-related diseases or symptoms. The authors concluded:

An analogous asbestos risk must exist in other power stations . . . where high temperatures demand the use of insulation materials . . . New, asbestos-free, thermal insulating materials must be promoted for use in electricity-generating power stations and other plants where asbestos materials have commonly been used in the past.¹⁸

D. Anchorage West High School

Nearly two years after the Anchorage School District discovered that the ceiling to the West High gymnasium locker room contains friable asbestos, students are still carving their initials in that carcinogenic ceiling. A school district official said the district, which plans to take care of the problem this summer, has never sampled the air in the locker room.¹⁹

References - Chapter III

1. Federal Register 40: 47657 (Oct. 9, 1975).
2. Asbestos-Containing Materials in School Buildings, Part 2, Ch. 2.
3. 40 CFR 61.22(d). Federal Register 38: 8820 (April 6, 1973) and 43: 26372 (June 19, 1978).
4. Anchorage Daily News, April 25, 1981.
5. Primary responsibility for worker health and safety rests with the Alaska Department of Labor's Occupational Safety and Health Division (DOSII). A DOSII industrial hygienist told this writer he was unaware of the Lousac demolition (see Chapter IV).
6. Anchorage Municipality environmental health and safety representatives met with DEC to discuss building demolition and hazardous materials on April 22, 1981. The Municipality concluded it had no authority. DOSII was not present at the meeting. (Municipality of Anchorage memorandum by "Building Official", April 23, 1981)
7. Personal observation of the demolition process between May 1 and May 18, 1981.
8. Anchorage Daily News, April 25, 1981, p. 1.
9. Telephone interviews with EPA officials in Anchorage and Seattle, and with the Puget Sound Air Pollution Control Agency, May 14-15, 1981.
10. Quoted in Federal Register 38: 8821 (April 6, 1973).
11. Owen's narrative taken from his sworn statement of May 6, 1981. (statement and notarized laboratory "Analytical Report" available from Health Care Advocates)
12. Seidman, H. R., et al, quoted in Schneiderman, H. A., et al, "Thresholds for Environmental Cancer: Biologic and Statistical Considerations", Annals of the New York Academy of Sciences, 129: 108-110 (1979). For a similar quote, see Seidman, et al, "Short-term Asbestos Work Exposure and Long-term Observation", Annals of the New York Academy of Sciences, 110: 61 (1979).
13. Owen was given none of these items. He was wearing a dust mask with a paper filter, but that filter does not screen out particles of the size that produce disease.
14. Telephone interview, Mar 8, 1981.
15. Due to its age, this facility may not be typical of other Alaska power plants. At a newer power plant, Health Care Advocates found no asbestos.
16. Telephone interview, May 1981.

References (Ch. III), cont'd.

17. Hirsch, A., et al, "Asbestos Risk Among Full-Time Workers in an Electricity-Generating Power Station", Annals of the New York Academy of Sciences, 330: 137-145 (1979).
18. Observation and interviews, May 1981. See also, Anchorage Daily News, March 28, 1981, p. 1.

CHAPTER IV. AGENCY SURVEY

Introduction

A bewildering array of regulations and loopholes governing asbestos are enforced (or ignored) to varying degrees by at least a dozen federal, state and local agencies. This complicated situation is the inevitable result of the interaction among the various parts of a social system that is attempting to deal with a still-developing body of medical and scientific knowledge. The following cursory survey identifies the principal government bodies that deal with health aspects of asbestos.¹

A. OSHA (Occupational Safety and Health Administration)

The federal agency that administers the 1970 Occupational Safety and Health Act conducts inspections at specific Alaska workplaces (port facilities and off-shore, for example), but primary enforcement of worker health and safety regulations in Alaska falls to DOSH (below). OSHA has one industrial hygienist in Alaska. He has made approximately ten inspections in five months. In one instance, he required engineering controls to prevent asbestos dust emissions when he encountered asbestos products on a job site. Although no dust could be seen at the worksite, he took samples and sent them out for analysis (the results, which were not available as of May 20, 1981, are being tested out of state).

B. DOSH (Alaska Division of Occupational Safety and Health)

DOSH establishes and enforces occupational safety and health standards under Title 18.60 of the Alaska Statutes. The state agency receives some federal funding and enforces workplace health and safety standards in lieu of OSHA. Federal law requires that the DOSH program meet or exceed Federal standards. The division splits the Industrial Hygiene Section from the Safety Enforcement Section. Thus, enforcement of regulations governing asbestos in the workplace (8 AAC 04.0102, adopted intact from the OSHA standard that OSHA and NIOSH believe is "grossly inadequate" for worker protection) falls to the Industrial Hygiene Section.

The Industrial Hygiene Section has three enforcement officers to cover the entire state. All three are Anchorage-based.² The division has identified an estimated 1,897 workplaces in Alaska where potential exposure to asbestos may exist. On the basis of two in-house studies, data from Idaho (a state whose industrial makeup resembles Alaska), and "special knowledge", the section chief compiled a list of Alaska's major industrial health hazards. Asbestos headed the list. An indication of asbestos' importance as Alaska's foremost workplace health hazard is this fact: To select sites for the annual complement of 15 pre-scheduled agency inspections, DOSH programmed four inspections at asbestos-potential sites. Carbon monoxide rated two inspections; the nine next most important health hazards were targeted for one inspection apiece. (The section conducts approximately 100 inspections

per year; the non-scheduled inspections result from complaints, serious accident and death reports, agency referrals and follow-ups.)

Despite its status at the top of the list of industrial health hazards, during 1979 and 1980, asbestos figured in a total of seven inspection sites (compared to approximately 200 scheduled and non-scheduled inspections, and a total of 1,897 worksites listed as having potential for asbestos exposure).³

Table 2 (on the following page) highlights information from the seven DOSH compliance inspections in 1979 and 1980 that involved asbestos.

The on-site inspections of workplaces with asbestos products are too few to establish a firm base for generalization. But the meager information DOSH has been able to gather does raise several important questions:

1. Out of an estimated 1,897 worksites at which the state's top potential industrial health hazard may be present, is a total of seven on-site samples in two years sufficient to enforce effective occupational health standards?
2. If employers failed to provide protective gear and other prerequisites to safe handling of asbestos materials at two of three sites where inspectors thought precautions were necessary, is it reasonable to assume that the level of knowledge and concern about asbestos is commensurate with the documented hazard?
3. Did the Occupational Safety and Health Review Board's decision that worker exposure to 1.28 to 2.11 f/ml of asbestos was not "a serious threat to the health or safety of the employees" consider the 1972 National Academy of Sciences finding that it would be "highly imprudent" to permit any additional asbestos contamination, or the 1976 NIOSH recommendation that the occupational standard be lowered to 0.1 f/ml, or the growing body of scientific data that prompted NIOSH and OSHA to conclude the existing 2.0 f/ml standard is "grossly inadequate" to protect the worker?

Part of the Industrial Hygiene Section's problem appears to be that its three inspectors, confronted by Pogo's insurmountable opportunities, simply do not have the time or the resources to find and alleviate existing asbestos hazards. The obvious "quick fix" is to make sure that workers with asbestos problems get to the Industrial Hygiene Section. Unfortunately, asbestos complaints do not always get to the Industrial Hygiene Section. Within DOSH there is another branch, the Voluntary Compliance Section, which functions in an advisory capacity to employers. This section is an informational arm that has nothing to do with enforcement or employee complaints. As Sam Owen's experience (Chapter IIB above) demonstrates, a worker who wishes to file an asbestos complaint can easily wind up with the Voluntary Compliance Section.⁴ DOSH also responds to other agency referrals. As the Loussac Library situation indicates (Chapter IIIA above), other agencies were concerned enough about the possibility of asbestos at Loussac to meet among themselves, but it appears that nobody in that group contacted the DOSH Industrial Health Section.⁵

Table 2

Locations Sampled (air and bulk): 7 sites (Total)

Asbestos Found	6
No Asbestos Found	1

Sites where Asbestos Present:

In Bulk	6
In Air	5 ^a

Of Air Samples Taken:

<u>Asbestos levels (in f/ml)</u>	<u># sites</u>
Over 2 f/ml	1
Btwn. 0.1 and 2.0 f/ml	1 ^b
Below 0.1 f/ml	2
No asbestos in air	1

Provisions for Protective Equipment:

DOSH thought protective eqpmt. was required	3 ^c
Protective equipment provided	1
Employer cited for failure to provide protective equipment	2 ^{c,d}

^aIn the sixth site, although workers were removing material identified as asbestos insulation from pipe and the employer was cited for failure to provide proper protective equipment and facilities, no air samples were taken; therefore, it was not reflected in the air sample analysis.

^bIncludes a demolition site at which asbestos concentrations ranged from 1.28 to 2.11 f/ml.

^cIncludes site referenced in footnote a.

^dIncludes site referenced in footnote b, at which the DOSH Review Board overturned the Division's penalty ". . . because we do not believe there was a serious threat to the health or safety of the employees. Once respondent was aware of the potential, he took immediate steps to abate". (Alaska Div. of Occupational Safety and Health Review Board Decision and Order, Docket No. 80-496-D32A, November 5, 1980).

Source: Information provided by Darrell Miller (Director, DOSH) in letter to Senator Charlie Parr's Administrative Aide (March 24, 1981).

C. EPA (Environmental Protection Agency)

Like OSHA, the federal agency's primary enforcement authority is exercised by the State of Alaska's Department of Environmental Conservation (DEC). Although EPA has promulgated asbestos regulations nationally, at the state level key enforcement provisions appear to have been overlooked (see Section D below). EPA has played a major role in identifying asbestos problems in public schools.⁶ Although the EPA was considering requiring corrective action, the agency scrapped that proposal earlier this year.⁷

D. DEC (Alaska Department of Environmental Conservation)

Under EPA's guidance, DEC personnel have conducted some school inspections to locate friable asbestos. To date, however, these inspections appear to have been rather cursory. (For example, one DEC sanitarian who inspected several rural schools omitted the mechanical rooms, where pipes, ducts, boilers and other equipment may be wrapped in asbestos insulation that is a potential source of school contamination.) The agency recently established a Hazardous Waste Section to insure safe disposal of potentially harmful wastes, including asbestos. If the Loussac Library experience is any indication, DEC has not been enforcing 40 CFR 61.22(d), which requires demolition contractors to notify EPA or its designated authority of intention to destroy buildings containing over 80 meters of asbestos pipe insulation or 15 square meters of flat insulation, and to follow specific procedures designed to avoid needless air contamination.⁸

E. DOTPF (Alaska Department of Transportation and Public Facilities)

A DOTPF official who has been conducting a statewide survey on the general condition of state buildings is not finding very much asbestos. The official said he has "looked very closely at probably 100 buildings in 70 villages for the last two years, but that he has only seen two or three instances of sprayed asbestos (a frequent source of friable asbestos in the Lower 48). One, he said, was a Kodiak school that had already been sampled by another agency and was slated for repair this summer. The DOTPF man found exposed asbestos pipe insulation in a couple of school boiler rooms and had the problem repaired. He said DEC was the agency primarily responsible for asbestos, and that DOTPF was "just giving (DEC) a little bit of aid".

F. DOE (Alaska Department of Education)

A DOE official in Juneau told Health Care Advocates that his agency has made "random samples" of the schools under its jurisdiction, but that agency is waiting for the legislature to fund a school asbestos hazard abatement program (CSSB 338/9). If/when the legislature approves the funding, he said, his department would begin a thorough testing program for an unknown number of schools, including 21 Rural Education Attendance Area schools, 52 independent school districts, 30 Bureau of Indian Affairs schools, and an unknown number of private schools.

G. State Epidemiologist (Alaska Dept. of Health and Social Services)

Testifying on SB338 in Juneau on April 15, 1981, Dr. John Middaugh, State Epidemiologist, recommended the state insure that school renovating be done in accordance with established safe working practices. Although interpretation of the medical data that identifies the health hazards of asbestos is an epidemiological question, other state agencies do not appear to have availed themselves of this potential source for the background information necessary to formulate public policy on asbestos.

H. CRA (Alaska Department of Community and Regional Affairs)

The proposed asbestos hazard abatement bill gives CRA administrative responsibility for the asbestos program.

I. Individual School Districts

In general, local school districts have taken a slow and sporadic approach to the problem of asbestos.

J. Municipalities

When concern developed in Anchorage over possible asbestos in the Louisaac Library (which is being demolished at this time), Anchorage municipality officials met and determined they had little authority to deal with hazardous waste and worker health problems stemming from asbestos in buildings. (This writer was unable to determine whether this "hands-off" policy is typical of Alaska local government bodies.)

K. CPSC (U. S. Consumer Product Safety Commission)

This federal agency has banned emberizing logs, patching tars, and asbestos paper and tape for wallboard. The CPSC has also requested from manufacturers a list of all other products containing asbestos.

L. MSHA (Mine Safety and Health Administration)

If the asbestos deposit near Eagle proves commercially viable, MSHA would regulate mine exposure under 30 CFR (Chapter 1).

M. Alaska Division of Workers' Compensation

At present, the workers' compensation system handles asbestos-related diseases as an occupational injury. In other jurisdictions, many afflicted asbestos workers (or breathers) have found the comp system unresponsive to their needs. Unlike the agencies discussed in this section -- whose task is

prevention -- the primary function of the workers' compensation system is to deal with the problems of those already afflicted. The manner in which the workers' compensation system performs -- and fails to perform -- this task is the subject of Chapter IV.

Epilogue

1. Inter-Agency Communication Failures

- a. One school official who has tried to deal with the asbestos problem reported that he received little or no constructive help from the agencies with expertise. Instead of guidance on this technical problem, he said, his agency received criticism;
- b. DEC surveyed various schools in 1980 but did not forward its report to officials of the surveyed school systems;
- c. Several agencies referred to the DOTPF building survey, but this writer made several phone calls to DOTPF in Juneau and Anchorage before he found anybody who knew anything about the survey. (It was a DOE official who identified the office and person at DOTPF responsible for the survey described in paragraph E above.);
- d. DOSH communication and response problems are described above.

2. Uneven Inspections, Little Action

One result of this bureaucratic snafu is that inspections have been uneven in quality. Consider, for example, the DEC inspector who failed to look at boiler rooms (paragraph D above). Another official involved in school inspections said he did not check ceiling tiles as part of his survey because he was unaware that they might contain asbestos. Tiles similar to the ones the inspector overlooked (from another building built during the same period) were believed to contain asbestos; a knowledgeable source told this writer that in his experience, tiles of that age have a 50/50 chance of being asbestos. Lack of basic information appears to be one of the reasons school officials have been slow to develop effective plans to deal with the asbestos problem.

References - Chapter IV

1. This information was compiled from Health Care Advocate files, library research and agency interviews between April 24 and May 19. For more detailed references to federal statutes governing asbestos, see Chapter I. This survey is presented to give the reader an idea of the multiplicity of agencies involved in asbestos regulation. Health Care Advocates welcomes comments on and additions to this listing.
2. Two additional industrial hygiene positions have been authorized but not appropriated. Although federal funding may be available, the state has not provided the matching funding. It is not known at this time whether the Legislature will fund these positions for FY82.
3. Information provided by Darrell Miller (Director, DOSH) in a letter to Senator Charlie Parr's Administrative Aide (March 24, 1981).
4. This writer is aware of other worker complaints that wound up in the Voluntary Compliance Section, indicating that the public and DOSH personnel alike may have some difficulty keeping the two sections straight. In 1979, for example, a worker with a complaint about toxic fumes at a remote site near Fairbanks wanted to file a complaint but wound up in the Voluntary Compliance Section. Part of the problem seems to be that a worker does not know he/she wants to file a complaint unless he/she knows for certain that the situation is unsafe. Thus, if workers are calling for information, they often land on the Voluntary Compliance side and don't even know a complaint can trigger an inspection that might alleviate the problem.
5. Since the Anchorage Daily News reported on the front page (April 25, 1981) that other agencies suspected Loussac contained asbestos and that the demolition contract lacked a clause guaranteeing safe handling of the toxic substance, one wonders why DOSH did not act on its own initiative.
6. See, for example, Asbestos-Containing Materials in School Buildings: A Guidance Document, Parts 1 and 2.
7. Federal Register, 46: 23726 (April 27, 1981). On the same date, EPA also announced cancellation of a proposed regulation concerning asbestos materials in public buildings (23730) but reaffirmed its plan to require asbestos manufacturers, importers and processors with ten or more employees to provide information on all commercial and industrial uses of asbestos (23727).
8. An EPA official in Alaska said he was not familiar with the demolition requirements. The regulation in question was promulgated in 1973. It has been clarified and strengthened by technical revisions several times since, and some portions were challenged in court. However, the regulation survived these challenges intact and is in force in other jurisdictions contacted by Health Care Advocates.

CHAPTER V. WORKERS' COMPENSATION AND OCCUPATIONAL DISEASE

During the early 1970s, retired asbestos worker Charley Vincent wrote his union brethren in Alaska Local 97 of the Asbestos Workers' Union -- men who were still working with the material that had forced his early and painful retirement. Excerpts from his letters of November 11, 1971, and August 29, 1972, follow:

What I want to do . . . is picture my side of being disabled (by asbestos) . . . Jack, no one has seen hell till you put away those tools . . . I get around, but not very good . . . facts to us . . . Is it a bargain to work at any trade and know it's going to kill you after you have worked at it from 10 to 20 years?

Bill lives about 100 miles from Tuscon. His approach to compensation was a little different than mine, suggest each one of us give our own version. I feel Local 97 has no room for theories, they don't cash worth a damn . . . my case has been dragged out since 1965 . . .

Bill and I know, Lloyed Larson's last words to me are so true. He said, "I thought if you treated the contractor square he'd see you through, now i find out, your [sic] just a medium to their success." . . .

Moffett tried to tell you the same things I'm talking about, but no one heeded his letter. That was how many deaths ago? Morbid, huh?¹

Vincent and his friend Bill Herrick had been forced into early retirement by lung problems associated with their trade. Both of them had to fight for payment. Although the Alaska workers' compensation statute (like that of most other states) includes occupational disease in addition to illness, they had to contend with a workers' compensation system that was designed to deal with injuries, not illness.²

Herrick worked with asbestos from 1942 until 1968. He testified that he started coughing up blood in 1965. Asked why he continued working for three more years, he told the workers' Compensation Board that he couldn't afford to quit. According to the Board's decision, it was "undisputed that he was suffering from asbestosis which was acquired . . . as a result of his employment as an asbestos worker". By law, he was clearly entitled to compensation, but there was a problem: he had worked for many companies insured by different carriers, and nobody wanted to foot the bill for his medical bills and disability payments. While the various insurance company lawyers fought it out on paper, Herrick did not receive compensation. The board finally decided that Herrick's last employer -- for whom he had worked only a month -- would have to pay Herrick's workers' compensation.³

Herrick and Vincent were not alone in their unrequited suffering. "Moffett", to whom Vincent referred, was fellow union member Fred Moffett, another insulation worker who died in 1968. According to medical records, he succumbed to mesothelioma, lung cancer and asbestosis. Larson -- Lloyd Larson -- was another union member. He died in 1970. Cause of death: leukemia.⁴

Although Herrick and Vincent suffered from asbestosis, they both survived until 1979. After her husband's death, Vincent's wife wrote:

As you no doubt have heard, Charles passed away Oct. 12 . . . Gladys Herrick called me while she was in Anchorage. She was so pleased with the way you conducted the memorial service. Both Vince and Bill endured a long siege of illness. It was a blessing for both of them to go to a better place.

Bill Anderson, a member of Local 97 since the early 1950s, was working for an insulation company in Fairbanks when he started to cough up blood in September 1973. By May 1974, Anderson, age 47, was no longer able to work. After paying workers' compensation for four months, his employer's insurance carrier curtailed disability payments because medical opinions indicated Anderson's illness was not job-related. Anderson took his appeal to the Workers' Compensation Board. It was clear that he had lung cancer. What was not clear to the Board was that his lung cancer was caused by asbestos. If his cancer were caused by smoking, he would not be eligible for workers' compensation.

Two doctors told the Board they found no symptoms or evidence of asbestosis. A third doctor concluded the cancer was probably related to his employment (on the basis of work history, not clinical evidence), while a fourth physician believed that a combination of exposure to asbestos and smoking caused Anderson's lung cancer. Although Alaska law holds that doubts shall be resolved in favor of the claimant, the Board did not feel that the link between cancer and asbestos was strong enough, in the absence of asbestosis, to award Anderson compensation.

The doctor who favored the work history theory immediately advised the Board it had erred. He said Anderson's case was a "classic" asbestos-related disease. Before the Board could reconsider, Anderson died, destitute, at the age of 47. The autopsy determined posthumously that Anderson's lungs were riddled with asbestos.⁵

Anderson's case highlights several of the problems posed by industrial disease for the workers' comp system: Symptoms of industrial disease may be difficult to detect; the disease may be a product of multiple etiology. The designers of the original workers' compensation statutes did not foresee the slow, silent disability caused by widespread occupational hazards.⁶ Like Herrick and Vincent, Anderson had to fight a system ostensibly established to help him.

Two recent national studies demonstrate the disparity between the workers' compensation system's treatment of occupational injury and occupational illness. The following table indicates that victims of industrial illness

receive less in wage replacement than the industrially injured. Moreover, disease victims have a harder time collecting those benefits they do receive. And, a study of 175 victims of mesothelioma indicates that more than 80% of these occupational cancer victims died without receiving any workers' compensation.

Table 3

• Study	Workers Disabled by	
	Injury	Illness
CATEGORY:		
<u>USDL Closed Claim Study</u>		
1. % of 1.8 million disability claims.	Over 98%	Under 2%
2. % of lost wages replaced by workers' comp	About 60%	About 40%
<u>Barth Study</u>		
3. Award contested.	About 10%	About 60%
4. Average time to first payment.	Within 2 months . . .	About One Year
5. % of lump-sum settlements (releasing carrier from any future liability).	About 16%	Over 50%
<u>Selkoff (175 mesothelioma victims)</u>		
6. Applied for workers' comp benefits before death.	About 37%	
7. Received workers' comp benefits before death.	About 19%	
Source: Data reported in Nick B. Edes, "Compensation for Occupational Diseases", <u>Labor Law Journal</u> 31(10): 595-601 (October 1980).		

Elsewhere in the country, as the toll of asbestos-related disease mounts, workers are turning more and more frequently to product liability suits against asbestos manufacturers. This trend may be a reflection of the failure of the workers' compensation system to handle industrial disease in an equitable manner. (Workers' compensation is a limited-recovery, no-fault arrangement that bars the worker from bringing action against his/her employer for punitive damages; product liability holds a manufacturer or supplier liable for punitive damages for injuries resulting from products deemed to be unreasonably dangerous.) One product liability advocate has observed that "as of this moment, only the trial attorney has the sharp edge of the sword to protect those who may be injured by asbestos".⁷

Alaska's problems in delivery of workers' compensation wage-loss payments, medical services, and rehabilitation have been documented elsewhere.⁸ Until the Workers' Compensation Division's computerized records system becomes operational, it would be difficult to do a comprehensive and authoritative comparison between Alaska's handling of occupational disease and occupational accidents. However, interviews with occupational disease victims and a review of the few case files available indicate that victims of occupational disease face the same problems in Alaska they face in the Lower 48. Officials in the Workers' Compensation Division admit that occupational disease is a problem area that needs greater attention, and they admit they are surprised so few victims of occupational disease file for workers' compensation benefits. One of the reasons may be that few Alaska physicians have the specialized background to diagnose and treat occupational diseases. To correct a similar problem in other jurisdictions, some commentators have suggested setting up a neutral state panel of experts to render impartial findings on industrial health questions.⁹ The manner in which the Alaska workers' compensation system handles occupational disease, in general, and asbestos-related illness, in particular, requires further study.

References - Chapter V

1. Vincent letters to Jack Endsley, Business Agent of Local 97.
2. For an overview of workers' compensation and occupational disease, see Ashford, Nicholas A., Crisis in the Workplace: Occupational Disease and Injury (MIT Press, 1975), pp. 411-416.
3. Gerald D. Herrick vs. Aber, et al, Alaska Workers' Compensation Board Decision, Case No. 9-07-192, May 23, 1970.
4. Records of death provided by Local 97 in cooperation with Dr. Irving J. Selikoff.
5. See Bill C. Anderson vs. Blanas, et al, Alaska Workers' Compensation Board Case No. 73-12-0371, Decisions and Orders (Dec. 16, 1974, and Dec. 15, 1975).
6. Ashford, Crisis (above), pp. 411-412.
7. Peters, George A., "The Asbestos Battle", Trial, Dec. 1980, p. 58.
8. Fineberg, Richard A., "Workers' Compensation Problems in Alaska", (report to the State of Alaska House of Representatives Labor and Management Committee, Jan. 20, 1980).
9. Edes, "Compensation", p. 600.

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF LABOR

BOX 1149
JUNEAU, ALASKA 99811

Phone: 465-4856

March 24, 1981

Nancy Detrick
Administrative Aide
to Senator Parr
Pouch V
Juneau, Alaska 99811

Dear Ms. Detrick:

As requested during our recent telephone conversation, enclosed is our Division's inspection activity for the last two years regarding the health hazard asbestos. The table's columns are self-explanatory. We believe that the evaluation of exposures to asbestos has been on "as needed basis," however, routine evaluation has been limited due to a number of factors.

Our current production rate is 108 health compliance inspections per year. Fifteen of these are programmed and are called general scheduled inspections. The evaluation of target health hazards is the primary basis for selecting a particular establishment for inspection. This year we have selected four establishments (out of the fifteen) for inspection to evaluate potential exposures to asbestos. Our data shows that there are 1,897 places of employment in Alaska where potential exposure to asbestos exists. The following table shows by Standard Industrial Classification (SIC) the number by region of these employers in Alaska.

SIC	REGION						TOTAL
	1	2	3	4	5	6	
15	96	351	77	74	13	15	625
1622	3	6	4	5	1	0	19
1623	5	29	11	8	8	7	68
1711	19	92	23	34	1	6	175
175	1	50	0	10	0	0	61
1761	3	28	0	6	0	0	37
1791	2	20	3	5	0	0	30
1793	1	8	2	1	0	0	12
1794	10	53	16	14	3	1	102
1799	4	31	12	7	0	1	55
2091	12	10	13	0	10	1	46
2611	2	0	0	0	0	0	2
327	0	3	0	0	0	0	3
5511	7	23	8	13	0	0	51
7539	1	16	6	4	0	0	27
80	65	306	32	44	3	2	452
82	25	41	17	21	19	8	131
TOTAL	256	1072	224	246	58	41	1897

The regions are geographic areas described as follows:

- Region 1 - Southeast Alaska (Ketchikan to Yakutat)
- Region 2 - Southcentral Alaska (Corrova to Matanuska-Susitna)
- Region 3 - Kenai Peninsula - Aleutian Islands (Seward to 'at - Aleutians)
- Region 4 - Northcentral Alaska (Fairbanks)
- Region 5 - Western Alaska (Bristol Bay to Kuskokwim)
- Region 6 - Northern Alaska (Barrow to Nome - Kobuk - Prudhoe Bay)

The SIC's are described as follows:

- 15 - Building Construction - General Contractors
- 1622 - Bridge, Tunnel and Elevated Highway - Heavy Construction Except Highway
- 1623 - Water, Sewer, and Utility Lines - Heavy Construction
- 1711 - Plumbing, Heating, Air Conditioning - Special Trade Contractors
- 175 - Carpeting and Flooring - Special Trade Contractors
- 1761 - Roofing and Sheet Metal Work - Special Trade Contractors
- 1791 - Structural Steel Erection - Misc. Special Trade Contractors
- 1793 - Glass and Glazing Work - Misc. Special Trade Contractors
- 1794 - Excavating and Foundation Work - Misc. Special Trade Contractors
- 1799 - Special Trade Contractors - NEC
- 2091 - Canned and Cured Seafoods - Misc. Foods and Kindred Products
- 2611 - Pulp mills - Paper and Allied Products
- 327 - Concrete, Gypsum, and Plaster Products
- 5511 - New and Used Car Dealers
- 7539 - Automotive Repair Shops - NEC
- 80 - Health Services
- 82 - Educational Services

We hope that this information is what you need and if we may be of any additional service to you, please do not hesitate to call upon us.

Sincerely,

Harrell Miller

Harrell Miller, Director
Division of Occupational
Safety and Health

Enclosure

cc: Commissioner's Office

1	2	3	4	5	6	7	8	9	10	11
Inspection Number	Sample Number	Date Collected	Sample Type	Asbestos Type	Asbestos %	Fibers/cc 5 um	Exposure	Task operation	Where Collected	Protection of Worker
P-80-09	P-09-01	2/5/80	Bulk		None		n/a	Pipe insulation removal	Utilidocr	Inadequate
	P-09-02	2/5/80	Bulk		None		"			
	P-09-03	2/5/80	Bulk	Chrysotile	2-5		"			
	P-09-04	2/5/80	Bulk	Chrysotile	Approx. 5		"			
	P-09-05	2/5/80	Bulk	Chrysotile	80-90		"			
	P-09-06	2/5/80	Bulk	Chrysotile	2-5		"			
	P-09-07	2/5/80	Bulk	amosite	75-85		"			
P-80-26	P-26-01	7/11/80	Environ		None	0.01	n/a	Office	Sm. cabinet	n/a
	P-26-02	7/11/80	Environ		None	0.01	n/a			
	P-26-03	7/11/80	Environ		None	0.01	n/a			
	P-26-05	7/11/80	Environ		None	0.01	n/a			
	P-26-06	7/11/80	Environ		None	0.01	n/a			
	P-26-07	7/11/80	Wipe		None	0.01	n/a			
	P-26-08	7/11/80	Bulk		None	1 % Fibrous	n/a			
	P-26-04	7/11/80	Bulk		None	"Blank"	n/a			
P-80-27	P-01	1/15/80	Bulk	Chrysotile	5	n/a	n/a	Not related	Laundry room	n/a
	P-02	1/15/80	Bulk		None	n/a	n/a			
	P-03	1/15/80	Bulk		None	n/a	n/a			
	P-27-01	7/16/80	Environ	Unknown		0.02	Below PEL			
	P-27-02	7/16/80	Bulk	Not analyzed because P-27-01 negative		n/a	n/a			
	P-27-03	7/16/80	Bulk			n/a	n/a			
P-27-04							Not related	Dishwashing room	n/a	
S-80-10	1	7/29/80	Bulk	Chrysotile amosite	10	n/a	n/a	Not related	Retort	n/a
								Not related	Laundry room	n/a
								Laundry	Laundry room	Not required

1 Inspection Number	12 Number of Work- ers exposed/sam- pled/exposure evaluated	13 Other Asbes- tos related violations issued	14 Reason for Inspec- tion	15 Union Affiliated
P-80-09	10/10/10	OH&EC 04.0102(f)(1) 04.0102(d)(2)(D) 04.0102(d)(3) 04.0102(d)(4)(C)(1) 04.0102(h)(1) 04.0102(h)(2) 04.0102(g)(2)(A) 04.0102(g)(1)(A) 04.0102(j)(1) 04.0102(j)(6)	C-79-154	IBEW Local # 1547
P-80-26	0/0/60	None	C-80-85 & 86	Teamster # 959
P-80-27	2/0/2	None	Agency Referral	None
S-80-10	260/0/260	None	DOSH IH General Scheduled Procedure	ILMU Loc. 37, Machinist Alaska Fish- erman's Union- Bristol Bay Native Cannery Workers, Alaska Fisherman's Union- STUNA AFLCIO Bristol Bay Resident Cannery Workers Branch

1	2	3	4	5	6	7	8	9	10	11
Inspection Number	Sample Number	Date Collected	Sample Type	Asbestos Type	Asbestos %	Fibers/cc 5 um	Exposure	Task Operation	Where Collected	Protection of Worker
D-79-21	1	6/7/79	Environ	amosite		0.01	below PEL	Maint.	Maint.	not req.
	2	6/7/79	Environ	amosite		0.01	"	"	sched. mech.	"
	3	6/7/79	Bulk	amosite	42-50		n/a	"	bldg.	n/a
D-79-32	A	11/7/79	Bulk	amosite	10-20		below PEL	Demolition	n/a	n/a
	1	11/7/79	Pers.	amosite		1.28	"	"	basement	inadequate
	2	11/7/79	Pers.	amosite		2.11	n/a	"	"	"
	3	11/7/79	Pers.	amosite		1.72	"	"	"	"

D-79-32A Based on samples collected in D-79-32

D-79-33	P-33-01	12/12/79	Pers	amosite/or and Chrysotile		1.59	below PEL	Demolition	basement	adequate	
	P-33-02	"	"	"		2.13	"	"	"	"	
	P-33-03	"	"	"		3.06	"	"	"	"	
	P-33-04	"	"	"		1.82	"	"	"	"	
	P-33-05	"	"	"		Too heavy	"	"	"	"	
	P-33-06	"	"	"		1.96	"	"	"	"	
	P-33-07	"	"	"		1.43	"	"	"	"	
	P-33-08	"	"	"		3.82	"	"	"	"	
	P-33-09	"	"	"		2.93	"	"	"	"	
	P-33-10	"	"	"		2.02	"	"	"	"	
	P-33-11	"	"	"		Too heavy	"	"	"	"	
	P-33-12	"	"	"		2.08	"	"	"	"	
	P-33-13	"		Blank	None			n/a	"	"	"
	P-33-14	"		Bulk	amosite Chrysotile	5-10 5-20		n/a n/a	" "	" "	" "

1	12	13	14	15
Inspection Number	Number of Work- ers exposed/sam- pled/exposure evaluated	Other Asbes- tos related violations issued	Reason for Inspec- tion	Union Affiliated
D-79-21	5/0/5	None	C-79-77	None
D-79-32	4/2/4 "	OH&EC 04.0102 (d)(2)(D)	DOSH IH Gen. Sched. Insp. Proc.	None
D-79-32A		04.0102(f)(1) 04.0102(g)(1)(A) 04.0102(g)(2)(A) 04.0102(h)(2) 04.0102(i)(1) 04.0102(j)(2)		
D-79-33	3/3/4 " " " " " " " " " " " "	None	DOSH IH Gen. Sched. Insp. Proc.	None

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

JAY S. HAMMOND, GOVERNOR

POUCH 0 - JUNEAU 99811

March 11, 1981

The Honorable Charles Parr
Senator
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

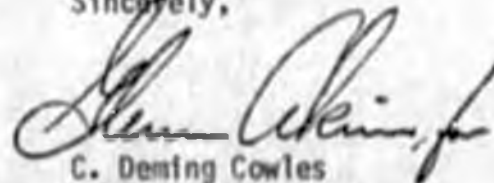
Dear Senator Parr:

As a result of working closely with other state agencies during the past month, the Department of Environmental Conservation has completed an assessment of the potential health hazards posed by building materials containing asbestos. This assessment was completed at your request, and is enclosed for your information and use.

As is described in more detail in the report, asbestos-containing materials which could be causing a health hazard have already been identified at several public schools. While these tests need to be reconfirmed, they do indicate the need to have some means to correct asbestos health hazards as soon as they have been confirmed. The report reviews the available information and recommends ways in which these health hazards may be quickly corrected as they are identified. Recommendations are also included to provide for widespread public awareness and inspection of all public buildings in the state.

We hope this information will satisfy your request and needs. We would be more than willing to provide any additional information you might need, and answer any questions you might have on this important environmental area.

Sincerely,



C. Deming Cowles
Deputy Commissioner

Enclosure

cc: Keith Specking
Office of the Governor

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FRIABLE ASBESTOS IN ALASKAN BUILDINGS

SUMMARY OF PROBLEM AND FUNDING NEEDS

March, 1981

For the past several years there has been nationwide concern that asbestos-building materials containing asbestos may be causing health hazards to building occupants. Asbestos is a well-known cancer causing material, and was widely used as an insulating material in many buildings prior to 1973. The concern is that asbestos from worn or friable material may be contaminating the air within those buildings and exposing the occupants to unnecessary health hazards.

Because of this concern, an inventory of public schools was initiated in 1979 as a combined effort of the state Departments of Health and Social Services, Education, Transportation/Public Facilities and Environmental Conservation. Some asbestos-containing materials were found. This report describes the results and corrective actions needed, and assesses the potential problems and solutions for all buildings in which the public has general access in Alaska.

FINDINGS:

1. While there are many building materials containing asbestos, most do not pose a health hazard, because the asbestos is securely bound within the material or otherwise contained so that it is unlikely to be released into the air. The asbestos material which is of greatest health concern is that which can be crumbled, pulverized, or reduced to powder in the hand, is worn and likely to be scuffed and frayed. This material is called "friable" asbestos.
2. Friable asbestos is usually found on overhead surfaces, steel beams, ceilings, and occasionally on walls and pipes.
3. 20% of the public schools in the state were inspected, and 13% of the schools inspected were found to have materials which could be hazardous. These samples must be checked to confirm the asbestos hazard. If they are representative of all schools in the state, there could be up to 66 schools needing some renovation to correct asbestos health hazards.
4. No potential problems have yet been identified in state-owned public buildings (excluding schools). However, those buildings in the Anchorage area have not been inspected.
5. No inventory has been made of local or federal government buildings.

6. Inspection and sampling of buildings is relatively easy and could be done by most anyone with a little training. Training could be quickly made available to anyone interested at little expense to the state.
7. Correction of identified health problems normally involves enclosure, encapsulation (coated with a sealant or otherwise coated over with another material) or removal. Corrective measures can often be very expensive.

RECOMMENDATIONS:

1. A fund of \$1,500,000 should be established to correct health related asbestos problems in public schools, state-owned or local government-owned buildings in the state. An additional \$33,250 is needed to provide for inspection, training, sampling and analysis of building material, which is a necessary first step in determining whether a problem exists. The funds should be appropriated for a two year period.
2. Sample analysis, and training in methods of inspection and sampling should be available to private enterprise and federal agencies when requested. However, costs of renovation of federal or private structures will be their responsibility, and not a state responsibility.
3. State involvement in the program should be limited to:
 - a) Providing public information on the asbestos health hazards, and training on how to inspect and sample (Department of Environmental Conservation).
 - b) Provide for sample analysis (Department of Environmental Conservation).
 - c) Establish guidelines and technical assistance on cost-effective renovation techniques (Departments of Environmental Conservation, and Transportation/Public Facilities).
 - d) Funds for training, sampling and analysis should be appropriated to the Department of Environmental Conservation. No additional positions would be needed, however, as long as resources from either SB-239 or HB-72 (relating to hazardous waste disposal) are appropriated.
 - e) Distribution of funds to cover any needed renovation is to be a simple administrative process, with minimal state oversight. A recommended approach would be for the Department of Community and Regional Affairs to distribute the funds on an as-needed basis. This would be only contingent on a cursory review and sign-off approval by the Department of Environmental Conservation, in cooperation with the Department of Transportation/ Public Facilities, to assure that cost effective renovation solutions are selected.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

BACKGROUND INFORMATION -- FRIABLE ASBESTOS IN ALASKAN BUILDINGS

March, 1981

INTRODUCTION

Many building materials used in past years have included asbestos because of its insulating qualities. However, it has become well known that asbestos can be cancer-causing and is virtually indestructible once introduced into the environment. In particular, asbestos-bearing materials which become worn or frayed can release asbestos into the air, which when inhaled can eventually cause lung cancer. The actual effects do not become apparent until many years later, and by then it is too late to do anything.

Until recently, asbestos health hazards were normally associated with chronic and debilitating lung disease called asbestosis, which in most cases followed long exposure to high levels of asbestos fibers. This was normally considered an occupational health concern and not a health risk to the general public. More recently, however, exposure to asbestos has been associated with lung cancer, a rare cancer of the chest and abdominal lining called mesothelioma, and cancers of the esophagus, stomach, colon and other organs. Asbestos also acts as a potent cancer-causing agent in combination with cigarette smoking. In all asbestos related diseases, there is a substantial period of many years between initial exposure and appearance of the disease. Even small concentrations of asbestos in the air can be a health hazard.

Asbestos is a general term for a number of closely related fibrous minerals. Its most valuable property lies in the indestructible nature of products fabricated from its fiber, is widely used as an insulating substance and is typically found around boilers and hot surfaces. For a number of years it was widely used as spray-on insulation for pipes, ceilings, and exterior walls, especially in large buildings, and some materials also have been troweled onto the receiving surfaces. The problem is when these materials are or become friable -- which are those surfaces which become worn, scuffed up, are crumbly, or can be crushed, or coming apart. It is this material which can pose a health hazard if asbestos is present. Fortunately it is relatively easy to inspect a building for these friable materials and if asbestos is suspected, to have samples taken and analyzed. However, there is no widely available training in Alaska, samples cost about \$25-\$50 to run, and renovation of any identified problem materials can be expensive.

ACTIVITY THUS FAR IN ALASKA

In March of 1979 the public health dangers of friable asbestos-containing materials were widely advertised throughout the country, largely as a result of the serious contamination found in the Yale University Library. Similar problems were also found in a number of public schools in other states. During 1979, the state Departments of Health and Social Services, Transportation and Public Facilities, Environmental Conservation, and Education began an inventory of Alaskan public facilities to determine if a friable asbestos problem existed in the state. An emphasis was placed on surveying public schools, and 101 schools were inspected

to see if friable asbestos problems were present. Samples were taken of 35 of the schools, and 13 were found to have asbestos in the sampled material. Results of this inventory are summarized in Attachment A.

Recently the Department of Transportation/Public Facilities reviewed their inventory results, and determined that there does not appear to be any widespread friable asbestos in state-owned facilities. The one possible exception is in Anchorage, where the state inventory has not been completed. This area is more likely than others in the state to have friable asbestos present, because the larger size of buildings would encourage construction techniques involving asbestos.

Friable asbestos could present a health problem to the general public in virtually all government buildings. These buildings are theoretically covered by the Occupational Safety and Health Standards, which also includes asbestos contamination. However as a practical matter, the present staffing of the Occupational Safety and Health Program is not sufficient to carry out any widespread sampling, analysis, and corrective measures friable asbestos in the state.

NEEDS

1. Public Schools: Extrapolating the results of the initial inventory to all of the 515 public schools in the state, 66 schools might need some form of renovation. Costs to provide for training and to conduct inspection/sampling amounts to \$800, and to analyze the samples would be \$11,450, reference Attachment A. Also, the Department of Transportation/Public Facilities estimated that \$500,000 should cover the anticipated renovation costs, provided that no extensive removal and renovation becomes necessary - if this occurs, costs could become substantially higher depending on specific situations.

2. For all State-Owned Public facilities in the state, excluding the Anchorage Area which has not yet been inventoried, ADOT/PF has indicated that no conditions have been found which would require extensive renovation costs. The only places found to have asbestos contamination were in boiler rooms and pipe installations, neither of which would be a major expense and could be handled as part of routine maintenance.

However, ADOT/PF has also indicated that Anchorage buildings may possibly have friable asbestos-containing materials, because their larger size would have made it more feasible to use spray-on insulation materials. This inventory should be complete during FY-82. For purposes of providing funds through any legislative action that might be introduced this year, a contingency amount of perhaps up to \$500,000 should cover any problem areas that are found.

3. Local government buildings: There has no been inventory of these buildings, and some investigative effort should be made and followed up with any sampling that might be needed. Some asbestos contamination is likely to be found, and a contingency renovation fund of approximately \$500,000 should be provided to meet the majority if not all of the needs. An additional \$500 for training and \$15,000 for sampling, analysis and some travel to assist in training/inspections should also be provided.

4. Training/Analysis for All Other Buildings: Currently there is no widespread training or information available to the Alaskan public, particularly the private sector, to determine whether their buildings have asbestos health hazards. Sufficient training could be provided to the general public, through making available video tapes and instruction through all department/regional offices (\$500), provide for sample analysis and some travel to assist in the training and/or inspection as a public service (\$5,000). No estimates have been made or are recommended for covering the costs of privately-owned buildings - that would be the responsibility of the private owner.

SUMMARY OF COST NEEDS

Description of cost item	Training	Inspection/ Sample Analysis	Renovation Cost	Totals
Public Schools	\$ 800	\$11,450	\$500,000	\$512,250
State-owned Facilities	--	--	500,000	500,000
Local Government Buildings	500	15,000	500,000	515,500
Privately-owned Buildings	500	5,000	--	5,500
Totals	\$1,800	\$31,450	\$1,500,000	\$1,533,250

RECOMMENDED APPROACH:

The extent of friable asbestos contamination in Alaska is not known, except in a few specific instances of public schools. Because of the extreme hazard that asbestos can pose to public health, a contingency fund is needed so that quick and effective solutions to any identified health hazard can be made immediately. The best way to provide this is to establish a contingency fund from which any local school district, state agency, or local government may request funds to correct identified friable asbestos problems. A contingency fund of \$1,500,000 should adequately accommodate these needs and should be set up for at least a two year period. Any remaining funds at that time would revert back to the General Fund.

Another major need is to provide for the training and sample analysis to support an effective inspection of buildings to which the public has general access. In addition, public information should be made widely available, so that persons are aware of the potential problems and services available to determine if their own buildings may have asbestos contamination. It is recommended that the Department of Environmental Conservation take responsibility for this function and have available in its regional and central offices the training and back-up information.

An additional need will be to establish some guideline information and criteria on the best ways to correct any identified problem. This information is recommended to be established jointly between the Departments of Environmental Conservation and Transportation/Public Facilities with existing resources, and would also receive a wide distribution throughout the state.

Finally, a means of handling and distributing the grant funds for any needed renovation is recommended to be set up through the Department of Community and Regional Affairs since this department is already handling a large majority of state funds distributions to communities. The distribution of requested funds would be set up so that applications can be quickly and simply handled. It would involve nothing more than a simple review by the Department of Environmental Conservation (with assistance by Transportation/Public Facilities as needed) to determine that valid samples were taken and the problem adequately identified, effective renovation means have been selected and that they are cost-effective. This whole review procedure should take no more than 1-2 weeks and would not involve any review of specific renovation details -- that would remain the responsibility and obligation of the building owner.

ATTACHMENT A
 SUMMARY OF
 PROPOSED PROGRAM TO CONTROL
 ASBESTOS CONTAMINATION IN SCHOOL BUILDINGS

On October 21, 1980, a meeting was held to discuss control of asbestos in school buildings. Attending were Ellen Greenberg of the Department of Environmental Conservation (DEC), Bud Forrest, Wayne Longacre, and John O'Hara of the Department of Transportation and Public Facilities (DOTPF), and Lee Hayes of the Department of Education (DOE). The purpose was to arrive at an agreement on the activities to be undertaken by each agency and time frame so that asbestos contamination in school buildings would be halted within the shortest possible time and with the least cost and disruption of State and local agencies.

EPA's proposed regulations, 40 CFR Part 763, would require all public and private elementary and secondary schools in the United States to identify friable asbestos-containing materials in school buildings. Under the proposal agreed to by DEC, DOTPF, and DOE, of the three requirements relevant to this goal, local school districts, private schools and Regional Educational Attendance Areas (REAAs) would be responsible for inspecting and sampling all areas of their school buildings with deteriorating friable material. DEC would have the samples analyzed for asbestos content. Local school districts would retain records of all inspections, including sample dates, location and condition, and analysis of friable materials, notify employees of the location of friable asbestos-containing materials and ways to reduce exposure to asbestos, and notify the parent-teacher association of the inspection results.

After much discussion about the merits and demerits of even having an asbestos control effort, all agencies agreed to cooperate to identify friable asbestos and then correct it. Listed below are those activities agreed to be undertaken by each agency.

Personnel: No new staff is anticipated by any local or State agency.

Because the problem of asbestos contamination crosses agency lines, three State agencies and 81 local schools and school districts are involved. To alleviate the need for more personnel, each agency will assume a part of the program to control asbestos.

- Time:
- A) 12 hours (14 person-days) for the Departments of Environmental Conservation, Transportation and Public Facilities, and Education. This includes training personnel in asbestos inspection and sampling, preparation and analysis of tests, grant administration, and technical assistance.
 - B) 1/2 hour per school building for local schools and school districts. This is for the inspection and sampling of friable material.
 - C) 4 person-days per school district with friable asbestos. This is for administrative time, bid-processing activities, and monitoring construction activities.

- Costs: A) \$12,250 for the sampling, testing and assessing exposure risks in Alaskan schools.
B) \$500,000 for the renovation of schools with friable asbestos.

Department of Education (DOE)

DOE will complete the plan required under the School Asbestos Detection and Hazard Act required by December 15, 1980. The plan must (1) describe how DOE will distribute informational materials on asbestos and this program in particular to school districts, (2) describe the content of the information to be sent out in #1 along with provisions for revisions, (3) describe how DOE will maintain records on the detection, control and removal of asbestos materials from school buildings, and (4) designate a State agency or other administrative unit to carry out the duties specified in the Act. This task doesn't directly affect the other tasks described in this summary, however, it is one other task which the agency must accomplish in addition to the others already identified.

DOE will distribute to all districts, private schools, and REAAs in the state all educational and informational materials including a memo describing the role of DEC and DOTPF and the required activities of local school districts. This should be completed within the next few weeks. Further, the department will confirm that the appropriate personnel of each school or school district has received the training materials and is prepared to inspect and sample each school. Finally, DOE will assure that all schools with friable asbestos in the state are sampled according to the proposed regulations 40 CFR 763.4, that is three samples for every distinct location with friable asbestos.

Department of Environmental Conservation (DEC)

DEC will continue as coordinating agency in the Asbestos Control in School Buildings program. This entails reaching agreement among involved agencies on assigned tasks, requesting meetings when necessary, assuring that tasks are accomplished expeditiously, and drafting memos and summaries of meetings and activities to date for in-house and general distribution.

DEC will make whatever funding requests are necessary to accomplish the ends of the program. A supplemental appropriation to cover training for personnel taking the samples and sample testing will be requested for the remainder of Fiscal Year 81 and an appropriation to provide for renovation will be requested for Fiscal Year 82.

DEC will assure that sufficient training materials, including videotapes are available for the 81 school districts, REAAs, BIA Agency Offices and private schools in the state. Further, the Department will assure that all asbestos samples are tested by a reputable lab. The Department will analyze test results for local school districts. Finally, DEC will request funding to cover the cost of video reproduction, testing, and renovation.

Department of Transportation and Public Facilities (DOTPF)

DOTPF has already estimated costs for remodeling ceilings and boiler installations in Alaskan schools with asbestos problems significant enough to

require correction. From the initial survey undertaken earlier this year, it was found that 12.9% of the schools contained asbestos from less than 1% to greater than 70%. Using this figure as a guide, DOTPF extrapolated costs based on where asbestos is likely to be located within the building, number of dollars per square foot for both removal and addition of substitute material, and a theoretical breakdown of urban/rural schools. Estimates are based on Anchorage costs.

DOTPF will verify, through its Facility Inventory conducted over the past several years, the completeness of sampling. Finally, DOTPF will act as the granting agency for grants made to local school districts for needed rehabilitation as a result of friable asbestos within their school(s).

In submitting its appropriation request, DEC will request that grant funds be appropriated directly to DOTPF for disbursement to local school districts. The money will be established as an Asbestos Control Fund. Should any money remain in the fund on June 30, 1983, it will revert to the General Fund.

Local School Districts

This includes all REAAs, local public school districts, BIA agency offices and private schools. There are 81 such schools and school districts in Alaska.

School district personnel will inspect schools within their district for friable asbestos. If material meets the criteria in the proposed 40 CFR Part 763, three samples of the material will be taken by local personnel. Samples will be sent to DEC for testing.

School districts whose samples indicate asbestos content will complete an Exposure Assessment, using Appendix I of the proposed 34 CFR Parts 230 and 231 as a guide. On the basis of the Exposure Assessment, the district will determine the necessity for complete or partial rehabilitation.

Should rehabilitation be necessary, the local school district is responsible for arranging with reputable contractors for the work to be done. All fees will be paid out of the Asbestos Control Fund to be established in the Department of Transportation and Public Facilities.

School districts will complete necessary forms detailing work undertaken and completed in the rehabilitation of and correction of friable asbestos.