SB
338

COMMITTEE REPORT

SENATE

FURTHER: C&RA and
Finance

Date: _____

Mr. President:

The Committee on Health, Education and Social Services has had SB 338 establishing an asbestos health hazard program

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

[ ] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for SB 338 [ ] same title [ ] new title

and recommends _____

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

[ ] reports it back without recommendation

[ ] referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

CHAIRMAN

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 becauseof 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 pubic 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: S.B. 338 & S.B. 339 and how the proposed program might affect the Ann Arbor School District. The statistics provided by the District are as follows.

Thus far, the potential problem exists in 3 schools: Dimond, Bartlett and West. It can be treated for roughly £5 per sq. ft. The extent of the problems are as follows:

Dimond (pool area including lobby, mechanical room, rifle range, lounge). No immediate danger.	4, 470 sq. ft.	
Bartlett (entire ceiling area) No immediate danger.	363, 390 sq. ft.	
West (pool area including pool, stairs, locker rooms, ceiling) Seven immediate danger in locker rooms.	9, 328 sq. ft	
	377, 188 sq. ft.	
	£5	
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, esophogus, 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 because 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 1 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 to 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 Subprogram(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. Hamm
AGENCY Dept. of Environmental Conservation
PHONE 465-2666

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

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 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	$ 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-219 and HCS (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.

SENATE H.. ..EETINGS

Name		Address/Phone	Representing
Susan Tomilson	338 339	POB 110377 DT 272-1734	Mt. Health Care Advocates
Jud Knight	SB 338 337	Juneau 465-2900	Dept. of Labor
Darrell Miller	SB 338 339	Juneau 465-4856	DEPT. OF LABOR - DOSH
Dan Coules	337 339	Juneau 465 [illegible]	DEC
Jon O'Hara	338 339	[illegible] 465 2080	DOT/PF FACILITIES PLANNING
Meron Anderson	309	" 3381	DHSS/ Mgmt + Budget
Sam Trivette	309	Rm. 103 A.O.B 465-3195	Parole Board / H.S.S.
Judy Crandall	309	SOA # 2277	Administration
John McDonough	338 339	DHSS, Division of Public Health	Comm - Public Health
Walt Lawson	309	Public Safety 465-4336	Public Safety
Jos Mabrouk II	309	465-4369	Public Safety

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 3/24/81

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 Operati
(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, identificati 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 Harris
AGENCY Dept of Environmental Conservation
PHONE 465-2666

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

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 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	$ 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-238 and HCS CSSB-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-				
		-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		
SBS	2.004.00	Telephone	300	Desk,	
Health Insurance	1.848.00			Chair, &	
			$3,000	Calculator	$800
	$25,504.64				

IV. DATE 4-9-81 PREPARED BY McKie Campbell

AGENCY Department of Community & Regional Affairs

PHONE 465-4735

Original: Legislative Finance

Budget and Management

(3) 1 Dept CRA –

SUGGESTIONS ~~RECEIVED FOR~~ SB 338:

(3) Inform the

The Department of Labor ~~would like to be notified~~ of all renovation undertakings through the local school districts so that ~~they~~ DOL 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/Department of Health and Social Services

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 D Bruce
David Bruce, Deputy Director
Division of Public Health

Date: April 6, 1981

Approved by: Helen H. Beirne
Helen D. Beirne
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 effective date."
Requested by Commissioner's Office Date 4/3/81

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
	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) OMB Approval M. Hubbard DATE 4/8/81

POSITION PAPER/Department of Health and Social Services

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
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 DHSS, Division of Public Health
PHONE 465-3090

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named) M&B Approval [signature] Date 4/15/81

33-001 (Rev. 12/80)

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 G. Knight
Special Assistant

07-GBLH

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.

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.

TABLE OF CONTENTS

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-D), 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

Year	Event/Standard/Agency
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[e] 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

*See note following table footnotes for discussion of basis for asbestos standards.

Table 1 (continued)

Year	Event/Standard/Agency
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.[s]
1976	NIOSH proposes standard of 0.1 f/cc.[t]
	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 Selikoff, "Asbestos-Associated Disease", p. 568.

b Motley, Ronald L., "The Lid Comes Off", Trial (April 1980), pp. 21-22.

c Interline, Philip E., "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 Selikoff, 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 schoolchildren, 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 μm,* 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.

---

* μm = micron (or 0.000001 meter).

Inhalation of airbornefibers 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 abestos 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 interferring 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 occurences 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 di[illegible]. In the first half of this century when little attempt was made t[illegible]ntrol the levels of industrial asbestos dust, people tended to die fr[illegible] 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/m^3* of air. By comparison, in public schools where asbestos containing walls, etc., were damaged, 50% of the air samples contained between 200 - 2000 ng/m^3* (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/m^3, with 64% of the samples being less than 2 ng/m^3. 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/m^3 = 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 μm 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.

Refe ence 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.

3. Selikoff, I. J. and Hammond, E.C., eds. Health Hazards of Asbestos Exposure. Ann. New York Acad. Sci. 330: 1-814, 1979. Contains many original articles which expand the discussions of the previous references; some of the experiments cited in the text refer to the following:

   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 hold 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 80% 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. Bartells, 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 Bartells 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: roping 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 1981[16]

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-[illegible] pe five feet away. Down the steps and around the corner on another cle[illegible] alkway, 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 3 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 (DOSH). A DOSH industrial hygienist told this writer he was unaware of the Loussac 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. DOSH 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, M. A., et al. "Thresholds for Environmental Cancers: Biologic and Statistical Considerations". Annals of the New York Academy of Sciences, 329: 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, 330: 61 (1979).

13. Owen was given many 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, May 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 IIIB 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:		
Asbestos levels (in f/ml)		# sites
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]

[a] In 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.

[b] Includes a demolition site at which asbestos concentrations ranged from 1.28 to 2.11 f/ml.

[c] Includes site referenced in footnote a.

[d] Includes 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 Loussac 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 I).

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, Lloyd 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	Workers Disabled by Illness
CATEGORY:		
USDL Closed Claim Study		
1. % of 1.8 million disability claims.	Over 98%. .	Under 2%
2. % of lost wages replaced by workers' comp	About 60%. .	About 40%
Barth Study		
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%
Selikoff (175 mesothelioma victims)		
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", Labor Law Journal 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	0
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

07-08LH

The regions are geographic areas described as follows:

Region 1 - Southeast Alaska (Ketchikan to Yakutat)
Region 2 - Southcentral Alaska (Cordova to Matanuska-Susitna)
Region 3 - Kenai Peninsula - Aleutian Islands (Seward to Wak - 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,

Darrell Miller

Darrell 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	Utilidor	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		History files	
	P-26-03	7/11/80	Environ		None	0.01	n/a		General area/ far sec.	
	P-26-05	7/11/80	Environ		None	0.01	n/a		General area/ P-26-01	
	P-26-06	7/11/80	Environ		None	0.01	n/a		General area/ P-26-02	
	P-26-07	7/11/80	Wipe		None	0.01	n/a		Office model # 3277	
	P-26-08	7/11/80	Bulk		None	1 % Fibrous	n/a		Fire retardant material	
	P-26-04	7/11/80	Bulk		None	"Blank	n/a			
P-80-27	P-0	1/15/80	Bulk	Chrysotile	5	n/a	n/a	Not related		
	P-02	1/15/80	Bulk		None	n/a	n/a		Laundry room	n/a
	P-03	1/15/80	Bulk		None	n/a	n/a	Not related	Dishwashing room	n/a
	P-27-01	7/16/80	Envir	Unknown		0.02	Below PEL			
	P-27-02	7/16/80	Bulk	Not analyzed because P-27-01 negative		n/a	n/a	Not related	Laundry room	n/a
	P-27-03	7/16/80	Bulk	"		n/a	n/a	Laundry	Laundry room	Not required
S-80-10	1	7/29/80	Bulk	Chrysotile amosite	10	n/a	n/a	Not related	Retort	n/a

1	12	13	14	15
Inspection Number	Number of Workers exposed/sampled/exposure evaluated	Other Asbestos related violations issued	Reason for Inspection	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	ILWU Loc. 37, Machinist Alaska Fisherman'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	5-10		n/a	"	"	"
				Chrysotile	5-20		n/a			

1	12	13	14	15
Inspection Number	Number of Workers exposed/sampled/exposure evaluated	Other Asbestos related violations issued	Reason for Inspection	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	None
	"		Gen. Sched. Insp. Proc.	
	"			
	"			
	"			
	"			
	"			
	"			
	"			
	"			
	"			
	"			
	"			
	"			

STATE OF ALASKA
DEPT. OF ENVIRONMENTAL CONSERVATION

JAY S. HAMMOND, GOVERNOR

POUCH O – 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 asbestor 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 Occupation 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 Transporation/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

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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) ½-1 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 disbursal 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.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECTED COSTS FOR CONTROL OF FRIABLE ASBESTOS IN SCHOOL BUILDINGS

I. LEGISLATION

The Department of Environmental Conservation will request that legislation be introduced to appropriate funding for the detection and control of friable asbestos in school buildings. This funding would be used for training persons in the identification and sampling of friable material, taking samples, testing and analyzing the samples, and partial or complete renovation.

A. Supplemental Appropriation

A supplemental appropriation of $12,250 for the remainder of Fiscal Year 1981 will be used for sampling, testing and assessing exposure risks in Alaskan schools. The assumption is that school districts with possible friable asbestos wish to complete the sampling, testing and exposure assessment prior to the end of school in order to complete necessary renovation during the 1981 summer break.

B. Fiscal Year 1982 Appropriation

The Department of Transportation and Public Facilities estimates that approximately $500,000 is the minimum necessary to make repairs to school buildings with friable asbestos. If major renovations are necessary or more schools are found with asbestos, thereby requiring greater expenditures, additional funds will be needed.

II. TRAINING

The Department of Environmental Conservation will assure that all local school persons who inspect or sample material for deteriorating friable asbestos will be trained to do so according to the proposed 40 CFR Part 763. This will be accomplished by duplicating the 15-minute videotape produced by the Environmental Protection Agency and distributing copies to local school districts, central offices of the Regional Eduction Attendance Areas (REAAs), Bureau of Indian Affairs agency offices, Schools, and private schools. The videotape will supplement EPA's Guidance Manual on Asbestos Control in School Buildings, Parts I and II. It is possible that persons inspecting or sampling may have questions about procedures. Rather than having these people call Juneau for the answer, they should be able to call a close number. Therefore, DEC field sanitarians who did not participate in the January workshops held by EPA will view the videotape. In addition, Margo Partridge of EPA is assembling, at our request, a slide/cassette show supplementing the videotape. This too will be seen by the sanitarians. It is hoped that by viewing both of these productions and reading the Guidance Manual, field sanitarians can help answer any inquiries on techniques and processes for determining asbestos.

Personnel: No new staff is anticipated by any agency.

Time: 24 hours (3 person-days)

Field sanitarians may have to answer questions regarding clarification of the inspection and sampling procedures, but this activity would fall within their normal course of duties with very little additional time needed.

DEC Central office personnel must prepare the 48 videotapes and three slide shows for mailing and then mail them. DOE staff will assure that videotapes are received by participating districts and viewed by the proper individuals. Finally, when the tapes are no longer needed, participating schools and school districts should return them to the Juneau office for reuse or storage.

Cost: $800

$610	48 videotape cassettes
50	3 slide shows
115	postage

EPA's videotape is approximately 15 minutes long. Twenty-minute 3/4" blank video cassettes at $12.69 from Yukon Radio Electronics, under contract to the State. Forty-eight tapes would be needed to assure that training proceeds expeditiously. This figure includes:

- One videotape per REAA
- One videotape for each of the following boroughs and municipalities: Kodiak, Kenai, Matanuska-Susitna, Anchorage, Juneau, Fairbanks, Sitka, Ketchikan, (remainder of Southeast Alaska)
- Five videotapes for the five BIA field offices
- Five videotapes for the 25 private schools
- Five videotapes to be used as back up when weather and other difficulties hinder mail delivery
- Three video tapes for field sanitarians

III. INSPECTION AND SAMPLING

All school districts and private schools must inspect their buildings for friable material applied to walls, ceilings, pipes or structural parts of buildings. If friable material is found, 3 samples must be taken from each location with distinctive material. Forty-one schools were sampled during the DEC survey, although the possibility exists that non-friable material was also sampled. In the upcoming inspection and sampling program, these schools should be re-examined to clarify where earlier samples were taken. In most cases re-sampling is probably unnecessary.

Personnel: No new staff is anticipated by any agency.

Time: Since inspections and necessary sampling would occur during normal maintenance operations during the school year, maybe ½-hour will be necessary per building.

Cost: Each school or schooldistrict must provide the necessary postage to mail inspection forms and samples to the Department of Environmental Conservation.

IV. TESTING AND ANALYSIS

The Department of Environmental Conservation will assure that all samples of friable material are analyzed by a reputable laboratory using polarized light microscopy. A survey of laboratories across the country indicates that a larger quantity of samples can be analyzed more economically, per sample, than a smaller number. It would be economically advantageous, therefore, to have a single agency accumulate individual samples for shipment in bulk to labs for analysis. Local districts, therefore, should send their samples to DEC, which can then negotiate with labs for possible discounts.

When test results are received, DEC will evaluate the total results and send individual results to the respective school districts.

Personnel: No new staff is anticipated by any agency.

Time: 48 hours (6 person-days)

Cost: $11,450

Alaska has approximately 515 public, private and BIA day schools. In the Supplemental Information of its proposed regulations, EPA estimates that 12.7% of all schools in the country contain friable material, of which 73.6% is friable asbestos. That is, EPA estimates that 9.4% of all schools in the United State contain friable asbestos. Sanitarians in Alaska inspected 101 schools during winter and spring of 1980. Of these, 35 schools were sampled and 13 or 12.9% were found to contain asbestos from less than 1% to greater than 70%. From these figures, Alaskan schools may contain a higher percentage of asbestos than the average arrived at by EPA.

The number of schools containing friable material, thereby requiring samples, was estimated using the following calculations. Applying the figure of 12.9% to the 515 schools in Alaska, 66 schools presumably contain asbestos. Since this figure is higher than EPA's estimate, the 66 schools may be only part of the Alaskan schools which presumably contain friable material. Using the 73.6% figure stated earlier, 90 schools in Alaska may contain friable material. It is estimated, therefore, that this number of schools will require sampling.

According to the proposed regulations, three samples must be taken from each location with distinct friable material. Since all of these schools will have have at least one location requiring 3 samples, but only a portion will have 2 or more location requiring sampling, most likely 5 samples per school on a statewide basis should adequately cover the need for sampling and testing.

The cost, therefore, was computed in the following way:

515 schools x 12.9% = 66 schools + 73.6% = 90 schools x 5 samples

= 450 samples x $25.00 sample cost = $11,250 total sample cost + $200.00 postage = $11,450

V. RENOVATIONS

As with any renovation, partial or complete, local school districts or individual schools are responsible for assuring the project's completion. Each school district/individual school must identify the type and extent of the problem, make the bids, and oversee the contractor's progress and quality of work. Under some circumstances, the Department of Transportation and Public Facilities may take on some of these activities although what these circumstances are have not yet been decided. Further, if State money is involved, DOTPF acts as the granting agency.

There are three methods of rehabilitating buildings with friable asbestos:

(1) Encapsulation: The coating of asbestos material with a bonding agent, such as a rubber-based paint, as a sealant;
(2) Enclosure: The construction of a barrier, such as a suspended ceiling, between the asbestos material and the remaining room;
(3) Removal and substitution: The removal of asbestos material and subsequent replacement with a similar insulating, sound proofing material.

Each school or school district with deteriorating friable asbestos material must determine how extensive the potential or actual damage of asbestos damage is. To make this determination, school districts must use the Exposure Assessment Algorithm in Appendix A of 34 CFR Parts 230 and 231. Since the Exposure Assessment leaves much latitude in determining whether to encapsulate, enclose, remove, or simply deter action, the school district or school must exercise judgement in making the determination. DOTPF may assist districts when necessary, although this assistance has not yet been approved.

Personnel: No new staff is anticipated in any agency. Rehabilitation would be completed either by a contractor or a well-trained district maintenance person.

Time: (A) 4 person-days per school district with friable asbestos. This figure includes administrative time, bid processing, and monitoring construction activities.

(B) 5 person-days per DOTPF. This figure includes administrative time for grants as well as assistance in Exposure Assessment.

Cost: $500,000

Staff of the Department of Transportation and Public Facilities estimated the square foot costs for each approach. These figures are listed in Table I.

Because of the difficulty in determining where friable asbestos is located and how bad its deterioration is, DOTPF made only a stab at estimating costs. The department anticipates that a minimum of $500,000 will be needed for minor repairs, although the cost could be considerably higher. In the event that major repairs are necessary or more schools with asbestos are found, thereby necessitating greater expenditures, additional funds should be requested.

TABLE I

	APPROACH	METHOD	PROBLEMS	COST
(1)	Encapsulation	Apply rubber based paint to asbestos material.	Temporary measure--protection would last only for several years.	Around $1/sq. ft.
(2)	Enclosure	Construct a suspended ceiling.	If constructed in an air plenum, encapsulation might be an ineffective barrier.	Around $1.75-$2.50/sq. ft.
(3)	Removal	Using protective devices and clothing, asbestos material would be removed and properly disposed. Since removal could leave building unprotected, costs must include replacement as well.	Asbestos fibers could be released into the building environment if extreme precautions are not taken. This increases costs significantly. Disposal of the debris could be difficult if landfill refuses to accept the wastes. Under these circumstances, costs could skyrocket.	Around $5.00-8.00/sq. ft for removal; $5.00-$10.00/sq. ft. for fire proofing. Total cost would be $10.00-18.00/square foot.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SUMMARY AND RECOMMENDATIONS

FOR

ASBESTOS CONTROL LEGISLATION

NEED FOR ASBESTOS CONTROL

Many building materials used in past years had asbestos included because of its insulating qualities. However, since then it has become well known that asbestos can be cancer-causing and is virtually indestructable once introduced into the environment. In particular, asbestos-bearing materials which become worn or frayed can release asbestos into the air, which then can be breathed and 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.

A recent study of 101 schools in Alaska revealed that 13% of them had building materials, with asbestos included, which were in a condition in which the asbestos could pose a hazard to the school children. To make certain that this potential health hazard is corrected, funds are needed to make renovations to these buildings to assure that asbestos does not get introduced into the school environment. In addition, inspection and sampling at all schools within the state should be done.

LEGISLATION NEEDED

An appropriation is needed to do the following:

1. Supplemental for FY-81 of $12,250, to complete sampling and testing of all Alaskan schools. This would be handled by the Department, with the Dept. of Education and local school districts carrying out the actual inspections. These funds should be allowed to carry into FY-82.

2. Appropriation for FY-82, to complete any necessary sampling and to carry out the needed renovations in each identified school building. This would be appropriated to the Dept. of Transportation, with the Dept. coordinating and identifying the need for renovation throughout the local school districts. The appropriation requested is $500,000.

Attached is a more detailed summary of how the Departments of Environmental Conservation, Education, and Transportation/Public Facilities will work together in sampling and renovation as needed to protect public schools from asbestos contamination.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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) ½-1 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 disbursal 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.

IV. SUMMARY OF SAMPLE RESULTS

A. Results

Of the 41 schools and public buildings sampled, 15 or 36.6% were found to have at least some asbestos. Thirteen or 37.1% of the schools 35 contained some asbestos. Samples tested ranged from less than 1% to greater than 70%. Nine samples, or 14.3% of the total samples contained 10% or more asbestos. Eight, or 12.7% of the total samples, contained 2% or less asbestos. With the exception of the Northward Building (1%) and the North Star Borough Building (<1%), both in Fairbanks, all samples with asbestos were from schools.

Geographically, samples were taken from schools in Juneau, Fairbanks, Nome, Tok, Matanuska-Susitna Borough, Kenai Peninsula Borough, Kodiak Island Borough, Old Harbor, Ouzinkie, Bethel, Delta Junction, Tetlin, Gakona, and Trapper Creek. However, both the greatest number of samples and, in this case, the greatest amount of asbestos was found in schools from the Matanuska-Susitna, Kenai Peninsula, and Kodiak Island Boroughs.

Appendix A lists all samples and results. Appendix B lists samples with asbestos geographically.

B. Qualifications

1. Sampling consistency was not maintained. While some sanitarians took samples of anything that looked even remotely like friable asbestos, others took samples only from material which they could almost positively assure contained asbestos.

2. The number of samples within a given region varied considerably. Southeast sanitarians sampled only one school and Southcentral sanitarians sampled 47 locations within 27 schools, while Northern sanitarians sampled 9 locations within 7 schools. If we assume that the possibility of finding asbestos is roughly proportional to the number of samples collected, it is no wonder that the largest number of samples with asbestos came from the Southcentral Region.

3. Anchorage schools were not sampled, because that school district has been conducting its own survey. Margo Partridge said that the Anchorage School District found asbestos in at least one school, but I have not spoken with its staff to obtain results.

V. CONCLUSION

In spite of the above qualifications, the results clearly prove that asbestos deterioration is a problem in at least some Alaskan schools. On June 14, President Carter signed the School Asbestos Hazard and Detection Act of 1980. The act requires all State educational agencies to prepare a plan by December 15, 1980 to show, among other things, how informational material on the asbestos detection and control program will be distributed to schools and how records on detection and control activities will be maintained. The federal Department of Education is

Senator Parr —

Attached is the preliminary summary of the asbestos contamination problem in public buildings, as you requested. We should have the summary finalized this week, & would appreciate your thoughts on - whether we've included everything you wanted.

Based on our discussions with ADOT/PF, we will refine the cost data, and the approach to managing the solutions.

My telephone is 465-2660.

Thanks

Tom Hanna

MEMORANDUM State of Alaska

TO: C. Deming Cowles
Deputy Commissioner

DATE: February 13, 1981

FILE NO:

Thru: Glenn Akins

TELEPHONE NO:

FROM: Thomas R. Ha[illegible]
Chief, Air and Solid Waste

SUBJECT: Status of Asbestos Funding Needs-2/13/81

Since meeting with Senator Parr two weeks ago, we have been working with the Department of Transportation/Public Facilities to estimate fiscal needs for renovating all state-owned public facilities with possible asbestos contamination. Unfortunately, ADOT/PF cannot meet with me to come up with a suggested program and funding needs until next Wednesday. Until then, we will not be able to develop a detailed funding need requested by Senator Parr. We can, however, provide the following data to him now, to be followed by February 20 with the more specific data:

(1) The major identified friable asbestos contamination problems public schools. As indicated in our report already transmitted to Senator Parr, approximately 13% of the schools sampled were found to have asbestos containing materials that could affect public health. Only 101 of the 515 public schools existing in Alaska were sampled, however, and there will be a need for completing inspections and sampling of the remaining public schools at a cost of approximately $12,250.

(2) ADOT/PF has estimated that approximately $500,000 may be needed to make necessary repairs in school buildings found to have friable asbestos.

If major repairs are needed, this figure may be low.

(3) 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 were found that would require extensive renovation costs. ADOT/PF indicated that the only places found with asbestos contamination were in boiler rooms and pipe installations, neither of which would be a major expense. In fact, most of these corrections could be handled as a part of routine maintenance.

(4) ADOT/PF indicated that the Anchorage buildings may possibly have friable asbestos-containing materials because of their large size,

making it more feasible to use spray-on insulation materials. This will only be known as their inventory is completed, which should be this coming year. For purposes of providing funds through any legislative action that might be introduced this year, it may be appropriate to include a contingency amount of perhaps up to $500,000 to cover unidentified problem areas.

(5) The last area which Senator Parr requested an estimation of possible asbestos contamination is local government buildings. The results that ADOT/PF obtained from their inventory on state-owned buildings could be applicable to local government. Because there has been no extensive inventory of these buildings, some investigative effort would have to be made first, followed up with any sampling that might be needed. This will be talked over in more detail with ADOT/PF on Wednesday, but I would expect there to be a sampling need of about $5,000 and a contingency renovation need of approximately $500,000.

The above costs do not provide for either sampling or renovation of privately owned buildings local government buildings in which the public may have general access. To truly provide a service to protect public health in local government buildings as well as privately owned buildings, I suggest the following:

A. For Local Government Buildings: Provide for training to conduct inspections and take samples, and provide for sample analysis. If any samples are positive, provide technical assistance in determining renovation needs and best ways to correct the problems. Provide for funds as needed to encapsulate or remove the contaminated material. If funding is needed, it should be available. There should also be detailed inspection, sampling, and renovation criteria established to assure accurate identification of the problems and ways to select cost-effective methods to solve them. I would suggest that DOT/PF and our agency could develop these criteria. Building owners and operators would take responsibility for inspecting, sampling and renovating; the state would simply be providing technical assistance and public service.

B. For Privately Owned Facilities: It does not seem to be an appropriate state function to pay the costs of renovations in privately owned facilities. However, I would recommend that the state provide public awareness, training in inspection and sampling, and sampling analysis services free of charge to anyone willing to voluntarily to conduct their own inspection and sampling. It would then be up to the private individuals, and their consciences, in determining whether there is a problem and whether anything will be done to correct it. We would, of course, have information available to the public on how to conduct these activities.

(6) In talking with the Occupational Safety and Health (OSHA) Personnel, I found that they had only two inspectors for the entire state, and only conduct 100 inspections per year. As their own Enforcement Chief Ray Jorgenson acknowledged, there is simply no way that they can come close to adequately inspecting Alaskan facilities for basic OSHA requirements, much less for asbestos contamination.

This is unfortunate, since their requirements apply to every building in which there is an employee-employer relationship (in effect, they cover all the facilities in which we are concerned about asbestos contamination). Considering their lack of manpow , it does not appear realistic to rely on OSHA to carry out any major portion of an asbestos containment program. For this program, the best approach would appear to be public awareness, and encouragement of voluntary compliance by us and ADOT/PF, with responsibility for compliance placed at the local level wherever possible.

In summary, it appears that a fiscal need of between $1-5 million would be establish an effective asbestos containment program for public buildings. This would include sampling, public awareness, technical assistance and guidance, and actual funding of needed renovations for governmentally owned facilities. While some details of how to best to put together this program remain to be determined in next Wednesday's meeting with DOT/PF, we should be able to complete our recommendations within two days of that meeting.

It might be best to provide Senator Parr with this preliminary information now, to get his impressions on our suggested approach. Any additional ideas or areas which he would like to cover could then be incorporated in our fiscal projections and recommended ways of accomplishing the intended result. In particular it would be good to know whether he would want to consider inclusion of privately owned buildings in the cost projections.

I am looking forward to your comments and recommendations.

cc: Deena Henkins

...rgh (Penn.) Press, March 31, 1980

Asbestos: What's The Risk To Us?

By LEE HOTZ

Asbestos.

It's a word that, in a dead language, means indestructible.

Convicted as the key agent in the cancer deaths of countless workers who handled it for a living, asbestos also stands accused in the ever-increasing number of cancers among the general public.

Guilty or not guilty?

Researchers who have spent their professional lives documenting the dangers facing a generation of industrial asbestos workers can't agree on what risks confront the general public. It's unlikely they ever will.

Even less do they know what should be done.

"We've got to do something, but I'm not sure what," said Dr. Phillip E. Enterline, chairman of the department of biostatistics at the University of Pittsburgh's Graduate School of Public Health.

For a generation, asbestos was a miracle mineral that found some 4,000 different uses in products ranging from insulation to brake linings, from floor tiles to water pipes, curling irons, and even school modeling clay.

As long as such products are well-maintained, they pose only a potential hazard, Enterline emphasized. But it is a potential that is all too easily triggered.

"Once you disturb it, you can generate just about any level of asbestos exposure you want," he said. "Even if it's locked in concrete, it's always there, always a potential problem."

A bored high school color guard passed the time before drill practice by poking holes in the asbestos ceiling with their flagpoles.

That casual vandalism exposed them to levels of the cancer-causing fibers equal to those once found in asbestos factories and shipyards.

Physical fitness buffs at a local pool worked off flab swimming through an invisible rain of fibers gently drifting down from an asbestos-sprayed ceiling.

It only took small variations in temperature to expand and contract overhead steel joists and release the deadly shower.

The backyard mechanic who grinds his own brake drums; the home handyman ripping asbestos tape off his basement heating pipes; the young woman fluffing her hair with an asbestos-insulated blowdryer — all are exposed unknowingly to what medical researchers call the most lethal industrial carcinogen known to man.

"There are hundreds of thousands of fibers in my lungs and yours. But what does it mean?" Enterline said. "We know asbestos is bad. But I'm a statistician. I'm interested in just how bad it is."

When researchers established the link between exposures to airborne asbestos fibers and cancer in the early 1960s, they turned a thriving asbestos industry into the villain in an industrial nightmare.

They also raised disturbing questions of public health that go far beyond the medical problems plaguing the men who made their living handling the material.

Like tuxedoed security guards in a plush casino, cancer researchers watch the roulette wheel of mortality spin. When the small steel ball lands on the same number far too often, they scan the players suspiciously, then round up the usual suspects.

They deal in chance, odds, probabilities, constructing timetables of death. The most important words in their medical vocabularies:

If, maybe, perhaps.

To uncover asbestos as a cancer-causing agent, researchers such as Enterline and Dr. Irving Selikoff of the Mt. Sinai School of Environmental Medicine in New York sifted through the medical records of thousands of workers who had been exposed to astronomical levels of asbestos dust.

In two decades of research, they have helped recalculate the odds. But however well they have documented the risks of asbestos workers, they have yet to find any sure bets on the question of public health, Enterline admits.

"The trouble is we just don't know, we can only infer," explained Dr. Alison McDonald, professor of epidemiology at London University. In Pittsburgh recently on a research trip, she has specialized in the study of mesothelioma cancers since 1966.

The only known cause of that painful and usually fatal cancer is exposure to airborne asbestos fibers. The fibers also have been linked to lung cancer and cancer of the stomach, colon, rectum and throat.

"We can't say that environmental exposures cause mesothelioma," she explained carefully. "We can only say that occupational exposures do.

"Asbestos does produce an increase in the risk for the general public, but is it a measurable risk? We don't have any direct evidence."

The statistical studies so essential to detecting the work of a cancer-causing agent are best at measuring large risks among small groups of people, she said. Complicating investigations is the 20-year time lag between exposure and the stirrings of a cancerous growth.

(continued)

Researchers were able to pinpoint asbestos as an occupational hazard because the exposure levels were huge, easy to isolate and easy to link statistically to the equally large number of cancers among asbestos workers.

The very techniques so sharp in dissecting industrial risks are blunted by the sheer immensity of the task facing those who would analyze the public health problem.

"You'd need tremendous populations and nobody has the time, the patience or the facilities to do such research," Enterline said.

But knowing the levels of extended exposures, medical statisticians calmly calculate the cancer odds.

✓ For the general background level found in the air — 50 nanograms of asbestos fibers per cubic meter — 40 people per million may die. (A nanogram is one billionth of a gram.)

✓ At the levels present in a room with frayed asbestos insulation or in most asbestos workers' homes — 500 nanograms per cubic meter — 400 people per million may die.

✓ The levels generated by the vandalizing color guard with their flagpoles — about 50,000 nanograms — may cause as many as 40,000 deaths per million.

The lowest industrial exposures that Enterline worked with in his studies were between 75,000 nanograms and 375,000 nanograms per cubic meter.

As for the infamous hairdryer: "It is less than a one in a million chance of getting cancer in a lifetime of exposure," said Enterline, who prepared the statistics.

But then, that's one in a million on top of everything else," he added.

One little bit of that cancer may come from the hairdryer, one little bit from walking down Grant Street the day they sprayed the U.S. Steel Building, one little bit from the asbestos tile on the floor.

Since 1972, federal agencies have issued alerts about asbestos building materials and banned outright the use of asbestos sprays once commonplace in the construction industry.

Congress recently voted $330 million to help cover a $1.5 billion repair bill facing the nation's public schools, which are working to eliminate the material from their classrooms.

Warnings about hairdryers containing cancer-causing asbestos are now household literature.

Now the federal Consumer Product Safety Commission is preparing a massive survey of practically every common household appliance, except refrigerators, to determine if they, too, may contain the dangerous asbestos fibers.

The U.S. Environmental Protection Agency is pondering regulations that would force asbestos inspections of schools and commercial buildings.

Those may be the first steps toward banning the substance entirely.

In the meantime, researchers are not yet certain exactly how asbestos fibers cause cancer. Many believe the size and shape of the fibers themselves can cause cells to run amok in a cancerous growth.

"Scavenger cells in the lungs can digest fibers smaller than they are," Enterline explained. "But the longer ones ... under the microscope, the cells look like strings of beads clinging to the fiber."

Man-made fibers such as fiberglass — widely used as a substitute for asbestos in insulation products — have caused mesothelioma cancers when surgically implanted in lung tissue during laboratory experiments.

"But fiberglass is fragile, breaks easily and doesn't maintain the fiber length the way asbestos does," he said.

Others believe that it is some chemical characteristic of the five types of asbestos fibers unearthed from the mines in Canada and South Africa.

Preliminary results of a study now being conducted among mesothelioma victims indicate that the type of asbestos fiber is critical in causing that kind of cancer, Dr. McDonald said.

Both the cancer victims and the control group had equal amounts of white chrysotile asbestos fibers in their lungs, she explained, but the mesothelioma victims had an unusually large number of brown amosite asbestos fibers in the lungs as well.

Both types were common in asbestos insulation products.

Even as researchers painstakingly stretch toward some conclusions about asbestos they still don't know how it fits into a whole universe of cancer-causing substances present in the environment — at the latest count 700 ranging from arsenic and uranium to nickel and chrome.

At one extreme, some researchers believe that asbestos may be responsible for the ever-increasing rise in cancer deaths since World War II.

"You know lung cancer was a rare disease back in the forties," Enterline explained. "Now it's pretty well established that 200,000 people out of every million die of cancer.

"You can plot the rise in the use of asbestos against the rise in cancer deaths. But it's not that simple. Cigarette smoking, he points out, is responsible for about 30 percent of all lung cancers in this country.

At the other end of the spectrum is the more cynical belief that the public health risks are based on fragmentary, ambiguous research and grossly exaggerated by ambitious health officials with a taste for publicity and a need to increase departmental budgets.

"The problem is that most people are afraid to wait for medicine to make up its mind.

Health officials emphasize that as long as asbestos insulation or other products containing the lethal carcinogen are well-maintained, there is no danger.

But when that insulation — much of it installed decades ago — is torn or punctured, when a hairdryer blows asbestos fibers into a user's face, when in some way the fibers are exposed to float freely in the air, a hazard is created on that medical researchers can agree.

"In some cases, we may not live long enough to feel any effects. Low level exposures may be causing cancers in 30 years. We just don't like that in any way," Enterline said.

ALASKA HEALTH CARE ADVOCATES
BOX 1037 D.T. ANCHORAGE, ALASKA 99510
272-8734

MEMO

TO: Senator Parr
DATE: JANUARY 20, 1981
RE: ASBESTOS CONTAMINATION IN THE WORKPLACE AND SCHOOLS
FROM: SUSAN JOHNSON, DIRECTOR

> "...Exposure to asbestos has been identified over a long period of time and by reputable medical and scientific evidence as significantly increasing the incidence of cancer and other fatal diseases...medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe..." (Public Law 96-270, June 14, 1980)

OCCUPATIONAL EXPOSURE:

Documents maintained by both Local 97 of the International Association of Heat and Frost Insulators and Asbestos Workers (IAHFIAW) and the renowned Dr. Irving Selikoff, show that between 1967 and 1976 10 Local 97 members died from various cancers induced as a result of occupational exposure to asbestos. According to death certificates maintained by Local 97, another member died in 1965, another in 1979, and a third now has less than eight months left to live before his body is ravaged by cancer. Total deaths by mid-1981 - thirteen(13). The average life expectancy for a pipe coverer is about 15% less than someone in the general population. This, due primarily to past asbestos exposure, will continue at that rate unless something is done regarding present exposure.

A recent survey of Local 97 members which was conducted by Health Care Advocates (HCA) showed that on the average, members of Local 97 have spent 71% of their time in the trade (insulation) working in Alaska for Local 97; 20% of their time in the trade was spent working for other IAHFIAW locals Outside; 5% of their time was spent out of the trade (ie.military); and a known 4% of their time was spent working with asbestos in Alaska, before they became members of Local 97.

The average number of years spent working in the insulation trade for Local 97 members is 16; the average number of years spent working in the trade with Local 97 is 11 years and 6 months, (or 71% of their time in the trade.) Yet,

these men who are established, working residents of the state have, in effect, been denied the protection on the job awarded them by law, worker's compensation legally due them after inducing occupationally related cancers, and as a result of this, the psychological well-being afforded those who who are not haunted by impending occupationally-related death and disease.

Local 97 members can be defined as asbestos "workers", or those whose work has been most directly associated with asbestos. In Alaska, that work has consisted primarily of the application of asbestos as insulation, both thermal and acoustical, and work with asbestos during maintenance, repair, and removal of the material. However, there is a large group of asbestos workers, whose exact number is unknown, who have been defined as asbestos "breathers". In Alaska, that group includes all members of the various Building and Trades crafts, particularly the Boilermakers, Painters, Carpenters, and Laborers who have also worked directly with asbestos and fit into both the "worker" and "breather" category. The workers from the various Building and Trades crafts work in close physical proximity on any given job, and their exposure to toxic materials may occur simultaneously with only the degree of intensity at variance. Additionally, there are workers from other trades who are intermittently exposed to asbestos. Such workers include members of the Longshoremen, cannery workers, electrical workers (IBEW), automobile repair and brake repair workers.

The occupational health hazards, specifically asbestos, associated with the brake repairmen's job have come under close scrutiny recently. Most brakes (brake linings) contain considerable amounts of asbestos, often 50% or more. "...The potential for asbestos exposure (to brake repairmen) has been a matter of increasing concern ...initial clinical surveys indicate x-ray changes of asbestosis are not uncommon ...instances of mesotheliomas have been reported . ." (Dr. Irving Selikoff)

Today, in Alaska the largest proportion of asbestos-related work occurs during maintenance, repair, and removal of asbestos. As pointed out by Dr. Selikoff, who first established the link between asbestos exposure and cancer , 10,000 to 20,000 tons of asbestos were applied annually between 1890 - 1970 as thermal insulation to pipes, boilers, and other high temperature equipment. Alaska did not escape usage, nor did it's workers escape death from exposure. Maintenance, repair, and removal of this material presents enormous control problems, Dr.

Selikoff cautions, especially since proper procedures and precautions have yet to be fully developed for these activities. ("Occupational Respiratory Diseases; Asbestos-Associated Disease",in Public Health and Preventive Medicine, 1980)

The HCA survey of asbestos workers established that when working with asbestos,

- 55% of the workers never (0% of the time) had protective clothing provided, as legally required by the State and Federal Occupational Safety and Health laws
- 13% of the workers had respirators provided occassionally (1-49% of the time)
- 66% of the workers usually had respirators provided (50-75% of the time), and
- only 26% of the workers always had respirators (100% of the time) provided when working with asbestos

Additionally the effectiveness fo the respirators which are provided have been questioned by workers: why aren't U.S. Bureau of Mines approved masks/respirators provided when needed, as legally required. In 1979, the Department of Labor's Division of Industrial Hygeine cited "no respiratory equipment" as one of the most frequently violated state/federal occupational laws.

- 58% of the workers were never (0% of the time) provided vacum cleaners for clean-up activities

The failure to provide vacum cleaners, disposable coveralls (protective clothing) lockers to keep contaminated clothing isolated in (100% of the workers were never, or 0% of the time, provided lockers to isolate work and/or street clothing from each other) is significant for the following reasons:

Studies conducted by Dr. Irving Selikoff, and colleagues, document the deaths of wives, sons, and daughters of asbestos workers who were exposed to fibers brought home by the workers on their (dusty) clothes. Hundreds of asbestos worker family members have died from mesothelioma, a rare form of cancer for which <u>there is no known cure</u>.

The fibers , from workers clothing, hair, and so forth, settle in the home, become suspended in the air, and (of respirable size) eventually become lodged i.. the lungs of family members. The inhalation of fibers and its fatal impact on one's health is cumulative.

As noted before, employers do not provide lockers to isolate street clothing from work clothes, and contamination. Further, the eating area, (lunch/break shacks) constructed for workers is provided to workers both to eat in and to change clothes in. This only serves to exacerbate the problem.

WORKER'S AND OTHER COMMUNITY COMMENTS:

- "If you burn your hand in one state as the result of a known cause, you don't want to spend an unnecessary amount of time researching it in another state: you act to prevent it..." (Dr. John Middaugh, Anchorage epidemiologist)
- "I only have one-fourth of my lung left from this stuff..." (BA for Local 97)
- "(We need) more action on the state part to control working areas" (Asbestos worker)
- "Force the contractors to comply with the health laws" (Asbestos worker)
- "You need a police force in the Bush to get the employer to comply with the laws which are supposed to protect us..." (Dying asbestos worker)
- "I think I'm working with with asbestos on this ship...and I don't know what my rights are..." (Pile diver)
- "They tell me I'm going to get that stuff (asbestosis,cancer) because of you guys(asbestos workers)" (Boilermaker)
- "We used to spray paint asbentos right here in town (banks - approx. 8 years ago); every once in a while someone would say that stuff might be dangerous, but we did'nt know what our rights were...did'nt have protective clothing..." (Carpenter)
- "We need a lot more sanitary facilities on the job and more testing of insulation products besides asbestos, such as fiberglass, glues, and adhesives." (Asbestos worker) SEE ATTACHMENT ON Fiberglass
- "We need change rooms seperate from eating facilites...keep change rooms clean to avoid taking dusts and other hazardous materials home" (Asbestos worker)
- "We need more inspection and enforcement by O.S.H.A..." (Asbestos worker)
- "We need a stable funding source for D.O.S.H. so they can get the job of protecting workers done...D.O.S.H. can't be forced to fight for funding each year and try to do a good job protecting worker health...they should be guaranteed funding for a period of at least three years..." (BA,Laborers)

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH:

A basic philosophy of the Occupational Safety and Health Act is that inspections in the workplace have as their objective improved conditions in the workplace. In part, this objective is obtained by a multiplier effect - an inspection of an establishment in a particular industry will usually produce voluntary compliance activity by other employers in that industry. The ultimate value can not be found in it's punitive effect, but rather in its deterrent effect. If not faced with that possibility of an inspection, employers would loose most of their motivation for acnieving the goals of the Act.

The Alaska Division of Occupational Safety and Health does not include multi-site (employers with an out-of-state address) or non-fixed places of employment in their general scheduled selection system for inspections. In other words, all workers in construction, which inlcudes all Building and Trades workers, only have their work site inspected by an Industrial Hygienist if:

a/ the worker is hurt

b/ the worker files a formal complaint, which is signed by the worker (this can be particularly threatening to a worker who is afraid that his signature on a complaint will precipitate retaliatory firing)

c/ the employer requests an inspection

d/ safety officer makes a referral to an industrial hygienist

This effectively precludes preventing worker exposure to toxic materials and employer non-compliance with existing laws and occupational health regulations. Equally important, it negates that basic conceptual foundation which workplace inspections were built on.

According to chief D.O.S.H. staff, this results, in part, in a 64.8% failure rate for detecting asbestos-related hazards: 1,230 asbestos-related places of employment are not included in the genera scheduled inspection system because they are non-fixed or multi-site places of employment. The statistics for other high hazard industries and the D.O.S.H.'s ability to protect the worker are as compellingly frightening, and include most construction workers.

Craftworkers, operators, and laborers - or construction workers- comprise the largest category of Alaska wage and salary employees, or 32% of the workforce statewide. Employment for these workers is expected to increase by about 3,550 per year thru 1985 (Annual Planning Information, Alaska Department of Labor, FY 1981, p.25).

A D.O.S.H. is severely needed to assist in adequate protection of the worker, and the Alaska D.O.S.H. is in need of some support to adequatley fullfill that objective. As put by the BA for the Laborers, without a stable fianancial base which needs to eventually be expanded, it is impossible for the Industrial Hygienists to sufficiently execute their work, and provide meaningful protection for the worker.

The policies and procedures of the State D.O.S.H. should be scrutinized, with input and assistance from that Department, in respect to occupational health hazards, specifically asbestos exposure, and ideally exposure to all toxic materials in high hazard industries.

Some questions which should be asked of D.O.S.H. :

1. are asbestos laws and regualtions current
2. where can they be improved to better meet the needs of the worker
3. do they include matching enforcement policies
4. should inspections procedures be rethought and reworked to prevent occupationally related death and disease from asbestos, welding and toxic fumes, silica and so forth.
5. are there enough Industrial Hygienists to adequately implement the program
6. would it be more effective to develop a research and education component of the state plan, with the objective being increased worker participation in health and safety on the job, as is emphasized in other states ?

HEALTH HAZARDS ASSOCIATED WITH ASBESTOS EXPOSURE:

The latency period for asbestos-related diseases is 15-30 years, depending on the disease, and the intensity of exposure to asbestos. As noted by Dr. Selikoff, "it is disconcerting to hear a worker's colleagues say that the best they can do for him (a worker dying from as asbestos-related disease) is: 'to know when to take the mirrors from the wall...'."

1. Lung Cancer: This is one of the most serious health hazards for insulation work. According to Dr. Selikoff, it was responsible for one in five deaths among insulation workers. There are many who contend that lung cancer in asbestos workers is primarily caused by cigarette smoking:

Alaska Health Care Advocates January 20, 1981

FACTS: a/ asbestos workers who smoke cigarettes have 8x the chance of dying of lung cancer compared to other cigarette smokers of the same age who do not work in the trade

b/ asbestos workers who smoke cigarettes have 92x the risk of dying of lung cancer compared to similar men, who neither work with asbestos nor smoke cigarettes

c/ Lung cancer in asbestos workers as a group are, to a certain extent different than ususal lung cancer. Two-thirds are in the lower portion of the lung (where most scarring is seen on x-ray also); ordinarily only one-third are found here. Apart from such minor variations, they can be expected to be diagnosed and treated in the usual ways. The important thing is early diagnosis, if we are to hope for a cure."

(Industrial Hygiene Reports, Winter, 1972, Dr. Irving Selikoff, Director)

Mesothelioma: This is a very rare form of cancer in the general population; insulation workers contract mesothelioma 700 times more than in the general population. The lining of the chest and abdomen is the mesothelium and when the cancer attacks this tissue,it is called mesothelioma. THERE IS NO KNOWN CURE for mesothelioma The association between mesothelioma and asbestos is conclusive:

"...There is now wide agreement that when mesothelioma is seen, asbestos exposure will likely have previously occurred, or conversely, when asbestos exposure has occurred, there is significant risk of later mesothelioma." (Dr. Irving Selikoff)

Gastro-intestinal Cancer: (stomach, colon, rectum) This is found 2-3x more in the asbestos worker than in the general popualtion.

Asbestosis: - or scarred lungs- the only cause of this is asbestos exposure. If one has asbestosis, then becomes ill with bronchopneumonia, the asbestosis could precipitate death. A person who had no asbestosis, but contracted the bronchopneuomnia would normally recover in three to four days.

SMOKING DOES NOT INCREASE THE RISK OF DEATH TO ASBESTOS WORKERS OF MESOTHELIOMA, COLON-RECTUM, STOMACH, OR KIDNEY CANCER, OR ASBESTOSIS.

Dose-Response Relationship:

There is a different dose-response relationship between the different types of

cancer and asbestos exposure.

Among family contacts of workers where the dosage would be relatively low, the rate of incidence mesothelioma will vary.

"There are some forebodings: x-ray surveys of wives and children of asbestos workers have a significant prevalence of asbestosis and instances of mesothelioma...exposure to asbestos is both cumulative and continuing once the fibers have been inhaled...each day's dose is added to that inhaled before and the retained fibers subsequently have an influence on the tissues in which they are imbedded..."

This concept is critical to understanding the necessity of protective measures on the job, the effectivness of the State Division of Occupational Safety and Health and the potential impact friable asbestos containing materials have on the health of school children and teachers.

Again, there is no known cure for mesothelioma. However, there are measures which can be taken to help the workers who have already been exposed to asbestos, and/or have induced another type of cancer.

In his most recent letter to HCA Director , Dr. Selikoff writes:

" ...May I suggest the following...surveillance programs: medical facilities that are available should be examined and judgements made as to how they might best be used ...the principal diseases for which prevention and early diagnosis are useful include: asbestosis, bronchogenic carcinoma, gastrointestinal cancer, cancer of the mouth and pharynx, larynx cancer, kidney cancer... there is very little we can do for mesothelioma if it occurrs...surveillance should also include an important educational component..."

WORKER'S COMPENSATION AND OCCUPATIONALLY-RELATED DISEASE:

Once the worker has induced an occupationally-related, or asbestos-associated disease, what is the feasability of compensation:

According to the Barth study just published (Worker Compensation and Work Related Illnesses and Diseases) there are great discrepancies between the compensation awarded for average work injuries and for occupational diseases. He discusses:

a/ the average amount of time a victim waits before recieving benefits for occupational diseases vs. the average amount of time a victim of an average work injury waits. Nationally, it is one year for occupational diseases vs. two months vs. the average work injury compensation

b/ the percentage of occupational disease awards; nationally, 60% of the claims are denied for occupational disease and only 10% of the average job injury awards are denied

c/ the number of occupational disease awards that are resolved in compromise and release agreements which involve small lump settlements which usually release carriers from further liability for income maintenance and health care costs; nationally, over 50% of occupational disease awards recieve such treatment and only 16% of all regular injury aswrds recieve such treatment

d/ the amount of compensation for the worker who has been totally disabled for life by occupational disease; nationally, only one-eighth of the workers income is replaced

e/ the flow of funds into and out of insurance company reserves; nationally, only 60¢ of every premium dollar is paid out as cash or medical benefits, therefore, 40¢ of every worker's dollar goes to pay expenses which include insurance company reserves, dividends, litigation costs, overhead, etc.

According to a progress report published by Dr. Irving Selikoff of the Mt. Sinai School of Medicine, for a comprehensive analysis on worker's compensation benefits for asbestos workers who have induced asbestosis, mesothelioma, and/or lung cancer, there are significant problems with worker's compensation. His preliminary report discusses 175 workers in 34 states who induced mesothelioma and applied for workers' compensation. He also discusses the experience of the surviving dependents who applied for compensation:

a/ only 37% applied prior to death
b/ only one-half recieved compensation
c/ one-half had claims pending at death
d/ average victim of mesothelioma was disabled less than 6 months prior to death, and worker compensation did not have sufficent time to process all the applications for benefits
e/ 40% of the survivors filed for claims for which the majority recieved a weekly cash award of about $80.00 and others recieved a lump sum averaging $20,000
f/ appoximately two-thirds fo the claims were contested and 84% required the services of an attorney

g/ three-fourths of the widows did not file for compensation and said they did not know they could file for benefits

h/ tort litigation including third party liability suits were filed by about 22% of the survivors of mesothelioma victims; three fourths of the suits settled at an average amount of $93,000.00 (less $35,000.00 for legal fees).

The conclusions which can and have been drawn thus far are that worker's compensation benefits are not easily accessible or adequate for occupational illness victims and/or their surviving dependents.

In Alaska,

* Bill Anderson, deceased: In December of 1975, Bill Anderson applied for for worker's compensation, and was denied compensation. The Worker's Compensation Board rejected the applicant's contention of asbestosis. Bill Anderson died, and the Board decided they had in fact, erred. Anderson had no living dependents. (Workers Compensation Board Decision and Order #73-12-0371)

* Henry Moore, deceased: In 1978, the widow of Mr. Moore was awarded an out-of-court settlement for $35,000.00, and the Company involved was released from any further fiduciary obligation to Mrs. Clara Moore. Mr. Henry Moore died of lung cancer due to occupational exposure to asbestos.

The whole issue of worker's compensation is inextricable from the issue of occupational health and asbestos contamination, and in terms of it's relationship to those issues, it should be studied in that context, and not treated as a special category.

PUBLIC HEALTH AND ASBESTOS CONTAMINATION:

Not only have Fish and Wildlife found 60 million asbestos fibers per pound of fish in the Yukon River, by Eagle, asbestos contamination has been discovered in the Alaskan School system.

ANCHORAGE: 64 schools were built or renovated between 1945 and 1978 (the years in which it was most likely schools would have used asbestos containing material). According to a 1979 written statement from the Anchorage School Safety Officer to EPA, Region X, Seattle, thirty-two schools were inspected for the presence of friable asbestos material. Supposedly, 7 of the 32 schools had bulk samples analyzed for asbestos, using the EPA recommended techniques (very important in order to accurately assess the severity of the problem).

Alaska Health Care Advocates January 20, 1981

According to Mr. Bibeau, Anchorage School Safety Officer, as of September 9, 1979, nearly 2 years ago, three (3) schools had friable asbestos containing materials. EPA (Environmental Protection Agency) recommended removal in West High, and encapsulation in another area of West High. These areas (Boy's/Girl's Locker room, and the mechanical space below the pool area) are areas where there is direct human exposure, specifically and particularly to school children and maintenance workers.

According to a conversation between Mr. Bibeau, the Business Manager, Mr. Tom Freeman, and HCA Director, Susan Johnson, no corrective action had been taken as of December,1980.

STATEWIDE: There has been no systematic detection program for either the schools or other public buildings such as hospitals undertaken. There was sampling and analysis of the material conducted in approximately 70 schools statewide. In those schools investigated, which occurred as a result of the efforts of the Department of Environmental Conservation (DEC), it has been proved there is serious cause for concern.

MATANUSKA-SUSITNA BOROUGH: of the 17 samples taken, 2 had an asbestos content above 40% (in Wasilla Elementary and Wasilla Junior High). All samples taken had an asbestos content exceeding 1%. The interior location was not identified which makes assessment of the problem a near impossibility if one is to accept EPA standards. For example, what is the accessibility to human contact and exposure, has there been water damage, and so forth. There are 7 EPA factors which allow one to prudently assess the extent of the problem.

KODIAK ISLAND BOROUGH: 3 of the 14 samples taken have an asbestos content of 50% or more - Peterson Elementary (2) and Kodiak High. The interior locations include a fresh air duct in a shop area used primarily by custodians, an auto-mechanic shop (lining to safety blanket) and welding room.
3 other Kodiak Island schools have an asbestos content of over 17% and include such high accessibility areas as school kithchens, cafeteria ceilings and classrooms.

KENAI-PENINSULA BOROUGH
Of the 11 schools smapled, 2 have an asbestos content over 10% and less than 35%; a third has an asbestos content of 1-2%.

As stated before, no sampling consistency was maintained and some of the sampling conducted was not conclusive. Some of the sanatarians only sampled those areas which they felt certain contained friable asbestos material while others sampled all areas which bore any semblance to asbestos at all. Additionally, there are numerous schools/public buildings which haven't been inspected, at all.

For those school districts where officials are aware of a problem, there are no existing surveillance or control programs maintained. To the best of our knowledge, no corrective action has been pursued. The only attempt at initial documentation of the problem is the sampling and analysis spearheaded by the Department of Environmental Conservation.

The exposure problem in the schools and public buildings requires a long-term solution. If there is asbestos in any school or public building, which is susceptible to any of EPA's critical factors, it requires a long term surveillance program in order to adequately protect the health of any of the users of the school/public buildings. The only exception to that is if there is a decision made to remove the asbestos.

WESTERN ALASKA BUILDING and CONSTRUCTION TRADES COUNCIL

AFFILIATED WITH

A.F.L. - C.I.O.

BUILDING AND CONSTRUCTION TRADES DEPARTMENT

David E. Chess
PRESIDENT
407 Denali Street
ADDRESS
ANCHORAGE, ALASKA 99501

Allen Pilto
SECRETARY
407 Denali Street
ADDRESS
ANCHORAGE, ALASKA 99501

January 20, 1981

Senator Parr
Alaska State Legislature
Pouch V (MS 3100)
Juneau, Alaska 99811

The Western Alaska Building and Construction Trades Council, Inc. unanimously passed the following resolution at our regular meeting held January 20, 1981.

Whereas: Health hazards associated with asbestos contamination and other toxic materials have been amply researched and confirmed by reputable medical and scientific evidence over the last twenty years, and

Whereas: We want to prohibit the poisoning of any more workers from asbestos or any other toxic materials, as well as see the public, particularly school children, adequately protected, and

Whereas: The effectiveness of the institutions charged with protecting the lives of workers on the job, and the public health is at question

Therefore be it resolved: That the Business Agents of Building and Trades go on record as acting to initiate and support a 6-8 week thorough assessment of the scope of the problems, to be conducted by an independent consultant to the legislature, qualified in occupational diseases this legislative session, and

Be it further resolved: That upon completion of the assessment of the problems the legislative report will identify and propose corrective measures at which time labor and the general public will have the opportunity to testify in support of or against the proposed corrective action(s).

Sincerely,

David E. Chess

David E. Chess
President

cc: Dwayne Carlson

Alaska Health Care Advocates January 20, 1981

THE ROLE OF THE STATE: PHASE ONE

Due to the compelxity and gravity of the asbestos problem in the state, we are proposing that a legislative investigation and analysis of asbestos contamination on the job and in the schools/public buildings is conducted in accordance with the following:

* A four to eight week intensive study is executed by an independent consultant to the legislature. The consultant should have experience in investigation and research, particularly occupational health/medical research, knowledge of worker's compensation, and some familiarity with other relevant systems, specifically labor and the school system

* The scope of the study should have as it's primary goal, documentation of the scope and depth of the problem, and the proposal of corrective measures

  * Who has been exposed - and how many
  * What is the extent of the exposure - past and present

* Who are the major institutions legally charged with protecting the worker and the public from toxic materials, specifically asbestos

* What has the role of: D.O.S.H., School System, Worker's Compensation, Medical Community , Public Health, Legal System been on both a
  * preventive level
  * after exposure and illness has occurred
* Why or why not ve these key institutions been effective - an analysis
  * State laws and enforcement policy
  * Comparison with State laws,enforcement procedures, commissions Outside
  * Confer with international experts, specifically Dr. Irving J. Selikoff and Dr. William J. Nicholson, Mt. Sinai School of Medicine
* Propose corrective actions
* Feasability of Special Task Force to direct the executi n of corrective actions(Phase II

Alaska Health Care Advocates January 20, 1981

Propsosed Budget: One Month

Salary: $ 150.00 - 300.00/day

Travel: $ 2,500.00 (Includes 2 Anchorage-Fairbanks, 1 Fairbanks-Juneau and trip to the schools in the Bush)

Telephone: $ 500.00 (Includes calls to Mt. Sinai School of Medicine, N.Y.C., New York)

Attachment A : FIBERGLASS - ANOTHER ASBESTOS ?

The major substitute for insulation work with asbestos is fiberglass, specifically thermal or acoustical insulation.

Dr. Mearl Stanton of the National Cancer Institute has done a number of studies on cancer induction (of fiberglass) in laboratory animals. Stanton experimented with different sizes fiberglass and found that when fiberglass is milled down to theesame size as asbestos particles, it did induce cancer.

The issue here is the size of the fibers as opposed to the chemical composition of the fibers and the ensuing carcinogenity (to inhalation). Dr. Selikoff addresses the Stanton hypothesis:

> "Clinically and in public health terms, the strength of the asbestos mesothelioma association is remarkable. It may reflect not a unique pathogenic influence of asbestos fibers in particular, but, rather, an example of a generic problem that asbestos has come to represent because of its industrial and commercial uses. Stanton suggests it is the size and shape of inorganic asbestos fibers that in some way resulted in neplastic change in mesothelial tissues, and that organic fibers of similar size and shape might do the same... there is growing concern that other "asbestoses" may unknowingly be introduced into industry, with identification of human neoplastic risk much too late, after many people have been exposed." (emphasis added)

ALASKA AND FIBERGLASS CONTAMINATION:

The Alaska Building Code (Uniform Mechanical Code, 1976 edition, paragraph 1005) allows the use of fiberglass as interior air duct insulation. What is the potential threat to the health of those who are exposed in hospitals (why sterilize equipment when invisible, but respirable, glass fibers contaminate the air), schools, and the workplace.

* Substitutes are available
* A law should be adopted prohibiting the use of fiberglass on the interior of air duct system's insulation.

Dr. Selikoff to Mr. William Exely, President of the Jacksonville Federation of Teachers, AFL-CIO, in 1970:

"I recommend that ventillating systems in public buildings, especially those in which children will spen any time, not be constructed in such a way as to allow the contamination of circulating air by inroganic micro-particles...it would be advantageous that procedures be recommended which would discourage the contamination

FIBERGLASS cont'd

of the air in public buildings with inorganic particles,including but not limited to, fibrous glass. The air breathed by children (who have long lives ahead of them) should be clean of contamination by foreign particles, especially those with a potential long life in the lung, should be discouraged..."

NOTE REGARDING THE FOLLOWING FRAME ON MICROFILM:

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

federal register

Wednesday
September 17, 1980

Part V

Department of Education

Asbestos Detection and Control: Local Educational Agencies; Asbestos Detection and State Plan: State Educational Agencies

NOTE REGARDING THE FOLLOWING FRAME ON MICROFILM:

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

federal register

Wednesday
September 17, 1980

Part VI

Environmental Protection Agency

Friable Asbestos-Containing Materials in Schools; Proposed Identification and Notification

96TH CONGRESS
1ST SESSION

H. R. 1435

To establish a program for the inspection of schools for the presence of asbestos materials, to provide funds for the testing and evaluation of potential hazards, to create a loan program to assist in the containment or removal of imminent hazards to health and safety, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 24, 1979

Mr. PERKINS introduced the following bill; which was referred to the Committee on Education and Labor

---

A BILL

To establish a program for the inspection of schools for the presence of asbestos materials, to provide funds for the testing and evaluation of potential hazards, to create a loan program to assist in the containment or removal of imminent hazards to health and safety, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Asbestos School Hazard Detection and Control Act of 1979".

FINDINGS AND PURPOSES

SEC. 2. (a) The Congress finds that—

(1) exposure to asbestos and materials containing asbestos has been identified over a long period of time and by reputable medical and scientific evidence as significantly increasing the incidence of cancer and other severe or fatal diseases, such as asbestosis;

(2) medical evidence has suggested that children may be particularly susceptible to environmentally induced cancers;

(3) medical science has not established any safe level of exposure to asbestos as a threshold above which the likelihood of developing illness occurs;

(4) substantial amounts of asbestos, particularly in sprayed form, were used in school buildings, especially during the period 1946–1972;

(5) partial surveys in some States have indicated that there exists in a number of schools asbestos materials which have become damaged or friable, from which asbestos is being or may be dislodged into the air;

(6) asbestos concentrations far exceeding the normal ambient air levels have been found in schools with damaged asbestos;

(7) the Department of Health, Education, and Welfare and the Environmental Protection Agency, as well as several States, have attempted to publicize the potential hazards to school children and employees from asbestos, but there does not exist any systematic or mandatory program for identifying hazardous conditions in schools, or for remedying them;

(8) there exists no health standard regulating the concentration of asbestos in the nonworking environment, such as a school;

(9) custodial workers, teachers, and other school employees may be exposed to hazardous concentrations of asbestos in school buildings; and

(10) without an improved program of information distribution, technical and scientific assistance, and financial support, many school districts and States will not be able to mitigate the potential asbestos hazards where they occur in their schools.

(b) It is the purpose of this Act to—

(1) direct the Secretary of Health, Education, and Welfare, in conjunction with other appropriate officials, to establish a task force to direct Federal efforts to ascertain the extent of the danger to the health of school children and employees from asbestos materials in the schools;

(2) require States to prepare a plan which establishes a program for the systematic inspection of all school buildings in order to identify the presence of asbestos or asbestos materials in hazardous conditions;

(3) provide scientific and technical assistance to the States and local school boards in conducting the survey, related tests and evaluations;

(4) provide loans for the mitigation of serious asbestos hazards which constitute an imminent danger to the health and safety of school children and employees;

(5) assure that no employee of any school district, State or local government, or Federal agency, suffers any disciplinary action as a result of calling attention to potential asbestos hazards which may exist in schools.

TASK FORCE

SEC. 3. (a) Within thirty days after the enactment of this section, the Secretary shall designate the members of an Asbestos Hazards School Safety Task Force (hereinafter referred to as "Task Force"). The Task Force shall be composed of persons with knowledge of the scientific and medical problems associated with exposure to asbestos, and of persons with knowledge of procedures and programs for the containment or removal of asbestos from buildings. Membership on the Task Force shall include a representative of the Office

of Education, the National Cancer Institute, the Environmental Protection Agency, the National Institute of Environmental Health Sciences, the Occupational Safety and Health Administration, and representatives of the public organizations concerned with education and health. In selecting membership from other Federal agencies or departments, the Secretary shall accept the persons nominated by the Secretary or Administrator of that Department or Agency. The Secretary shall designate a chairman of the Task Force.

(b) Members of the Task Force who are not full-time employees of the Federal Government shall be reimbursed for actual expenses incurred in conjunction with their service on the Task Force, and shall receive a per diem compensation at a rate not to exceed the maximum rate prescribed for grade GS-18.

(c) The Task Force shall convene, no later than thirty days after the appointment of its members, at the call of the chairman.

(d) The duties of the Task Force shall include—

(1) the preparation of educational materials for distribution to the States and local school boards in conjunction with the plan required in section 4 of this Act;

(2) the compilation and dissemination of medical, scientific, technological, and other materials, reports,

instructions, and information to State and local governments and to local school boards explaining the health and safety hazards associated with asbestos materials, the means of identifying, sampling, and testing materials suspected of containing asbestos;

(3) the review and approval of State plans and applications for reimbursements and loans pursuant to sections 5 and 6 of this Act;

(4) the establishment of criteria concerning the levels of hazards posed by asbestos in advanced stages of disrepair which may constitute an imminent danger to the health and safety of school children and employees, for the purpose of determining eligibility for loans pursuant to section 6 of this Act;

(5) making recommendations to the Secretary on the awarding of grants for technical assistance pursuant to section 5(c) of this Act.

STATE PLAN

SEC. 4. (a) No later than September 1, 1979, each State which desires to enable its schools to participate in programs under this Act shall submit to the Secretary a plan for the notification of administrators of all schools within that State's jurisdiction of the health hazards associated with exposure to asbestos, and recommended methods for the safe, orderly, and expeditious containment or removal, as deemed

necessary by competent scientific or medical individuals, of asbestos materials which pose an imminent hazard to the health and safety of persons utilizing such school buildings. Such plan shall include—

(1) a timetable for the identification, not later than January 1, 1980, of imminent asbestos health hazards in all schools situated within such State;

(2) a description of the procedures which are to be utilized in locating and identifying such hazards, in accordance with safety rules promulgated by the Secretary in accordance with section 7 of this Act;

(3) a timetable for the expeditious containment or removal of asbestos hazards which have been identified pursuant to paragraph (1) of this subsection no later than September 1, 1980, unless an extension has been granted by the Secretary due to extraordinary circumstances;

(4) procedures for maintaining records on the presence of asbestos materials in schools and future containment or removal activities; and

(5) the identification of a State agency or other administrative unit with the responsibility for the preparation of the plan and the administration of the control program which it describes.

(b) The Secretary shall approve a plan which meets the requirements of subsection (a) of this section, provided that it has been reviewed and approved by the Task Force. The Secretary may not approve any plan which has been rejected by the Task Force.

ASBESTOS HAZARDS DETECTION

SEC. 5. (a)(1) Units of local government with the responsibility for the administration and safety of schools may apply to the Secretary for a reimbursement from funds available for purposes of this section for up to one-half of the costs of surveying and testing school buildings in order to determine whether hazardous concentrations of asbestos or asbestos products exist in schools of that jurisdiction. Such application shall contain, in addition to supplemental information which the Secretary may require—

(A) a description of the proposed survey, including testing techniques;

(B) an estimate of the total cost of the survey;

(C) the identification of any party which may be engaged to conduct the testing, including a description of the party's professional expertise for such testing.

Any testing facility selected under clause (C) shall meet competency standards established by the Secretary.

(2) The Secretary shall designate, in conjunction with the Task Force, those costs which are reimbursable under paragraph (1) of this subsection. Such costs shall include—

(A) administrative costs of preparing and supervising the survey;

(B) costs of conducting visual inspections of school buildings;

(C) sampling of building and insulation materials;

(D) appropriate tests to determine the level of asbestos content in suspected materials; and

(E) air sampling and testing, if deemed essential to determining the likelihood of imminent danger.

(b)(1) The Secretary shall make payments from funds available under this Act for purposes of this section for a period of three years following the date of enactment of this Act.

(2) The one-half cost restriction contained in subsection (a)(1) may be waived upon a determination by the Secretary that the fiscal resources of the locality are limited to the extent that imposition of such restriction would prevent participation in the program.

(c) The Secretary may allocate up to 20 per centum of the funds available for purposes of this section for use in education and technical assistance programs.

(d) Recipients of grants under this section shall file a report with the Secretary no later than one hundred and twenty days after receipt of the grant describing the detection and testing activities which were undertaken, the results, and the plan for mitigating any imminent hazards which had been detected. The report shall include a detailed accounting of funds received from all sources, and funds expended.

ASBESTOS HAZARDS CONTROL LOAN PROGRAM

SEC. 6. (a) There is hereby created an Asbestos Hazards Control Loan Program in the Department of Health, Education, and Welfare (hereinafter referred to as the Loan Program). The Loan Program shall be administered by the Secretary or his designee.

(b) Loans from the Loan Program shall be available only for the mitigation or removal of asbestos or asbestos materials which pose an imminent hazard to the health and safety of children or employees and which is situated in school buildings. Loans shall be limited to projects covering more than 2,500 square feet, in which the asbestos material is at a level specified by the Secretary.

(c)(1) Loans under this section shall be for a period not to exceed twenty years, shall be interest free, shall be used to provide not more than one-half the cost of the asbestos con-

tainment or removal, and shall be subject to terms and conditions established by the Secretary.

(2) The one-half cost restriction contained in paragraph (1) may be waived upon a determination by the Secretary that the fiscal resources of the locality are limited to the extent that imposition of such restriction would prevent participation in the program.

(d) Applicants for loans from the Loan Program shall submit an application which describes—

(1) the nature of the asbestos problem;

(2) the results of preliminary testing (conducted in accordance with professional scientific standards established by the Secretary, in consultation with the Task Force) which indicates the asbestos content of the affected material;

(3) the methods which will be used to contain or remove the asbestos materials, in accordance with section 7 of this Act.

(e) The Secretary shall establish a prevailing rate for containment or removal work performed with loan funds provided under this section, determined on the basis of prevailing wage rates in the location of such work.

(f) The Secretary is authorized to establish additional requirements or procedures which shall govern the loan application or award process.

(g) The Secretary shall make an annual report to the appropriate committees of the House of Representatives and the Senate which shall describe—

(1) the number of loans and the location of each applicant which have been made in the preceding year;

(2) the nature of the asbestos problem of each applicant;

(3) the type of containment or removal program which was undertaken;

(4) the estimated cost, and the actual cost of mitigation efforts;

(5) the number and description of applications which have been rejected.

SAFETY PROCEDURES

SEC. 7. (a) Within one hundred and twenty days after enactment of this section, the Secretary shall promulgate and distribute to the States safety standards and procedures for testing the level of asbestos in schools and for determining the likelihood of the leakage of asbestos into the school environment.

(b) All sealing, containment, or removal of asbestos materials pursuant to this Act, or future construction, modification, or demolition of schools which contain asbestos materials, shall be conducted in strict accordance with regulations and procedures established by the Occupational Safety and

Health Administration or procedures established by the Task Force. Any employee engaged in such activity must be notified in writing of the hazards of working with asbestos, and must utilize all safety procedures to minimize risk to his or her health.

(c) No child or school employee shall be permitted in the vicinity of any asbestos containment or removal activity, unless school authorities certify that there is no risk of exposure to the students or personnel.

NONDISCRIMINATION

SEC. 8. No employer who receives funds under this Act shall discharge or in any other way discriminate against or discipline any worker employed by him or her by reasons of the fact that such worker focuses public attention on the asbestos problem in his or her school district.

RETAINED RIGHTS

SEC. 9. Nothing in this Act shall in any way restrict the rights of any individual or group of individuals, or any public agency or government, to seek any legal redress in connection with the purchase or installation of asbestos materials in schools, or with regard to any claim of disability or [illegible] in connection with exposure to asbestos in a school setting. Nor shall this Act affect any litigation or petitions for administrative action under any statute existing prior to the enactment of this section. In the event that an action under section 6 of

the Toxic Substances Control Act of 1976 is successful and the obligation for mitigation and safety actions is deemed to be the total responsibility of the manufacturers, the Secretary is authorized and directed to seek to recover from such manufacturers any Federal funds, including administrative costs, expended for programs required by this Act.

DEFINITIONS

SEC. 10. As used in this Act, the term—

(1) "Secretary" means the Secretary of Health, Education, and Welfare, or his designee;

(2) "schools" means any building, structure, or facility which is primarily used as a school for children, either public or private;

(3) "asbestos or asbestos material" means any building materials, sprayed materials, insulation, or other substance which is composed entirely or in part of chrysotile, amosite, or crocidolite, and when they occur in fibrous habit, tremolite, anthophyllite, and actinolite;

(4) "imminent hazard to the health and safety" means, in regard to section 6, that the asbestos or asbestos material is, according to standards established by the Task Force and approved by the Secretary, friable or easily damaged, or within easy reach of students or otherwise susceptible to damage which could

result in the dispersal of asbestos fibers into the school environment (including damage from water or air circulation);

(5) "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, the Commonwealth of the Northern Marianas, and the Trust Territory of the Pacific Islands.

AUTHORIZATIONS

SEC. 11. There are authorized to be appropriated for fiscal year 1980 and for each of the succeeding fiscal years for the purposes and programs established by this Act, such sums as are necessary.

96TH CONGRESS
1ST SESSION

H. R. 1524

To establish a program for the inspection of schools for the presence of hazardous asbestos materials, to create a fund for the testing and evaluation of potential hazards, to create a loan program to assist in the containment or removal of imminent hazards to health and safety, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 25, 1979

Mr. MILLER of California (for himself, Mr. WEISS, Mr. THOMPSON, Mr. CORRADA, Mr. MAGUIRE, Mr. PHILIP BURTON, Mr. SIMON, and Mr. RICHMOND) introduced the following bill, which was referred to the Committee on Education and Labor

---

A BILL

To establish a program for the inspection of schools for the presence of hazardous asbestos materials, to create a fund for the testing and evaluation of potential hazards, to create a loan program to assist in the containment or removal of imminent hazards to health and safety, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Asbestos School Hazard Detection and Control Act of 1979".

SEC. 2. (a) FINDINGS.—The Congress finds that—

(1) exposure to asbestos and materials containing asbestos has been identified over a long period of time and by reputable medical and scientific evidence as significantly increasing the incidence of cancer and other severe or fatal diseases, such as asbestosis;

(2) medical evidence has suggested that children may be particularly susceptible to environmentally induced cancers;

(3) medical science has not established any safe level of exposure to asbestos as a threshold above which the likelihood of developing illness occurs;

(4) substantial amounts of asbestos, particularly in sprayed form, were used in school buildings, especially during the period 1946–1972;

(5) partial surveys in some States have indicated that there exists in a number of schools asbestos materials which have become damaged or friable, from which asbestos is being or may be dislodged into the air;

(6) asbestos concentrations far exceeding the normal ambient air levels have been found in schools with damaged asbestos;

(7) the Department of Health, Education, and Welfare and the Environmental Protection Agency, as

well as several States, have attempted to publicize the potential hazards to schoolchildren and employees from asbestos, but there does not exist any systematic or mandatory program for identifying hazardous conditions in schools, or for remedying them;

(8) there exists no health standard regulating the concentration of asbestos in the nonworking environment, such as a school;

(9) custodial workers, teachers, and other school employees may be exposed to hazardous concentrations of asbestos in school buildings;

(10) without an improved program of information distribution, technical and scientific assistance, and financial support, many school districts and States will not be able to mitigate the potential asbestos hazards where they occur in their schools.

(b) PURPOSES.—It is the purpose of this Act to—

(1) mandate the Secretary of Health, Education, and Welfare, in conjunction with other appropriate officials, to establish a task force to direct Federal efforts to ascertain the extent of the danger to the health of schoolchildren and employees from asbestos materials in the schools;

(2) require States to prepare a plan which establishes a program for the systematic inspection of all

school buildings in order to identify the presence of asbestos or asbestos materials in hazardous conditions;

(3) provide scientific and technical assistance to the States and local school boards in conducting the survey, related tests, and evaluations;

(4) establish an Asbestos Hazards Detection Fund from contributions provided by manufacturers of asbestos, from which will be provided the nonlocal share of moneys for inspection, sampling, and testing programs;

(5) provide loans for the mitigation of serious asbestos hazards which constitute an imminent danger to the health and safety of schoolchildren and employees;

(6) assure that no employee of any school district, State or local government, or Federal agency, suffers any disciplinary action as a result of calling attention to potential asbestos hazards which may exist in schools.

TASK FORCE

SEC. 3. (a) Within thirty days after the enactment of this section, the Secretary shall designate the members of an Asbestos Hazards School Safety Task Force (hereinafter referred to as "Task Force"). The Task Force shall be composed of persons knowledgeable of the scientific and medical problems associated with exposure to asbestos, and of persons knowledgeable of procedures and programs for the con-

tainment or removal of asbestos from buildings. Membership on the Task Force shall be composed of, but not limited to, a representative of the United States Office of Education, the National Cancer Institute, the Environmental Protection Agency, the National Institute of Environmental Health Sciences, the Occupational Safety and Health Administration, and representatives of the public organizations concerned with education and health. In selecting membership from other Federal agencies or departments, the Secretary shall accept the persons nominated by the Secretary or Administrator of that department or agency. The Secretary shall designate a Chairman of the Task Force.

(b) Non-Federal members of the Task Force shall be reimbursed for actual expenses incurred in conjunction with their service on the Task Force, and shall receive a per diem compensation at a rate not to exceed that of a GS-16.

(c) The Task Force shall convene no later than thirty days after the appointment of its members, at the call of the Chairman.

(d) The duties of the Task Force shall include—

(1) the preparation of educational materials for distribution to the States and local school boards in conjunction with the plan required in section 4 of this Act;

(2) the compilation and dissemination of medical, scientific, technological, and other materials, reports, instructions, and information to State and local governments and to local school boards explaining the health and safety hazards associated with asbestos materials, the means of identifying, sampling, and testing materials suspected of containing asbestos;

(3) the review and approval of State plans and applications for reimbursements and loans pursuant to sections 5 and 6 of this Act;

(4) the establishment of criteria concerning the levels of hazards posed by asbestos in advanced stages of disrepair which may constitute an imminent danger to the health and safety of schoolchildren and employees, upon which will be based eligibility for loans pursuant to section 6 of this Act;

(5) making recommendations to the Secretary on the awarding of grants for technical assistance pursuant to section 5 of this Act.

STATE PLAN

SEC. 4. (a) No later than September 1, 1979, each State shall submit to the Secretary a plan for the notification of administrators of all schools within that State's jurisdiction of the health hazards associated with exposure to asbestos, and recommended methods for the safe, orderly, and expedi-

tious containment or removal, as deemed necessary by competent scientific or medical individuals, of asbestos materials which pose an imminent hazard to the health and safety of persons utilizing such school buildings. Such plan shall include—

(1) a timetable for the identification of imminent asbestos health hazards in all schools situated within such States: *Provided*, That the procedure for identifying such hazards shall be completed no later than January 1, 1980;

(2) a description of the procedures which shall be utilized in locating and identifying such hazards, in accordance with safety rules promulgated by the Secretary in accordance with section 7 of this Act;

(3) a timetable for the expeditious containment or removal of asbestos hazards which have been identified pursuant to subsection (1) of this section and in accordance with regulations promulgated by the section: *Provided*, That such removal shall be completed no later than September 1, 1980, unless an extension has been granted by the Secretary due to extraordinary circumstances;

(4) procedures for maintaining records on the presence of asbestos materials in schools and future containment or removal activities;

(5) the identification of a State agency or other administrative unit with the responsibility for the preparation of the plan and the administration of the control program which it describes.

(b) The Secretary shall approve a plan which meets the requirements of subsection (a) of this section: *Provided*, That it has been reviewed and approved by the Task Force. The Secretary may not approve any plan which has been rejected by the Task Force.

ASBESTOS HAZARDS DETECTION FUND

SEC. 5. (a) There is hereby created an Asbestos Hazards Detection Fund (hereinafter referred to as the "fund") in the Department of Health, Education, and Welfare The fund shall be administered by the Secretary, or by his designee. All moneys accruing to the fund shall be deposited in the Treasury of the United States, together with all interest accruing thereon. Withdrawals from the fund shall be made only by the Secretary for purposes authorized under this Act.

(b) PAYMENTS INTO THE FUND.—(1) Any company which was engaged in the mining, manufacture, or importation of asbestos between the years 1946 and 1972 shall make payments into the fund. The total of contributions to the fund shall not exceed $30,000,000. Each company's financial obligation to the fund shall be a percentage equivalent to its

proportion of asbestos mining, manufacture, or importation during the period 1946–1972 (adjusted to 1979 value). Each company shall pay into the fund no less than one-third of its total obligation in each of the three years subsequent to the enactment of this Act.

(2) Each manufacturer of asbestos products shall make available to the Secretary an audit with an accurate accounting of (i) the amount of asbestos products it produced in the period 1946–1972; (ii) a description of the products and their use; and (iii) other pertinent data as the Secretary may require.

(3) The Secretary and the Attorney General of the United States are authorized and directed to subpena the records described in subsection (2) of this section, together with any and all supplemental data which either may deem necessary to assure than an accurate payment is made by each company into the fund. All information received by the Secretary under this Act from an asbestos manufacturer shall remain confidential with the Secretary.

(c) PAYMENTS FROM THE FUND.—(1) Units of local government with the responsibility for the administration and safety of schools may apply to the Secretary for a reimbursement from the fund for up to half of the costs of surveying and testing school buildings in order to determine whether hazardous concentrations of asbestos or asbestos products

exist in schools of that jurisdiction. Such application shall contain, in addition to supplemental information which the Secretary may require—

(i) a description of the proposed survey, including testing techniques;

(ii) an estimate of the total cost of the survey;

(iii) the identification of any party which may be engaged to conduct the testing, including a description of the party's professional expertise for such testing: *Provided*, That any testing facility shall meet competency standards established by the Secretary.

(2) The Secretary shall designate, in conjunction with the Task Force, those costs which are reimbursable under subsection (1) of this section. Such costs shall include—

(i) administrative costs of preparing and supervising the survey;

(ii) costs of conducting visual inspections of school buildings;

(iii) sampling of building and insulation materials;

(iv) appropriate tests to determine the level of asbestos content in suspected materials; and

(v) air sampling and testing, if deemed essential to determining the likelihood of imminent danger.

(3) The Secretary shall make reimbursements from the fund for a period of three years following the date of enact-

ment. Moneys remaining in the fund at that time shall be returned, on a proportional basis, to the contributing asbestos manufacturers.

(4) Subject to the approval of the Secretary, a contributor may provide asbestos testing and analysis services for school districts or other entities which require such testing, in lieu of a portion of its contribution, not to exceed 50 per centum of such contribution. Rates for such analysis and testing shall be established by the Secretary at a rate equal to the prevailing fee for such services.

(5) The Secretary may allocate up to 20 per centum of the moneys from the fund for use in the education and technical assistance programs authorized by this Act.

(6) Recipients of grants under this section shall file a report with the Secretary no later than one hundred and twenty days after receipt of the grant describing the detection and testing activities which were undertaken, the results, and the plan for mitigating any imminent hazards which had been detected. The report shall include a detailed accounting of funds received from all sources, and funds expended.

ASBESTOS HAZARDS CONTROL LOAN PROGRAM

SEC. 6. (a) There is hereby created an Asbestos Hazards Control Loan Program in the Department of Health, Education, and Welfare (hereinafter referred to as the "loan

program"). The loan program shall be administered by the Secretary or his designee.

(b) Loans from the loan program shall be available only for the mitigation or removal of asbestos or asbestos materials which pose an imminent hazard to the health and safety of children or employees and which is situated in school buildings. Loans shall be limited to projects covering more than two thousand and five hundred square feet, in which the asbestos material is at least per centum asbestos.

(c) Loans under this section shall be for a period not to exceed twenty years, and shall be interest free, under terms and conditions established by the Secretary.

(d) Applicants for loans from the loan program shall submit an application which describes—

(1) the nature of the asbestos problem;

(2) the results of preliminary testing which indicates the asbestos content of the affected material: *Provided*, That such testing shall meet professional scientific standards established by the Secretary and the Task Force;

(3) the methods which will be used to contain or remove the asbestos materials, in accordance with section 7 of this Act.

(e) The Secretary shall establish a prevailing rate for containment or removal work performed with loan funds pro-

vided under this section. The Secretary shall not award a loan for an amount in excess of the prevailing wage in any location.

(f) The Secretary is authorized to establish additional requirements or procedures which shall govern the loan application or award process.

(g) The Secretary shall make an annual report to the appropriate committees of the House of Representatives and the Senate which shall describe—

(1) the number of loans and the location of each applicant which have been made in the preceding year;

(2) the nature of the asbestos problem of each applicant;

(3) the type of containment or removal program which was undertaken;

(4) the estimated cost, and the actual cost of mitigation efforts;

(5) the number and description of applications which have been rejected.

(h)(1) Upon the making of any loan from the loan program under this section, and to the extent such loan remains outstanding, the United States shall be subrogated to any legal rights to recover such amount or assert a claim against any person or organization relating to the subject matter of a loan made from the loan program. Any recipient of a loan

from the loan program shall execute and deliver instruments and papers and take whatever steps are necessary to secure such rights to the United States in order to entitle the United States to the benefits of a judgment by a court and pursuant to under this Act No loan shall be made under and until such steps have been taken. Except as provided for herein to the extent that the loans remain due and owing, any purported limitation on the right of the United States to set as consigned or to become subrogated to the rights of the recipient of a loan from the loan program shall be without any effect

(2) If the United States recovers from any person or organization any amount by the exercise of rights subrogated or assigned in subsection (1), the recipient of the relevant loan shall be entitled to forgiveness of any loan amounts still due and owing, but only to the extent that such recovery exceeds the costs of obtaining recovery plus interest that would have been charged if the relevant loan had been made at prevailing commercial rates

SEC. 3. Within one hundred and twenty days after enactment of this section, the Secretary shall promulgate and distribute to the States model standards and procedures for testing the level of asbestos in schools and for determining the likelihood of the presence of asbestos under the school surface

enactment

(b) All sealing, containment or removal of asbestos materials pursuant to this Act, or future construction, modification, or demolition of schools which contain asbestos materials, shall be conducted in strict accordance with regulations and procedures established by the Occupational Safety and Health Administration or procedures established by the Task Force. Any employee engaged in such activity must be notified in writing of the hazards of working with asbestos, and must utilize all safety procedures to minimize risk to his or her health.

(c) No child or school employee shall be permitted in the vicinity of any asbestos containment or removal activity, except if school authorities certify that there is no risk of exposure to the students or personnel.

NONDISCRIMINATION

SEC. 8. No employer shall discharge or in any other way discriminate against or discipline any worker employed by him or her by reasons of the fact that such worker focuses public attention on the asbestos problem in his or her school district.

RETAINED RIGHTS

SEC. 9. Nothing in this Act shall in any way restrict the rights of any individual or group of individuals, or any public agency or government, to seek legal redress under any State or Federal statute in connection with the purchase or instal-

lation of asbestos materials in schools, or with regard to any claim of disability or death in connection with exposure to asbestos in a school setting except as provided in section 6(b) of this Act. Nor shall this legislation affect any litigation or petitions for administrative action under any statute existing prior to the enactment of this section. In the event that an action under section 6 of the Toxic Substances Control Act of 1976 is successful and the obligation for mitigation and safety actions is deemed to be the total responsibility of the manufacturers, the Secretary is directed to seek to recover from such manufacturers any Federal funds, including administrative costs, expended for programs required by this Act.

DEFINITIONS

SEC. 10. As used in this Act, the term—

(a) "Secretary" means the Secretary of the Department of Health, Education, and Welfare, or this designee.

(b) "schools" means any building, structure, or facility which is primarily used as a school for children, either public or private.

(c) "asbestos or asbestos material" means any building materials, sprayed materials, insulation, or other substance which is composed entirely or in part of chrysotile, amosite, or crocidolite, and when they

occur in fibrous habit, tremolite, anthophyllite, and actinolite;

(d) "imminent hazard to the health and safety" means, in regard to section 6, that the asbestos or asbestos material is, according to standards established by the Task Force and approved by the Secretary, friable or easily damaged, or within easy reach of students or otherwise susceptible to damage which could result in the dispersal of asbestos fibers into the school environment (including damage from water or air circulation);

(e) "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, the Commonwealth of the Northern Marianas, and the Trust Territory of the Pacific Islands.

AUTHORIZATIONS

SEC. 11. There are authorized to be appropriated for the fiscal years 1980, 1981, and 1982, for the purposes and programs established in this Act, such sums as are necessary

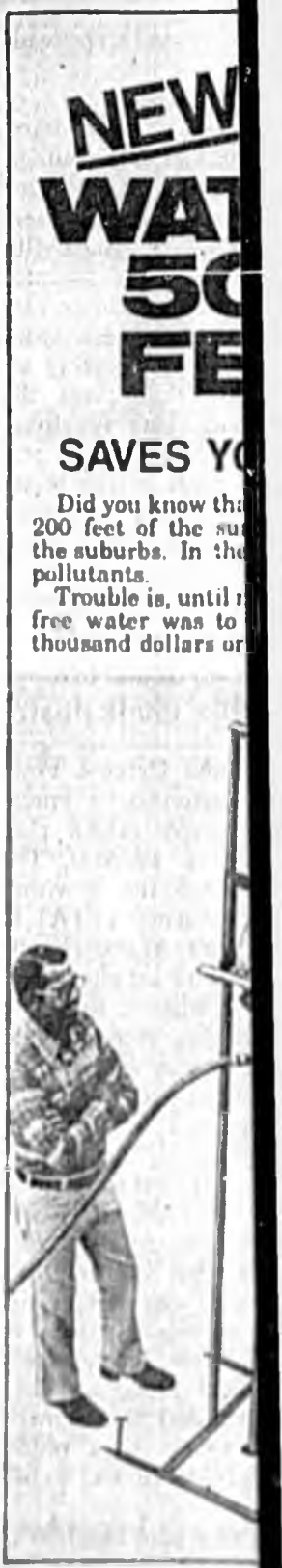
Asbestos: Pervasive Threat to the Public

Even limited exposure can cause lung disease and two forms of cancer.

CAROL KEOUGH

BECAUSE ASBESTOS is fireproof and does not conduct heat, it was included in the construction materials of many public and private buildings. As a result, asbestos is everywhere. It's in acoustical ceilings, fireproof roofing shingles, floor tiles, pipe insulation and automobile brake linings. It has been sprayed on walls and ceilings of many public buildings, including schools. But asbestos isn't the innocent fireman's friend it seems to be.

Danger occurs when the tiny asbestos particles escape into the air. When breathed or swallowed, they present a very real threat to health.



Exposure to it can cause three deadly diseases.

Joseph Califano, Secretary of Health, Education and Welfare, warns that of the estimated 11 million people who have worked with asbestos during the past 35 years, half of them will die because of it. Yet, the health danger is not limited to asbestos workers. The general public is also exposed to the fibers, which work their way into the lungs, causing asbestosis – a disease that clogs the lungs with fibers, making breathing extremely difficult; lung cancer; and mesothelioma, a cancer of the lining of the stomach or lung that usually kills a few months after it is diagnosed.

In some schools, asbestos flakes coat the desks and windowsills like chalk dust.

The Environmental Defense Fund (EDF), a Washington-based group, claims that millions of school children are exposed to asbestos. The group has petitioned the Environmental Protection Agency (EPA) to inspect the nation's 87,000 public schools for sprayed-on asbestos coatings on ceilings, insulation, fireproofing and soundproofing. According to the group, asbestos was widely used in school construction from the 1940's until the EPA banned the spray in 1973.

In some schools the white dust of flaking asbestos coats the desks and windowsills like chalk dust. New York City officials found that 8 of the thousand schools in their system had elevated levels of asbestos particles in the air. And in New Jersey, some schools tested were found to have particles that exceeded the allowed amount by 100 times. As a result, some schools were closed and pupils transferred.

The exposure of school children to asbestos is especially insidious because the diseases caused by asbestos take about 30 years to develop. Said EDF scientist Joseph Highland, "If I were a parent who observed the ceiling flaking, I would keep my children out of school."

But schools may be only the tip of the iceberg. In New York, public buildings – including the famous Madison Square Garden and the lower floors of the World Trade Center – have been found to contain asbestos. It seems clear that workers in many buildings across the country would be affected by asbestos particles.

The problem is not limited to public buildings and schools. Handymen renovating their homes often are exposed to asbestos. The worker around the house should know that there is little danger of inhaling asbestos particles that are tightly held within a building product, like a floor or ceiling tile. The danger arises when that product is worn or broken so that the fibers can escape into the air. The government recommends that anyone working with asbestos materials first wet them down to help contain the particles, and wear a dust mask.

Exposure to asbestos should not be taken lightly. According to the Department of Health, Education and Welfare, people with only a month's exposure to asbestos have developed asbestos-related diseases. In fact, wives who merely washed clothing that was coated with asbestos contracted the diseases. And one Santa Barbara, California, man developed mesothelioma 20 years after his only exposure, which lasted one day.

Scientists say that a short-term solution for asbestos flaking is to spray the surface with a sealant that is impervious to the weather. As a long-term solution, they recommend that asbestos be banned in this country, and a substitute be developed. Asbestos has already been banned in Sweden, and Denmark has outlawed asbestos insulation. □

INTEROFFICE MEMO

TO: Joe Beauchamp, Director
Maintenance/Construction

FROM: Bob Thornton
General Foreman

DATE: 04-09-81

SUBJECT: Asbestos in Schools

The following is a list of known locations of asbestos material in our schools that may require attention:

Dimond High School (all located in pool area)

Approx.	780 sq. ft.	Downstairs lobby
Approx.	1,152 Sq. Ft.	Mechanical room
Approx.	136 sq. ft.	Boiler room
Approx.	1,898 sq. ft.	Rifle Range
Approx.	468 sq. ft.	Lounge
Approx.	336 sq. ft.	Hall
Total	4,470 sq. ft.	

None of the material at Dimond is readily accessible to students. The rifle range is scheduled for remodeling and the problem there should be handled under that contract. The remainder is above the ceilings and in isolated areas. I feel that most of this material should be, as EPA puts it, encapsulated.

The total square footage at Bartlett Begich is 363,390 square feet. It is above the ceiling and is not easily accessible to students. I feel that this too should be encapsulated.

West High School (all located around pool area)

Approx.	128 sq. ft.	storage room ceiling
Approx.	5,500 sq. ft.	Mechanical room below pool
Approx.	2,100 sq. ft.	Boy's locker room ceiling
Approx.	1,600 sq. ft.	Girl's locker room ceiling
Total	9,328 sq. ft.	

The ceilings in the locker rooms are accessible to students. The storage room ceiling and mechanical room are not easily accessible to students. I suggest that the mechanical room material be encapsulated and that the ceiling areas be replaced.

(Cont'd)

These projects will require funding and contracts let. There are, possibly, qualified contractors in Alaska but not to my knowledge. After reading the recommended specifications I received approximately three (3) weeks ageo, I know our people are not qualified.

After reading the specifications (attached) from EPA, I feel that we would need approximately $2,000,000 budgeted to accomplish this work. Also, this work will have to be completed during the summer months when the schools are closed.

The total square footage for all these schools is 377,188 square feet. At an estimated cost of $5 per square foot this totals $1,885,940. The additional money is for engineering and design and replacement of the ceiling at West High School. It should also cover the separate air monitoring contract.

BT:cl
attachment

planned.

full text of the EPA asbestos
at the regulations and
e answered by the NESHAPS
ndix B.

AOHS

ce practices and the airborne
ich asbestos workers can be
lations apply to removal,
are operations involving

limits on the amount of
h a worker may be exposed on
our period the average
tration level (also known as
e (twa)) to which a worker
exceed two fibers longer than
e centimeter of air (2f/cc). At

BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM

See Appendix C for the full text of the OSHA asbestos regulations. Questions about the regulations and compliance problems can be answered by the OSHA Regional Offices listed in Appendix D. Information on contractor training and occupational safety is also available from these OSHA offices and the NIOSH Regional Offices listed in Appendix E.

Contract Specifications

The following general specifications are recommended for removal and encapsulation contracts. Some of these specifications are also appropriate for enclosure contracts. If these recommended specifications are incorporated into contracts and strictly enforced, the building environment will be protected against contamination.

Contractors should be encouraged to receive training and to train their workers in safe work practices and in proper removal, encapsulation, and enclosure methods. Contractor and worker training can be required in the contract.

1. Regulations

Contractors shall comply with the requirements of the EPA regulations, National Emission Standards for Asbestos, and the OSHA regulations on asbestos, Section 1910.1001 [and any applicable State and local government regulations] which are incorporated by reference.

2. Scope of Work

A. The Contractor shall furnish all labor, materials, services, insurance, and equipment necessary to carry out the [removal operation, encapsulation operation] in accordance with the EPA and OSHA regulations [and any applicable State and local government regulations].

B. The Contractor shall be responsible for obtaining approval for a waste disposal site in compliance with Section 61.25 of the EPA regulations.

C. Contractors shall post the EPA and OSHA regulations [and any applicable State and local government regulations] at the job site.

3. Worker Protection

A. The Contractor shall provide workers with approved respirators. The Contractor shall provide a sufficient quantity of filters approved for asbestos so that workers can change filters during the work day. Filters shall not be used any longer than one (1) work day. The respirator filters shall be stored at the job site in the change room and shall be totally protected from exposure to asbestos prior to their use.

B. Workers shall always wear a respirator properly fitted on the face in the work area.

C. Contractors shall instruct and train workers in proper respirator use.

D. Workers shall wear disposable, full-body coveralls and disposable head covers and footwear in the work area. Footwear may be disposable. Non-disposable footwear shall be left in the work area at all times until disposal at job completion.

E. The Contractor shall set up a change room and a shower outside of the work area.

F. All workers without exception shall:

(1) Remove street clothes in the change room and put on the disposable coveralls and head covers, and respirator before entering the work area.

(2) Remove the disposable coveralls, head covers, and footwear in the work area before leaving the work area. Still wearing their respirators, proceed to the showers and remove their respirators while showering with soap and water.

(3) Shower at the end of each day's work before entering the change room to change into street clothes.

G. Workers shall not eat, drink, smoke, chew gum, or chew tobacco in the work area. To eat, drink, or smoke, workers shall remove the disposable work clothes and footwear in the work area before leaving the work area. Still wearing their respirators, workers shall proceed to the showers and remove their respirators while showering with soap and water. Workmen shall then dress into a new, clean disposable coverall to eat, smoke, or drink. The new coverall can be worn to reenter the work area.

H. The Contractor shall provide a respirator and disposable coveralls, headcover, and footwear to any official representative of the school who inspects the job site.

I. All persons entering the work area shall wear an approved respirator and disposable coveralls, head cover, and footwear.

Worker Dressed in Protective Clothing

4. Work Area Preparation

A. The Contractor shall set up a decontamination facility outside of the work area which will consist of a change room, shower area, and equipment area. The decontamination facility shall be subject to the approval of the official representative of the school.

B. The Contractor shall isolate the work area for the duration of the work by completely sealing off all openings and fixtures in the work area including, but not limited to, heating and ventilation ducts, doorways, corridors, windows, skylights, and lighting with plastic sheeting taped securely in place.

C. The Contractor shall build double barriers of plastic sheeting at all entrances and exits to the work area so that the work area is always closed off by one barrier when workers enter or exit.

D. All floor and wall surfaces in the work area shall be covered with plastic sheeting taped securely in place to protect from water damage [or damage by sealants].

E. Before the work is begun, the Contractor shall wet clean all removable items and equipment not located on the asbestos material, remove them from the work area, and then return these items and equipment to the work area after the job has been completed and the area has been decontaminated.

F. The Contractor shall cover all non-removable items and equipment in the work area with plastic sheeting taped securely in place.

G. After work area isolation, the Contractor shall take out all detachable electrical, heating, ventilation equipment, and other items located on the asbestos material, clean them before covering with plastic sheeting taped securely in place, and return them to their proper place after the job has been completed and the work area has been decontaminated.

H. The Contractor shall remove all heating, ventilation, and air conditioning system filters, pack them in sealable plastic bags (6-mil minimum) for burial at the approved waste disposal site and replace them with new filters.

I. The contractor shall establish emergency and fire exits from the work area. Emergency procedures shall have priority.

5. Method of Removal

A. The asbestos material shall be sprayed with water containing a wetting agent to enhance penetration. The wetting agent shall be 50% polyoxyethylene ester and 50% polyoxyethylene ether (Aqua-GRO*), or the equivalent, in a concentration of one (1) ounce in five (5) gallons of water. A fine spray of the amended water shall be applied to reduce fiber release preceding the removal of the asbestos material. The material shall be sufficiently saturated to prevent emission of airborne fibers in excess of the exposure limits prescribed in the OSHA regulations referenced in these specifications.

B. The asbestos material shall be removed in small sections by two-man teams on staging platforms. Before beginning the next section, the material shall be packed while still wet into sealable plastic bags (6-mil minimum) and placed into fiber or metal drums or skips for transport. Bags, drums, and skips shall be marked with the OSHA label prescribed by the OSHA regulations referenced in these specifications. The outside of all containers shall be clean before leaving the work area.

C. All plastic sheeting, tape, cleaning material, clothing, and all other disposable material or items used in the work area shall be packed into sealable plastic bags (6-mil minimum) and placed into metal or fiber drums or skips for transport. The drums and skips shall be marked with the OSHA label prescribed by the OSHA regulations referenced in these specifications.

D. The Contractor shall transport the sealed drums or skips to the approved waste disposal site. The sealed plastic bags may be dumped from the drums into the burial site unless the bags have been broken or damaged. The damaged bags shall be left in the drum and the entire contaminated drum shall be buried. Uncontaminated drums may be recycled.

6. Decontamination of Work Area

A. The Contractor shall clean all surfaces in the work area with water and/or with a High Efficiency Particulate Absolute (HEPA) filtered vacuum. (A HEPA vacuum will fail if used on wet material.) After cleaning the work area, the Contractor shall wait 24 hours to allow for settlement of dust, and then wet-clean all surfaces in the work area again. After completion of the second cleaning operation, the Contractor shall perform a complete visual inspection of the work area to ensure that the work area is dust free. The Contractor shall take two air samples within 48 hours after completion of all cleaning work. (Minimum volume of air sample is 240 L)

B. If the official representative of the school finds that the work area has not been decontaminated, the Contractor shall repeat the cleaning and air monitoring until the work area is in compliance.

C. After the work area is found to be in compliance, all entrances and exits are unsealed and the plastic sheeting, tape, and any other trash and debris is disposed of in sealable plastic bags (6-mil minimum) and buried in the approved waste disposal site.

* Mention of trade names or specific products does not constitute endorsement by EPA

7. Air Monitoring

A. Throughout the entire [removal, encapsulation] and cleaning operations, air monitoring shall be conducted to ensure that the Contractor is complying with the EPA and OSHA regulations [and any applicable State and local government regulations]. The [illegible] shall provide an air monitoring technician to take air samples at the job site at no cost to the [illegible].

B. Air monitoring will be conducted according to the method prescribed by Section 1910.1001(f) of the OSHA regulations.

C. Air monitoring shall be performed to provide the following samples during the period of asbestos [removal, encapsulation]:

Areas to be Sampled	*Minimum Number of Samples for Each Work Day*	*Each Sample Minimum Volume Liters*
Work Area	2	120 L.
Outside Work Area	1	120 L
Outside Building	1	240 L.

D. Samples should only be taken after actual [removal, encapsulation] work has proceeded.

Removed Material in Drum With Plastic Liner

PLEASE NOTE

THE ORGINAL FILE CONTAINS AN ~~OVERSIZED~~ ILLEGIBLE DOCUMENT THAT IS UNSUITABLE FOR FILMING. PLEASE REFER TO THE ALASKA STATE ARCHIVES TO VIEW THE ORIGINAL.

TESTIMONY ADDRESSED TO THE UNITED STATES HOUSE OF REPRESENTATIVES COMMITTEE ON EDUCATION AND LABOR SUBCOMMITTEE ON COMPENSATION, HEALTH AND SAFETY

SAN FRANCISCO, CALIFORNIA, OCTOBER 23-24, 1978

ENVIRONMENTAL CANCER: A CLOSER LOOK

by Phillip L. Polakoff, M.D.; DIRECTOR, WICES(?)

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE COMMISSIONER

POUCH H 01
JUNEAU, ALASKA 99811
PHONE: 465-3030

Document# 37-81

February 19, 1981

Honorable Charles H. Parr
Alaska State Senate
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Dear Senator Parr:

In the past twenty years, it has been recognized that exposure to asbestos in significant amounts may be harmful to humans so exposed. The latent period between exposure and development of problems is somewhat related to the amount of exposure and in those individuals receiving large exposure, the latent period is around twenty years, up to probably forty years for exposure in smaller amounts.

The recognition of medical problems related to asbestos occurred initially in people employed in the mining of asbestos, handling asbestos, and working with asbestos in terms of insulation in shipyards. In the 1950's, as a result of the recognition of very great danger to children in schools because of fire hazards, asbestos was used extensively in ceiling tiles and covering of pipes, etc. By the late 1960's asbestos had generally been excluded from construction where it would be possible for the fibers to enter the air and be inhaled by people in the community.

I would like to try to answer some of the questions which you specifically raised:

In regards to the extent of which asbestos is seen as a cause of cancer, we have fairly good records in Alaska concerning cancer in the Native population and there has not been one reported case of mesothelioma, which is cancer of the pleura especially related to asbestos. We do not have good figures concerning mesothelioma in the non-Native population, but it is a very uncommon tumor. There is good evidence that exposure to asbestos combined with a cigarette smoking history increases the risk of lung cancer so that certainly people who have had a history of major exposure to asbestos should be advised to discontinue smoking.

As far as the possibility of increased incidence of gastrointestinal cancer related to asbestos exposure, there may be a slight increase in people who have had heavy exposure.

Concerning what action the Department of Health and Social Services has taken, in 1978 we contacted the Bureau of Indian Affairs Engineering Department in Juneau about the use of asbestos in B.I.A. schools, and were informed that while it had been used in older schools, most of these schools had been renovated/replaced, and the newer schools had not used asbestos. As far as we were able to determine at that time there had been no reported cases of cancer of the lung developing in people who had attended schools where asbestos had been used; however, since the exposure in this environment would be small and the latent period for the development of cancer would be 20+ years, it is highly unlikely that a good correlation could ever be developed. In addition in 1975 relating to pipeline construction, the Section of Communicable Disease Control took chest x-rays and did pulmonary function studies on members of the insulators' union who were going to be working on the pipeline at the request of the local union group.

In regards to the responsibility divided between the Departments of Health and Social Services and Environmental Conservation, logically the Department of Environmental Conservation is concerned with promulgating regulations concerning the construction of buildings and schools where asbestos could potentially be a problem, and monitoring environmental sources such as air quality and asbestos mining operations. The Department of Health and Social Services' responsibility is in evaluating the potential for significant disease as a result of previous exposure and doing anything possible to reduce the incidence of disease.

In regards to this, we have given considerable thought to the problem and have been in contact with Dr. Edward Gaensler, who is in charge of the Chest Program at Boston City Hospital and who has been interested in the asbestos problem for a number of years. I would like to emphasize the following, I think significant, points:

1. There has never, or hardly ever, been a case of mesothelioma cured. This is an almost invariably fatal disease and there is no program of surveillance that offers a realistic possibility of reducing the risk of this rare complication of significant asbestos exposure.

2. The result of close surveillance of individuals with a history of heavy exposure to asbestos combined with a history of cigarette smoking has had very little effectiveness in improving the salvage rate by earlier recognition.

3. The risk in people who have had heavy asbestos exposure of developing serious complications is not overwhelming. 12,000 Johns-Manville insulation workers and miners have been followed for 15 years with an average of one pulmonary cancer developing annually.

In looking at the problem from a statewide standpoint, it is our opinion that asbestosis is not a significant problem in Alaska. The insulation workers are pressured through their union to use masks and take other precautionary measures, and are followed with x-rays and pulmonary testing. Any attempts to develop a regulatory program for people who have been exposed to small quantities in the past through attending schools where asbestos was used would not be productive and effective, not only because of the long latency period but also because of their low risk.

If the Committee would like the testimony of an objective, professional expert who is universally highly regarded in the field of asbestosis, we would be glad to ask Dr. Edward Gaensler, Chief of the Chest Department at Boston City Hospital, to testify before the Committee. We also would be pleased to explore any further questions the Committee may have.

Sincerely,

Helen D. Beirne

Helen D. Beirne
Commissioner

APA has tested labs in country.

$45.00/sample

Problem w/ getting analysis done —

— what do you do when they cover more?

Ellen Greenberg
DEC - 2650 — 51
Samples analyzed
$22.00/ea

Utah Biomedical Lab in Salt Lake City.

Switching to Lab in Calif - to get info from Ray Jurgens

% of asbestos
% of other fibers (fiberglas) etc.

Lee Hayes 2947

UNITED STATES DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

ASSISTANT SECRETARY
FOR ELEMENTARY AND SECONDARY EDUCATION

November 20, 1980

MEMORANDUM TO CHIEF STATE SCHOOL OFFICERS

Subject: Preparation of the State Plan for the Asbestos School Hazard Detection and Control Act, Public Law 96-270

This is the second bulletin issued by the Department of Education. Its purpose is to provide guidance to State officials responsible for the preparation of State plans.

Section 4 of the statute requires all States to submit to the Secretary of Education a State plan not later than six months after the effective date of the Act. This date is December 15, 1980.

Although there presently are no Federal funds available to carry out the grant or loan program, States are still required by the statute to prepare and submit a plan by that date.

Section 4(a)(1) to (4) of Public Law 96-270 outlines the information that is required in State plans. This information has been clarified in Subpart H of Part 231 of ED's proposed regulations (NPRM) published September 17, 1980. In drafting these provisions we have made every effort to reduce the burden on the State in complying with the statutory requirements.

Please refer to Subpart H of Part 231, particularly section 231.70, for guidance as to what the State plan should contain. Although the contents of the State plan are statutorily mandated, the structure and format of the plan are left to the States' discretion.

If any change in the provisions for State plans now in the NPRM is made in the final regulations, a State will have an opportunity to amend its plan.

Herman R. Goldberg
Deputy Assistant Secretary
Office of Educational Support

UNITED STATES DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

JAN 6 1981

Honorable Marshall L. Lind
Commissioner Of Education
State Department of Education
Juneau, Alaska 99801

Dear Commissioner Lind:

This letter is to notify you that we have received your State Plan pursuant to P.L. 96-270 - Asbestos School Hazard Detection and Control Act of 1980.

Should there be any points in the Plan requiring clarification we will be in touch with your designated representative by telephone.

Thank you for fulfilling this part of the State Education Agency's responsibility as required by the Statute.

Sincerely,

Herman R. Goldberg

Herman R. Goldberg
Deputy Assistant Secretary
Office of Educational Support

December 5, 1980

Dr. Herman R. Goldberg
Deputy Assistant Secretary
Office of Educational Support
U.S. Department of Education
Room 2079
FOB-6, 400 Maryland Ave. SW
Washington, D.C.

RE: PL 96-270
State Plan

Dear Sir:

Please find enclosed the Alaska State Plan as required by the Abestos School Hazard Detection and Control Act, Public Law 96-270.

The Alaska Department of Education is quite willing and anxious to implement this plan.

Should you desire additional information on the state plan please do not hesitate to write.

Sincerely,

Marshall L. Lind
Commissioner of Education

Enclosure

ABESTOS SCHOOL HAZARD DETECTION AND CONTROL ACT OF 1980, PUBLIC LAW 96-270

STATE OF ALASKA PLAN

The Alaska Department of Education shall through the regular mail service distribute a certified letter to all local agencies containing copies of Federal Register V, dated Wednesday September 17, 1980 and Federal Register VI, dated Wednesday September 17, 1980. In addition to the Federal Registers a copy of EPA, Abestos Containing Material in School Buildings, part II, pages 1-2-11, 1-2-12 & 1-2-13, describing the dangers of abestos related diseases will be included in the materials sent to the local educational agencies.

The State will continue to revise and distribute to the local educational agencies changes in the Act. The State will continue to revise and distribute changes in the procedures and standards for conducting detection and control projects. The State will continue to revise and distribute additional information related to health hazards associated with exposure to abestos fibers.

The State will maintain a file of completed forms required by EPA, 30 CFR, part 763, subpart F.

These files will be located in the Department of Education, Facilities Section and a separate up-to-date file on each local educational agency will be maintained to include the required form as well as any pertinent information relating to the abestos detection program of that district.

The Facilities Section of Management, Law & Finance Division of the Department of Edcuation will be responsible for submitting the reports required under this Act.

The Department of Edcuation assures that the Facilities Section will continue to submit reports as required under this Act including the final report on or before June 15, 1982.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

The Legislature finds that:

1) Exposure to asbestos fibers has been identified over a long period of time and bt reputable medical and scientific evidence as significantly increasing the incidence of cancer and other severe or fatal diseases;
2) medical evidence has suggested that children may be particularly vulnerable to environmentally induced cancers;
3) medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe to individuals exposed to the fibers;
4) substantial amounts of asbestos, particularly in sprayed form, have been used in school buildings and other public facilities especially during the period 1946 through 1972;
5) a partial survey of Alaskan schools has indicated that a) a number of building materials containing asbestos fibers have become damaged or friable, causing asbestos fibers to be dislodged into the air, and b) asbestos concentrations far exceeding normal ambient air levels have been found in school buildings containing such damaged materials;
6) the presence in school buildings and public facilities of friable or easily damaged asbestos creates an unwarranted health hazard to school children, employees, and the general public who are exposed to such materials;
7) there is no systematic program for identifying such hazardous conditions in school buildings and public facilities or for remediating those conditions.

It is the purpose of this Legislature to:

1) Provide quality testing and analysis for friable asbestos materials in school buildings and other public facilities;
2) provide information relating to health hazards

associated with exposure to friable asbestos fibers;
3) correct identified health hazards from friable asbestos materials in school buildings and other public facilities.

In compliance with PL 96-270, the Asbestos School Hazard and Control Act of 1980, the removal of friable asbestos materials from school buildings will be coordinated by the Department of Environmental Conservation with the cooperation of the Department of Education, the Department of Transportation and Public Facilities, and local school districts, REAAs, BIA schools , and private schools.

The Alaska Department of Education will:

1) continue to revise and distribute to local education agencies any changes in the procedures and standards for conducting detection and control projects of friable asbestos in school buildings;
2) continue to revise and destribute additional information related to health hazards associated with exposure to asbestos fibers;
3) maintain an up-to-date file on each local education agency as required by the EPA, 30 CFR, part 763, subpart F, to be stored in the Facilities Section of Management, Law and Finance Division;
4) submit reports required by this act including the final report on or before June 15, 1982.

The Department of Environmental Conservation will:

1) provide training materials for local school persons who will inspect and sample material for deteriorating friable asbestos according to 40 CFR Part 763;
2) distribute the EPA Guidance Manual on Asbestos Control in School Buildings, Parts I and II and supplemental videotapes to local school districts, central offices of the Regional Education Attendance Areas, Bureau of Indian Affairs agency offices and

private schools;

3) be responsible for the distribution, use, retrieval, and storage of asbestos training materials, as well as providing resource personnel to answer inquiries and assure quality control of sampling;
4) be responsible for collecting samples of suspected friable asbestos and have them analyzed by a reputable laboratory using polarized light microscopy;
5) evaluate the total results of analysis and send individual results to the respective school districts.

Each local School District, central office of the Regional Education Attendance Areas, Bureau of Indian Affairs agency office, and private school will:

1) select personnel for training in the detection and sampling for friable asbestos in their school buildings;
2) retain records of all inspections including sample dates, location, condition, and analysis of friable materials, notify employees of the location of friable asbestos materials and ways to reduce exposure, and notify the parent-teacher association of the inspection results;
3) mail inspection forms and samples to the Department of Environmental Conservation;
4) determine how extensive the potential or actual damage of asbestos materials, if a positive analysis is received, using the Exposure Assessment Algorithm in Appendix A of 34 CFR Parts 230 and 231;
5) administer bid processing and monitor construction activities of renovation.

The Dapartment of Transportation and Public Facilities will:

1) establish guidelines and provide technical assistance on cost-effective renovation techniques.

The Legislature finds that -

1) exposure to asbestos fiber has been identified over a long period of time and by reputable medical and scientific evidence as significantly increasing the incidence of cancer and other severe or fatal diseases;

2) medical evidence has suggested that children may be particularly vulnerable to environmentally induced cancers;

3) medical science has not established any "minimum" level of exposure to asbestos fibers which is considered to be safe to individuals exposed to the fibers;

4) substantial amounts of asbestos, particularly in sprayed form, have been used in school buildings and other public facilities especially during the period ~~of~~ 1946 through 1972;

5) a partial survey of Alaskan schools ~~has~~ indicated that A) a number of school buildings materials containing asbestos fibers have become damaged or friable, causing asbestos fibers to be dislodged into the air, and B) asbestos concentrations far exceeding normal ambient air levels have been found in school buildings containing such damaged materials;

and public facilities

6) The presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of school children, ~~and personnel~~ other employees & the general public who are exposed to such materials

7) There is no systematic program for identifying hazardous conditions in school buildings & public facilities or for remedying these conditions.

It is the purpose of this Legislature

1) to provide quality testing and analysis for friable asbestos materials in school buildings and other public facilities.

2) to provide information relating to health hazards associated with exposure to friable asbestos

3) to correct identified health hazards from friable asbestos materials in school buildings and other public facilities

In compliance with PL 96-270, the Asbestos School Hazard and Control Act of 1980, the removal of friable asbestos materials from school buildings will be coordinated by the Department of Environmental Conservation with the cooperation of the Dept. of Ed., ~~Asbestos School Hazard and Control Act of 1980 PL 96-270 S. 1039 June 14, 1980~~ Dept. of Trans. & PF and local school districts

The Alaska Department of Education, ~~in compliance with PL 96-270 will~~ will:

1) continue to review & distribute to local education agencies any changes in the procedures and standards for conducting detection and control projects of friable asbestos in school buildings
2) continue to review and distribute additional information related to health hazards associated with exposure to asbestos fibers
3) the Department of Education, Facilities Section of Management, Law & Finance Division will maintain an up-to-date file on each local education agency as required by the EPA 30 CFR, part 763, subpart F
4) the Facilities Section of Management Law and Finance Division will submit reports required under this Act including the final report on or before June 15, 1983.

The Department of Environmental Conservation will:

1) provide training materials for local school personnel who will inspect and sample material for deteriorating friable asbestos according to 40 CFR Part 763.

2) DISTRIBUTE the EPA Guidance Manual on Asbestos Control in School Buildings, Parts I and II and supplemental videotape ~~that will be distributed~~ to local school districts, central offices of the Regional Education Attendance ~~Areas~~, Bureau of Indian Affairs agency offices and private schools.

3) ~~He/She will~~ be responsible for the distribution, use, retrieval and storage of asbestos training materials; as well as providing resource personnel to answer school district inquiries and assure quality control that the sampling is done properly

4) will be responsible for collecting samples of suspected friable asbestos and have them analyzed by a reputable laboratory using polarized light microscopy.

5) will evaluate the lab results of analysis and send individual results

to the respective school districts

Each local School District, central office of the Regional Education Attendance Areas, Bureau of Indian Affairs agency offices and private schools

1) will select personnel for training in the detection and sampling for friable asbestos in school buildings.

2) will retain records of all inspections including sample dates, location & condition & analysis of friable materials; notify employees of the location of friable asbestos materials and ways to reduce exposure and notify the parent-teacher assoc. of the inspection results.

3) will mail inspection forms & samples to the Department of Environmental Conservation

4) will, if positive analysis is received, determine how extensive the potential or actual damage of asbestos materials is using the Exposure Assessment Algorithm in Appendix A of 34 CFR Parts 230 and 231.

5) will administer bid-processing and monitor construction activities

The Department of Transportation and Public Facilities will

1) establish guidelines and provide technical assistance on cost-effective renovation techniques

$12,250 - Training personnel for sampling & inspection and for analysis of suspected asbestos materials in schools

$15,500 - Training personnel for sampling and inspection and for laboratory analysis of suspected asbestos materials in local government buildings

$5,500 Provide training ~~personnel~~ materials for sampling and inspections and for laboratory analysis of suspected asbestos materials in privately owned buildings

$500,000 renovations in public schools

$500,000 renovations in state-owned facilities

$500,000 renovations in local govt buildings.

monies for training & sample analysis to DEC

Renovation monies to be administered by Community & Regional Affairs with recommendations from DOTPF on cost-effective techniques

State owned facilities - all have been surveyed except those in Anchorage by DOTPF with information in the Inventory & Condition Survey of Public Facilities. Asbestos hazards can be removed during routine maintenance

Inventory of Anch. facilities complete by DOTPF in FY 82. Because of size of buildings, there may be large areas needing removal of asbestos hazards. $500,000 indicated in State category is for Anch. work

PLEASE NOTE: [illegible] PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

77102961
COHORT MORTALITY IN MEN MANUFACTURING CHRYSOTILE ASBESTOS PAPER
WEISS W
AM REV RESPIR DIS 115 (4 PART 2). 1977 251 Coden: ARDSB
Descriptors: ABSTRACT ASBESTOSIS LUNG CANCER GASTRO INTESTINAL CANCER INCREASED RISK STANDARDIZED MORTALITY RATIO
Concept Codes: SOCIAL BIOL/HUMAN ECOLOGY(05900), MINERALS(10069), PATHOLOGY-NECROSIS(12510), DIGESTIVE SYST-PATHOLOGY(14006), RESPIRATORY SYST-PATHOLOGY(16006), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-PATH,CLINIC(•24004), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PUB HEALTH-ADMINISTR,STATISTICS(•37010), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015), EPIDEMIOL-ORGANIC DIS,NEOPLASMS(•37054)
Biosystematic Codes: HOMINIDAE(86215)

77094713
THE PATHOGENESIS OF CANCER OF THE LOWER LIP
TAZUEV A SH
VESN DERMATOL VENEROL 10 1976 (RECD 1977) 68-71 Coden: VDVFA
Descriptors: HUMAN SMOKING SUN EXPOSURE HUMIDITY CHEMICAL CARCINOGENS OCCUPATIONAL EXPOSURE ASBESTOS EXPOSURE
Concept Codes: SOCIAL BIOL/HUMAN ECOLOGY(05900), RADIATION BIOL-RADTN,ISOTOP TECH(06504), RADIATION BIOL-RADTN EFF,PROTECTN(•06506), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), BIOCHEM STUD-GENERAL(10060), MINERALS(10069), EATING EFF-LIGHT,DARKNESS(•10804), INTEGUMENT SYST-PATHOLOGY(•18506), DENTAL/ORAL BIOL-PATHOLOGY(•19006), PSYCHIATRY-ADDICTION,TOBACCO SMOKING(•21004), TOXICOL-GEN/ESP STUDS,MISC(•22701), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), PLANT PHYSIOL-CHEM CONSTITUENTS(51522)
Biosystematic Codes: PLANTAE-UNSPECIFIED(•1000), HOMINIDAE(86215)

77057383
DISEASE POSSIBILITY CAUSED BY ASBESTOS
PLANTEVOE H ?
PROBST, J., E. JONASCH AND E. BAUR (ED.). HEFTE ZUR UNFALLHEILKUNDE. HEFT 126. 2. DEUTSCH OESTERREICHISCH SCHWEIZERISCHE UNFALLTAGUNG IN BERLIN, 20-22. NOVEMBER 1975. (SERIES ON ACCIDENT MEDICINE. VOL. 126. 2ND GERMAN-AUSTRIAN-SWISS ACCIDENT CONFERENCE. BERLIN, WEST GERMANY, NOV. 20-22, 1975.) (IN GER.) XXVIII+696P. ILLUS. SPRINGER-VERLAG: BERLIN, WEST GERMANY; NEW YORK, N.Y.; USA. ISBN 3-540-07892-4; ISBN 0-387-07892-4. 1976 (RECD 1977) 607-609 Coden: 05708
Descriptors: HUMAN ASBESTOSIS PLEURAL PLAQUES BRONCHIAL CANCER MESOTHELIOMA
Concept Codes: SOCIAL BIOL/HUMAN ECOLOGY(05900), MINERALS(10069), RESPIRATORY SYST-PATHOLOGY(•16006), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013)
Biosystematic Codes: HOMINIDAE(86215)

77067462
PROBLEMS IN THE DETERMINATION OF SAFETY STANDARDS FOR ASBESTOS EXPOSED WORKERS
MCDONALD J C
PROBST, J., E. JONASCH AND E. BAUR (ED.). HEFTE ZUR UNFALLHEILKUNDE. HEFT 126. 2. DEUTSCH OESTERREICHISCH SCHWEIZERISCHE UNFALLTAGUNG IN BERLIN, 20-22. NOVEMBER 1975. (SERIES ON ACCIDENT MEDICINE. VOL. 126. 2ND GERMAN-AUSTRIAN-SWISS ACCIDENT CONFERENCE. BERLIN, WEST GERMANY, NOV. 20-22, 1975.) (IN GER.) XXVIII+696P. ILLUS. SPRINGER-VERLAG: BERLIN, WEST GERMANY; NEW YORK, N.Y.; USA. ISBN 3-540-07892-4; ISBN 0-387-07892-4. 1976 (RECD 1977) 603-607 Coden: 05708
Descriptors: PULMONARY FIBROSIS RESPIRATORY CANCER MALIGNANT MESOTHELIOMA GASTRO INTESTINAL CANCER
Concept Codes: SOCIAL BIOL/HUMAN ECOLOGY(05900), MINERALS(10069), DIGESTIVE SYST-PATHOLOGY(•14006), RESPIRATORY SYST-PATHOLOGY(•16006), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PUB HEALTH-ADMINISTR STATISTICS(•37010), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013)
Biosystematic Codes: HOMINIDAE(86215)

77067450
ASBESTOS SMOKING AND LUNG CANCER
NEWHOUSE M L
PROBST, J., E. JONASCH AND E. BAUR (ED.). HEFTE ZUR UNFALLHEILKUNDE. HEFT 126. 2. DEUTSCH OESTERREICHISCH SCHWEIZERISCHE UNFALLTAGUNG IN BERLIN, 20-22. NOVEMBER 1975. (SERIES ON ACCIDENT MEDICINE. VOL. 126. 2ND GERMAN-AUSTRIAN-SWISS ACCIDENT CONFERENCE. BERLIN, WEST GERMANY, NOV. 20-22, 1975.) (IN GER.) XXVIII+696P. ILLUS. SPRINGER-VERLAG: BERLIN, WEST GERMANY; NEW YORK, N.Y.; USA. ISBN 3-540-07892-4; ISBN 0-387-07892-4. 1976 (RECD 1977) 945-947 Coden: 05708
Descriptors: HUMAN
Concept Codes: BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), BIOCHEM STUD-GENERAL(10060), RESPIRATORY SYST-PATHOLOGY(•16006), PSYCHIATRY-ADDICTION,TOBACCO SMOKING(•21004), TOXICOL-GEN/ESP STUDS,MISC(•22701), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PLANT PHYSIOL-CHEM CONSTITUENTS(51522)
Biosystematic Codes: PLANTAE-UNSPECIFIED(•1000), HOMINIDAE(86215)

18027032
PREVENTING OCCUPATIONAL CANCER
RATES R R
NATL. INST. ENVIRON. HEALTH SCI., BETHESDA, MD. 20014, USA.
INTERNATIONAL CONFERENCE ON ENVIRONMENTAL CADMIUM, BETHESDA, MD., USA, JUNE 7-9, 1978. ENVIRON HEALTH PERSPECT 28 (0). 1979. 303-310. Coden: EVHPA
Language: ENGLISH
Descriptors: REVIEW HUMAN ANIMAL CARCINOGENESIS ASBESTOS CALORIC INTAKE SMOKING RADIATION
Concept Codes: RADIATION BIOL-RADIN EFF,PROTECT(06506), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), BIOCHEM STUD-GENERAL(10060), MINERALS(10069), NUTRITION-PATHOGENIC DIETS(13216), PSYCHIATRY-ADDICTION(INC SMOKNG)(21004), TOXICOL-GENL/EXP STUDS,METHS(22501), TOXICOL-FOOD,RESIDS,ADDIT,PRESRV(22502), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), NEOPLSMS/NEOPL AGNTS-THERAP,AGNT(•24008), ENVIRON HEALTH-OCCUPATNL HEALT(•37013), PLANT PHYSIOL-CHEM CONSTITUENTS(51522)
Biosystematic Codes: PLANTAE-UNSPECIFIED(11000), VERTEBRATA-UNSPECIFIED(85150), HOMINIDAE(86215)

18026705
REMOTE CHILDHOOD ODD JOB EXPOSURES ASSOCIATED WITH ADULT PULMONARY DISEASE
SINGH R; FAZZARO D D; AVVAZIAN L H
VETERANS ADM. MED. CENT., E. ORANGE, N.J., USA.
75TH ANNUAL MEETING OF THE AMERICAN LUNG ASSOCIATION HELD IN CONJUNCTION WITH THE 74TH ANNUAL MEETING OF THE AMERICAN THORACIC SOCIETY AND THE 47TH ANNUAL MEETING OF THE CONGRESS OF LUNG ASSOCIATION STAFF, LAS VEGAS, NEV., USA, MAY 13-16, 1979. AM REV RESPIR DIS 119 (4 PART 2). 1979. 235. Coden: ARDSB
Language: ENGLISH
Descriptors: ABSTRACT PULMONARY FIBROSIS MALIGNANT MESOTHELIOMA EPIDERMOID LUNG CANCER CARCINOGENESIS INSULATION ASBESTOS
Concept Codes: GEN BIOL-SYMPOSIA,PROCDNGS,REVW(00520), BIOCHEM STUD-GENERAL(10060), RESPIRATORY SYST-PATHOLOGY(•16006), BONE,JNTS,FASC,CONN/ADIP-PATHOL(18006), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PEDIATRICS(•25000), ENVIRON HEALTH-OCCUPATNL HEALTH(37013)
Biosystematic Codes: HOMINIDAE(86215)

18019444
ASBESTOS IN SCHOOLS A PUBLIC HEALTH PROBLEM
SPONNER C M
GCA TECHNOL. DIV., ENVIRON. ENG. DEP., BEDFORD, MASS 01730, USA.
N ENGL J MED 301 (14). 1979. 782-784. Coden: NEJMA
Language: ENGLISH
Descriptors: HUMAN MASSACHUSETTS USA LUNG CANCER LUNG DISEASE ENCAPSULATION REMOVAL ENCLOSURE SMOKING
Concept Codes: GENL BIOL-TXTBKS,EDUCATN,AUD-VIS(•00514), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), ECOLOGY-BIOCLIMATOL,BIOMETEOROL(•07504), BIOCHEM STUD-GENERAL(10060), MINERALS(10069), BIOPHYS-BIOENGINEERING(•10511), METABOLISM-GENL STUD,METAB PATHW(13002), MINERALS(13010), RESPIRATORY SYST-PATHOLOGY(•16006) PSYCHIATRY-ADDICTION(INC SMOKNG)(21004), TOXICOL-GENL/EXP STUDS,METHS(22501), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PUB HEALTH-ADMINISTR,STATISTICS(•37010), ENVIRON HEALTH-OCCUPATNL HEALTH(37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(•37015), EPIDEMIOL-ORGANIC DIS,NEOPLASMS(•37054), PLANT PHYSIOL-CHEM CONSTITUENTS(51522), AGRONOMY-TOBACCO CROPS(52512)
Biosystematic Codes: SOLANACEAE(26775), HOMINIDAE(86215)

18016443
OCCUPATIONAL LUNG CANCER AND SMOKING A REVIEW IN THE LIGHT OF CURRENT THEORIES OF CARCINOGENESIS
CHOVIL A C
IND. MED. CONSULT., ONT. WORKMEN'S COMPENS. BOARD, 2 BLOOR ST. E., TORONTO, ONT. M4W 3C3, CAN.
CAN MED ASSOC J 121 (5). 1979. 548-550, 553-555. Coden: CMAJA
Language: ENGLISH
Descriptors: TOBACCO HUMAN ASBESTOS RADIATION NUTRITION GENETIC MUTATION
Concept Codes: GENETICS/CYTOGENET-HUMAN(•03508), RADIATION BIOL-RADIN,ISOTOP TECH(06504), RADIATION BIOL-RADIN EFF,PROTECT(06506), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), BIOCHEM STUD-GENERAL(10060), MINERALS(10069), NUTRITION-GENERAL DIET STUDIES(13214), RESPIRATORY SYST-PATHOLOGY(•16006), PSYCHIATRY-ADDICTION(INC SMOKNG)(21004), TOXICOL-GENL/EXP STUDS,METHS(•22501), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), PLANT PHYSIOL-CHEM CONSTITUENTS(51522), AGRONOMY-TOBACCO CROPS(52512)
Biosystematic Codes: SOLANACEAE(26775), HOMINIDAE(86215)

19040981
GARLAND SAFETY MANAGEMENT SERIES SOURCE BOOK ON ASBESTOS DISEASES MEDICAL LEGAL AND ENGINEERING ASPECTS
PETERS G A; PETERS B J
LOS ANGELES, CALIF., USA.
PETERS, G. A. AND B. J. PETERS. GARLAND SAFETY MANAGEMENT SERIES: SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS. XIV+309P. GARLAND PUBLISHING, INC.: NEW YORK, N.Y., USA. ILLUS. ISBN 0-8240-7175-1. 0 (0). 1980. XIV+309P. Coden: 09016
Language: ENGLISH
Descriptors: HUMAN ASBESTOS TYPE ASBESTOSIS CANCER PROTECTION BIBLIOGRAPHY LEGAL ASPECTS RADIOGRAPHY
Concept Codes: GENL BIOL-BIBLIOGRAPHY(•00526), GENL BIOL-FORENSIC SCIENCE(•00531), PHOTOGRAPHY-METHS,MATLS,APPARAT(01012), COMPARATIVE BIOCHEM-GENL STUDIES(10010), MINERALS(10069), ANATOMY/HISTOL-RADIOLOGIC(11106), PATHOLOGY--DIAGNOSTIC(12504), MINERALS(13010), RESPIRATORY SYST-GENL STUD,METHS(16001), RESPIRATORY SYST-PATHOLOGY(•16006), TOXICOL-ANTIDOTES,PREVENTIVE(•22505), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015)
Biosystematic Codes: HOMINIDAE(86215)

19026921
IDENTIFICATION OF ASBESTOS BY X-RAY DIFFRACTION
PLOWMAN C; HOBSON E
CENT. ELECTR. GENER. BOARD, N.-EAST. REG. SCI. SERV. DEP., HARROGATE HG3 1PR, YORKS., ENGL., UK.
AM IND HYG ASSOC J 41 (4). 1980. 299-304. Coden: AIHAA
Language: ENGLISH
Descriptors: NOTE ASBESTOSIS LUNG CANCER MESOTHELIOMA
Concept Codes: COMPARATIVE BIOCHEM-GENL STUDIES(10010), BIOCHEM METH-MINERALS(•10059), MINERALS(10069), BIOPHYS-GENERAL BIOPHYS TECH(10504), MINERALS(•13010), RESPIRATORY SYST-GENL STUD,METHS(16001), RESPIRATORY SYST-PATHOLOGY(•16006), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015), EPIDEMIOL-ORGANIC DIS,NEOPLASMS(37054)

19005679
CHEMI LUMINESCENT RESPONSE TO ASBESTOS FIBERS
GAUMER H R; CAIRO J; SALVAGGIO J E
DEP. MED., TULANE UNIV. SCH. MED., NEW ORLEANS, LA., USA.
ANNUAL MEETING OF THE AMERICAN FEDERATION FOR CLINICAL RESEARCH, WESTERN SECTION, CARMEL, CALIF., USA, FEB. 8-9, 1979. CLIN RES 27 (1). 1979. 37A. Coden: CLREA
Language: ENGLISH
Descriptors: ABSTRACT HUMAN POLYMORPHONUCLEAR LEUKOCYTE SERUM SUPER OXIDE DIS MUTASE CARCINOGENICITY 1 4 DI AZO 1 1 CYCLO 2 2 2 OCTANE INTERNATIONAL UNION AGAINST CANCER OXYGEN
Concept Codes: GENL BIOL-INSTITUT,ADMIN,LEGISLN(00508), GENL BIOL-SYMPOSIA,PROCDNGS,REVW(00520), CYTOLOGY/CYTOCHEM-HUMAN(02508), SOCIAL BIOL/HUMAN ECOLOGY(05500), BIOCHEM-GASES(10012), BIOCHEM STUD-GENERAL(10060), BIOCHEM STUD-PROTEINS,PEPTIDES,AMINO ACD(10064), MINERALS(10069), BIOPHYS-GENERAL BIOPHYS TECH(10504), ENZYMES-METHODS(10804), ENZYMES-PHYSIOLOGICAL STUDIES(•10808), MOVEMENT(12100), METABOLISM-GENL STUD,METAB PATHW(13002), MINERALS(•13010), BLOOD/BODY FLDS-GENL STUDS,METHS(15001), BLOOD/BODY FLDS-BLOOD,LYMPH STUD(15002), BLOOD/BODY FLDS-BLOOD CELL STUDS(•15004), BLOOD/BODY FLDS-LYMPHAT TISS,RES(•15008), TOXICOL-GENL/EXP STUDS,METHS(•22501), TOXICOL-ENVIRONMNTL,INDUSTR(22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015)
Biosystematic Codes: HOMINIDAE(86215)

18060999
ATTITUDES TO ASBESTOS
CHISSICK S S
UNIV. LOND. KING'S COLL., STRAND, LONDON WC2R 2LS, ENGL., UK.
MICHAELS, L. AND S. S. CHISSICK (ED.). ASBESTOS, VOL. 1. PROPERTIES, APPLICATIONS, AND HAZARDS. XI+553P. JOHN WILEY AND SONS, LTD.: NEW YORK, N.Y., USA; CHICHESTER, ENGLAND. ILLUS. ISBN 0-471-99698-X. 0 (0). 1979. P115-170. Coden: 07863
Language: ENGLISH
Descriptors: REVIEW HUMAN EMPLOYMENT ASBESTOSIS CANCER RESPIRATORY PROTECTION MEDICAL EXAMINATIONS STANDARDS AIR POLLUTION STATISTICS
Concept Codes: GENL BIOL-INSTITUT,ADMIN,LEGISLN(00508), MATHEMATIC BIOL/STATISTIC METH(04500), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), ECOLOGY-BIOCLIMATOL,BIOMETEOROL(07504), MINERALS(10069), PATHOLOGY-DIAGNOSTIC(12504), MINERALS(13010), RESPIRATORY SYST-GENL STUD,METHS(16001), PSYCHIATRY-GEN,MED PSYCHL/SOCIOL(•21001), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), PUB HEALTH-ADMINISTR,STATISTICS(•37010), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015)
Biosystematic Codes: HOMINIDAE(86215)

69004087
CYCLIC NUCLEOTIDE CONCENTRATIONS IN ASBESTOS INDUCED RAT PERITONEAL MESOTHELIOMA
STEVENS R H; WILL L A; COLE D A; MEEK E S; FRANK C W; DONHAM K J
RADIAT. RES. LAB., DEP. RADIOL., UNIV. IOWA, IOWA CITY, IOWA 52242, USA.
ENVIRON RES 19 (2). 1979. 442-448. Coden: ENVRA
Language: ENGLISH
Peritoneal mesotheliomas were induced through the i.p. administration of Rhodesian chrysotile A to weanling male Holtzman rats. The intracellular concentrations of c.cyclic.AMP and cGMP were significantly less than the levels measured in comparable control tissues obtained from age-matched animals that had been similarly administered charcoal instead of the asbestos. The calculated molar ratio of cAMP to cGMP was identical in tumors and control tissue implying that the 2 cyclic nucleotides were diminished by a constant factor in the tumor tissue. If tumorigenesis is related to cAMP/cGMP balance within the cancer cell, then in these apparently noninvasive lesions such an equilibrium exists as is found in cells of normal mesentery. These results indicate that asbestos-induced mesotheliomas are similar to other cancerous tissues of the digestive tract in that they contain less of the adenosine cyclic nucleotide than the normal tissue. The findings of this study suggest the possible loss of important cellular regulatory mechanisms in tumors induced by an important environmental carcinogen. Asbestos fiber is one of the environmental carcinogens that is readily dispersed into the air of cities and workplaces.
Descriptors: CARCINOGEN MESENTERY RHODESIAN CHRYSOTILE A DIGESTIVE SYSTEM CANCERS CYCLIC AMP CYCLIC GMP
Concept Codes: C ;OLOGY/CYTOCHEM-ANIMAL(02506 , SOCIAL BIOL/HUMAN ECOLOGY(05500), BIOCHEM STUD-GENERAL(10060), BIOCHEM STUD-NUCL ACD,PURNS,PYRM(10062), MINERALS(10069), CHORDATE BODY REGNS-ABDOMEN(11314), MINERALS(•13010), METABOLISM-NUCL ACD,PURINS,PYRIM(•13014), DIGESTIVE SYST-PATHOLOGY(•14006), RESPIRATORY SYST-PATHOLOGY(•16006), COELOM MEMBRANES,MESENTERIES,ETC(18200), ROUTES OF IMMUNIZ,INFECT,THERAP(22100), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-PATH,CLINIC(•24004), NEOPLSMS/NEOPL AGNTS-BIOCHEM(•24006), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015)
Biosystematic Codes: MURIDAE(86375)

19057285
IDENTIFICATION OF ADULTS AT HIGH RISK OF LUNG CANCER
MILLER A B
EPIDEMIOL. UNIT, FAC. MED., UNIV. TORONTO, MCMURRICH BUILD., 12 QUEEN'S PARK CRES., TORONTO, ONT. M5S 1A8, CAN.
CAN MED ASSOC J 122 (9). 1980. 985-987. Coden: CMAJA
Language: ENGLISH
Descriptors: NOTE HUMAN ASBESTOS POLY CYCLIC AROMATIC HYDROCARBONS NICKEL RADIO ISOTOPE: MUSTARD GAS CARCINOGEN OCCUPATIONAL HAZARD SMOKING SEX AGE
Concept Codes: GENETICS/CYTOGENET-SEX DIFFERENC(03510), RADIATION BIOL-RADTN EFF,PROTECT(•06506), BEHAVIOR BIOL-HUMAN BEHAVIOR(07004), BIOCHEM STUD-GENERAL(10060), MINERALS(10069), PATHOLOGY-DIAGNOSTIC(12504), RESPIRATORY SYST-PATHOLOGY(•1600-6), PSYCHIATRY-ADDICTION(INC SMOKNG)(21004), TOXICOL-GENL/EXP STUDS,METHS(•22501), TOXICOL-ENVIRONMNTL,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-DIAGNS METH(•24001), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), GERONTOLOGY(24500), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), PLANT PHYSIOL-CHEM CONSTITUENTS(51522)
Biosystematic Codes: PLANTAE-UNSPECIFIED(11000), HOMINIDAE(-86215)

19051357
REGULATORY ACTIONS AND EXPERIENCES IN CONTROLLING EXPOSURE TO ASBESTOS IN THE USA
NICHOLSON W J
ENVIRON. SCI. LAB., DEP. COMMUNITY MED., MT. SINAI SCH. MED., CITY UNIV. N.Y., NEW YORK, N.Y. 10029, USA.
HAMMOND, E. C. AND I. J. SELIKOFF (ED.). ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, VOL. 329. PUBLIC CONTROL OF ENVIRONMENTAL HEALTH HAZARDS; INTERNATIONAL CONFERENCE, NEW YORK, N.Y., USA, JUNE 28-30, 1978. IX+405P. NEW YORK ACADEMY OF SCIENCES: NEW YORK, N.Y., USA. ILLUS. MAPS. PAPER. ISBN 0-89766-031-5. 0 (0). 1979 (RECD. 1980). P293-303. Coden: ANYAA
Language: ENGLISH
Descriptors: HUMAN WORKER ASBESTOSIS CANCER
Concept Codes: GENL BIOL-INSTITUT,ADMIN,LEGISLN(00508), GENL BIOL-SYMPOSIA,PROCDNGS,REVW(00520), SOCIAL BIOL/HUMAN ECOLOGY-(05500), MINERALS(10069), MINERALS(13010), RESPIRATORY SYST-GENL STUD,METHS(16001), RESPIRATORY SYST-PATHOLOGY(•1600-6), TOXICOL-ANTIDOTES,PREVENTIVE(•22505), TOXICOL-ENVIRONMNTL-,INDUSTR(•22506), NEOPLSMS/NEOPL AGNTS-CARCINOGENS(•24007), ENVIRON HEALTH-OCCUPATNL HEALTH(•37013), ENVIRON HEALTH-AIR,WATR,SL POLLN(37015)
Biosystematic Codes: HOMINIDAE(86215)

ASBESTOS CONTROL IN SCHOOL BUILDINGS

Alaska Department of Environmental Conservation
October, 1980

I. RECOMMENDATION

The Departments of Environmental Conservation (DEC), Labor (DOL), Health and Social Services (DHSS), Education (DOE), and Transportation and Public Facilities (DOTPF) should meet the week of October 13 to plan and coordinate their activities relating to asbestos control in public schools buildings. The following outlines DEC's recommended strategy of containment and/or removal of friable asbestos in Alaskan schools within two years.

1. The Department of Education should be designated as the lead agency to assure that continued sampling and testing as well as rehabilitation and possible on-going maintenance of schools with deteriorating friable asbestos will occur expeditiously.

2. The Department of Environmental Conservation should assist DOE by taking samples of any friable material in all schools built and /or remodeled between 1945 and 1978 that were not previously sampled unless DOE or the local school district assumes this responsibility in the local district.

3. The Department of Education should compile cost estimates of activities below no later than October 27. DOTPF and DEC should assist in this preparation.

   a. Complete sampling of all public schools built or remodeled between 1945 and 1978
   b. Analysis of all samples
   c. Partial correction of friable asbestos damage
   d. Complete removal of friable asbestos and renovation

4. ~~Two appropriation bills~~ FUNDS, which would cover, at a minimum, cost estimates provided in #3 above, and possibly estimates for renovation to be undertaken by DOTPF should be drafted by November 15 and recommended for the Governor's submittal to the Legislature. ~~One should be a Supplemental for activities undertaken during FY 81; the second should appropriate funds for FY 82.~~

5. Although the above recommendations pertain only to school buildings, other public buildings throughout the State may be equally in need of repair. DEC should encourage DOTPF to institute a program of detection and control for all public facilities in Alaska.

II. PURPOSE OF PROJECT

Asbestos is a general term for several fibrous minerals. Its most valuable property lies in the indestructable nature of products fabricated from its fibers. Fully contained asbestos fibers are not released into

the environment and cause no trouble. However, soft, easily crumbled asbestos, originally sprayed or trowled onto the receiving surface, releases fibers when damaged or subjected to age deterioration. Termed friable asbestos, it is this fibrous material which is the source of danger to human beings. When released, the tiny fibers lodge in lungs and tissues of the body, causing assorted malignant cancers and the debilitating lung disease asbestosis. As is the case with all known or suspected carcinogens, no exposure level has been established as a threshold. Illness from asbestos exposure usually doesn't appear until 15-40 years later.

Contractors generally used sprayed asbestos between 1945 and 1973 when its use for fireproofing and insulation was outlawed. In 1978, its use for all other purposes was outlawed. The Environmental Protection Agency under Section 112(b) of the Clean Air Act declared asbestos a hazardous air pollutant and set emission standards. EPA recently instituted its "Asbestos in School Buildings Control Program" under the Toxic Substances Control Act, primarily because of an Environmental Defense Fund citizen suit. EPA has chosen to limit its control efforts to public schools for several reasons: with limited funds EPA must limit its action to the most critical areas of concern; schools concentrate a large number of people in a small space daily; and children are apparently more susceptible to asbestos exposure than others. At this time the program is entirely voluntary. However, on September 17, EPA issued its draft regulations requiring all schools to take samples of friable asbestos by September, 1981.

III. SUMMARY OF PROJECT TO DATE

In March 1979, EPA contacted several agencies in the State alerting them to the dangers of friable asbestos, the institution of EPA's asbestos control program, and suggesting that Alaska be inventoried to determine whether, and to what extent, an asbestos problem exists in the State. Several Anchorage schools were in fact inventoried, with friable asbestos found in at least one. In late 1979, EPA contacted DEC, DHSS, DOE and DOTPF about establishing a sampling and control program within Alaskan schools. In December, 1979, a meeting was held with representatives of the above agencies and the Department of Labor to discuss the role of each agency in this new program.

The main conclusion of the meeting was that information was unavailable on whether Alaskan schools had a friable asbestos problem or, if so, of what magnitude. Participants agreed that if the problem were sufficiently large, the State might have to institute corrective measures, most likely through legislative action.

To make this determination, staff from the Environmental Health Section, then of DHSS, agreed to survey schools during their normal sanitary inspection duties. In January of 1980, Margo Partridge of EPA held workshops to train sanitarians and, between February 1 and May 8, 63 samples were taken. On May 14, 1980 the Department received test results from 35 samples throughout the state. A memo of June 19 summarized these results. Section IV summarizes the results of all the samples taken.

IV. SUMMARY OF SAMPLE RESULTS

A. Results

Of the 41 schools and public buildings sampled, 15 or 36.6% were found to have at least some asbestos. Thirteen or 37.1% of the schools 35 contained some asbestos. Samples tested ranged from less than 1% to greater than 70%. Nine samples, or 14.3% of the total samples contained 10% or more asbestos. Eight, or 12.7% of the total samples, contained 2% or less asbestos. With the exception of the Northward Building (1%) and the North Star Borough Building (<1%), both in Fairbanks, all samples with asbestos were from schools.

Geographically, samples were taken from schools in Juneau, Fairbanks, Nome, Tok, Matanuska-Susitna Borough, Kenai Peninsula Borough, Kodiak Island Borough, Old Harbor, Ouzinkie, Bethel, Delta Junction, Tetlin, Gakona, and Trapper Creek. However, both the greatest number of samples and, in this case, the greatest amount of asbestos was found in schools from the Matanuska-Susitna, Kenai Peninsula, and Kodiak Island Boroughs.

Appendix A lists all samples and results. Appendix B lists samples with asbestos geographically.

B. Qualifications

1. Sampling consistency was not maintained. While some sanitarians took samples of anything that looked even remotely like friable asbestos, others took samples only from material which they could almost positively assure contained asbestos.

2. The number of samples within a given region varied considerably. Southeast sanitarians sampled only one school and Southcentral sanitarians sampled 47 locations within 27 schools, while Northern sanitarians sampled 9 locations within 7 schools. If we assume that the possibility of finding asbestos is roughly proportional to the number of samples collected, it is no wonder that the largest number of samples with asbestos came from the Southcentral Region.

3. Anchorage schools were not sampled, because that school district has been conducting its own survey. Margo Partridge said that the Anchorage School District found asbestos in at least one school, but I have not spoken with its staff to obtain results.

V. CONCLUSION

In spite of the above qualifications, the results clearly prove that asbestos deterioration is a problem in at least some Alaskan schools. On June 14, President Carter signed the School Asbestos Hazard and Detection Act of 1980. The act requires all State educational agencies to prepare a plan by December 15, 1980 to show, among other things, how informational material on the asbestos detection and control program will be distributed to schools and how records on detection and control activities will be maintained. The federal Department of Education is

administering this part of the program as well as grants and loans; its proposed regulations were released September 17, 1980. The Alaska Department of Education only recently became aware of this task. While this act authorizes $97.5 million for detection grant and correction loan programs, the funds have not yet been appropriated by Congress. In the meantime, since the number of schools in Alaska built or remodeled between 1945 and 1978 is relatively small, the State should conduct a thorough sampling program to determine the exact magnitude and location of asbestos deterioration in public schools, if not in all schools. As for cleanup and rehabilitation, the extent of damage must be assessed on a school-by-school basis, using the Exposure Assessment designed by EPA and explained fully in Appendix A of DOE's draft regulations. An estimated cost should be extrapolated for all schools as total cost may require a legislative appropriation, bond package, and/or loans to local districts.

APPENDIX A

Results of Asbestos Sampling
Utah Biomedical Testing Laboratory

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Sherrod Elementary	Palmer		3-13-80	5-7 & 8-80	No
Wasilla High School	Wasilla		3-10-80	5-7 & 8-80	No
Wasilla Junior High	Wasilla		3-10-80	5-7 & 8-80	<1% chrysotile, ~40% amosite
Wasilla Junior High	Wasilla		3-10-80	5-7 & 8-80	No
Wasilla Elementary	Wasilla		3-10-80	5-7 & 8-80	~10% chrysotile ~30% amosite
Wasilla Elementary	Wasilla		3-10-80	5-7 & 8-80	No
Palmer High School	Palmer		3-13-80	5-7 & 8-80	No
Palmer High School	Palmer		3-13-80	5-7 & 8-80	No
Palmer Junior High	Palmer		3-13-80	5-7 & 8-80	No
Palmer Junior High	Palmer		3-13-80	5-7 & 8-80	No
Palmer Junior High	Palmer		3-13-80	5-7 & 8-80	1-2% chrysotile
Big Lake Elementary	Big Lake		3-10-80	5-7 & 8-80	No
Big Lake Elementary	Big Lake		3-10-80	5-7 & 8-80	No
Big Lake Elementary	Big Lake		3-10-80	5-7 & 8-80	No
SU Valley High	Talkeetna		3-11-80	5-7 & 8-80	No
SU Valley High	Talkeetna		3-11-80	5-7 & 8-80	No
SU Valley High	Talkeetna		3-11-80	5-7 & 8-80	No
Nome Elementary	Nome	Old Wing: boy's toilet	2-6-80	5-7 & 8-80	No
Nome Elementary	Nome	Hallway ceiling tile	2-6-80	5-7 & 8-80	No
Nome-Beltz High	Nome	Gym ceiling	2-6-80	5-7 & 8-80	No
Nome-Beltz High	Nome	Hallway ceiling	2-6-80	5-7 & 8-80	No
Main Junior High	Kodiak	1st & 2nd floor halls and classrooms	3-4-80	5-7 & 8-80	1-2% chrysotile
Main School Cafeteria	Kodiak	Pipe insulation in kitchen	3-4-80	5-7 & 8-80	5-10% chrysotile
Main School Cafeteria	Kodiak	Ceiling insulation	3-4-80	5-7 & 8-80	1-2% chrysotile
Main Elementary	Kodiak	Main hall ceiling tile	3-4-80	5-7 & 8-80	No
Main Elementary	Kodiak	Boy's restroom ceiling tile	3-4-80	5-7 & 8-80	No
East Elementary	Kodiak	Hall by office	3-4-80	5-7 & 8-80	No
Peterson Elementary	Kodiak	Woven material connecting 2 sections of a fresh-air duct: shop area for custodian	3-5-80	5-7 & 8-80	~50% chrysotile

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Peterson Elementary	Kodiak	Lining to safety blanket--auto mechanic shop	3-5-80	5-7 & 8-80	No
Kodiak High School	Kodiak	Lining to safety blanket--auto mechanic shop	3-5-80	5-7 & 8-80	~60% chrysotile
Kodiak High	Kodiak	All rooms & halls	3-5-80	5-7 & 8-80	No
Main School	Kodiak	Boiler room pipe insulation	3-5-80	5-7 & 8-80	No
Kodiak High	Kodiak	Cord from apron used in welding room	3-5-80	5-7 & 8-80	~60% chrysotile
State Office Bldg.	Juneau	Parking garage	3-19-80	5-7 & 8-80	No
Trapper Creek Elementary	Trapper Creek	Ceiling cover in bldg 18: library	2-28-80	5-7 & 8-80	~1% chrysotile
Living Word Academy	Tok	Boiler insulation near entrance to school	2-4-80	7-9 & 10-80	<1% chrysotile, 10±5%amosite
Gakona School	Gakona	Pipe insulation	2-12-80	7-9 & 10-80	No
Tetlin BIA School	Tetlin	Ceiling tile	2-12-80	7-9 & 10-80	No
Delta Junction	Delta Junction	Ceiling material on floor in furnace room	3-18-80	7-9 & 10-80	No
Alaska Land Civic Building	Fairbanks	Ceiling	4-29-80	7-9 & 10-80	No
Northward Building	Fairbanks	Ceiling cover of basement	4-30-80	7-9 & 10-80	<1% chrysotile
Federal Building	Fairbanks	Steel support beams & ceiling of mechanical room & parking garage	5-2-80	7-9 & 10-80	No
North Star Borough Building	Fairbanks	Support beams--air plenum	4-30-80	7-9 & 10-80	1% chrysotile
Rampart Mini-Mall	Fairbanks	Ceiling cover	4-30-80	7-9 & 10-80	No
Main School	Fairbanks	Pipe insulation	5-20-80	7-9 & 10-80	70±5% chrysotile
Homer Junior High	Homer		3-20-80	7-9 & 10-80	No
Homer Junior High	Homer		3-20-80	7-9 & 10-80	No
East Homer Elementary	Homer		3-27-80	7-9 & 10-80	10-20% amosite
Homer High School	Homer		3-21-80	7-9 & 10-80	No
Soldotna Junior High	Soldotna		3-18-80	7-9 & 10-80	No
Redoubt Elementary	Redoubt		3-12-80	7-9 & 10-80	1-2% chrysotile
Kenai Central High	Kenai		5-1-80	7-9 & 10-80	No
Susan B. English	Seldovia		4-1-80	7-9 & 10-80	No
Susan B. English	Seldovia		4-1-80	7-9 & 10-80	No
Susan B. English	Seldovia		4-1-80	7-9 & 10-80	No
South End High School	Ninilchik		3-19-80	7-9 & 10-80	30±5% chrysotile
Capital School	Juneau	kindergarten piping	11-5-79	7-9 & 10-80	No

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Kodiak High School	Kodiak		4-4-80	7-9 & 10-80	2-5% chrysotile
Kodiak High School	Kodiak		4-4-80	7-9 & 10-80	1-2% chrysotile
Old Harbor Elementary	Old Harbor		3-19-80	7-9 & 10-80	No
Ouzinkie School	Ouzinkie		3-7-80	7-9 & 10-80	No
Lower Kuskokwim (Kilbuck Elementary and Junior High)	Bethel	Ceiling of gym	4-24-80	7-9 & 10-80	No
Lower Kuskokwim (Bethel Regional High School)	Bethel	Ceiling tile from classroom bldg	4-25-80	7-9 & 10-80	No

APPENDIX B

Geographic Listing of
Samples Containing Asbestos

A. Mata[illegible]ka-Susitna Borough--17 samples: 3 with asbestos; 2 or 11.8% for asbestos above 40%

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Wasilla Elementary	Wasilla	Location unidentified	3-10-80	5-7 & 8-80	~10% chrysotile ~30% amosite
Wasilla Junior High	Wasilla	Location unidentified	3-10-80	5-7 & 8-80	<1% chrysotile, ~40% amosite
Palmer Junior High	Palmer	Location unidentified	3-13-80	5-7 & 8-80	1-2% chrysotile

B. Kodiak Island Borough--14 samples: 8 with asbestos; 4 or 28.6% with asbestos above 10%

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Peterson Elementary	Kodiak	Woven material connecting 2 sections of a mesh-air duct, shop area for custodian	3-5-80	5-7 & 8-80	~50% chrysotile
Main Junior High	Kodiak	1st & 2nd floor halls and classrooms	3-4-80	5-7 & 8-80	1-2% chrysotile
Main School Cafeteria	Kodiak	Pipe insulation in the kitchen	3-4-80	5-7 & 8-80	5-10% chrysotile
Main School Cafeteria	Kodiak	Ceiling insulation	3-4-80	5-7 & 8-80	1-2% chrysotile
Kodiak High School	Kodiak	Lining to safety blanket--auto mechanic shop	3-5-80	5-7 & 8-80	~60% chrysotile
Kodiak High School	Kodiak	Location unidentified	4-4-80	7-9 & 10-80	2-5% chrysotile
Kodiak High School	Kodiak	Location unidentified	4-4-80	7-9 & 10-80	1-2% chrysotile
Kodiak High	Kodiak	Cord from apron--used in welding room	3-5-80	5-7 & 8-80	~60% chrysotile

C. Kenai Peninsula Borough--11 samples: 3 with asbestos; 2 or 18.2% with asbestos above 10%

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
East Homer Elementary	Homer	Location unidentified	3-27-80	7-9 & 10-80	10-20% amosite
Redoubt Elementary	Redoubt	Location unidentified	3-12-80	7-9 & 10-80	1-2% chrysotile
South End High	Ninilchik	Location unidentified	33-19-80	7-9 & 10-80	30%±5% chrysotile

D. Other schools--15 samples: 3 with asbestos; 2 or 13.3% with asbestos above 10%

School/Building	City	Interior Location	Date Sampled	Date Tested	Results
Living Word Academy	Tok	Boiler insulation near entrance to school	2-4-80	7-9 & 10-80	<1% chrysotile, 10±5% amosite
Main School	Fairbanks	Pipe insulation	3-20-80	7-9 & 10-80	70±5% chrysotile
Trapper Creek Elementary	Trapper Creek	Ceiling cover in bldg 18: library	2-28-80	5-7 & 8-80	~1% chrysotile

Dr. Bob Frazier (Anchorage)
pulmonary asbestosis, tumor

Dr Selikoff - not too highly regarded by others in field

Dr ~~[illegible]~~, Boston Hosp/Harvard Med School -

20 yrs heavy exposure)
40 " lighter " } latency

Dr. Ed Gaensler Boston City Hosp. Chief Chest Div
(617) 247-6253

(2)

Endrey never responded back to McClintock.

SB 179 - funeral exp.; med. exp.; filed to employer rates increased.

3-6-81

Jacquelyn McClintock - Workman's Compensation (since 1977) Feb. 1978
- for any given year

Asbestosis - covered as any other pulmonary disease; problems are the latency period, and finding which employer is responsible. (the last injurious exposure rule - the last employer is responsible)

AS 23.30.105 must be filed within 2 yrs after knowledge of disease. X-taking out the place of 4 yr. after injury - must file. Makes allowances for illness & latency period.

Are preparing booklet to send to those who file.

* FY82 budget to publicize that people can file.

Plumbers & Pipefitters Union - misunderstood regs.

Hearing teleconference - 4 people complained but only one had actually filed.

- Compensable for anything that worsens the condition.

12-4-80 - no recent hearings/claims on asbestosis

Jack Ensley - Sr H Heat & Frost Workers. List of names for Workman's Comp. Only one had filed. (Henry Moore) Sept 19, 1977 Then Moore filed a 3rd party claim. cannot file

George Murray

Ellen Greenburg 20 St
Lee Hayes 2947

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: S.B. 338 & S.B. 339 and how the proposed program might affect the Anchorage 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 $5.00 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 (entire ceiling area) No immediate danger. 363,390 sq. ft.

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

377,188 sq. ft.
× $5

TOTAL COST $1,885,940

CANCER
Thomas H. Corbett

Asbestos - magnesium oxide & silicate compounded with water / Chemical breakdown of the type most commonly used in industry.

1st century - Greek geographer, Strabo, and Roman naturalist, Pliny the Elder, Both noted an illness in the lungs of slaves who wove asbestos into cloth.

3-10-81

Ellen Greenberg DEC 2650 3651

samples of friable asbestos analyzed $22.00 each:

Utah Biomedical Lab
Salt Lake City, Utah

- considering switching to a lab-ix calif. because it will give % asbestos as well as % other fibers (ex. fiberglas etc.)

- EPA has done a central study of many labs in the country to determine how their analysis compares with their central data.
- The lab in Arch. has not been tested by EPA and their prices are not competitive $40.00 ea.

Chemical & Geological Lab of Am.
Rene Yorkin V.P. 279-4014
Archie Green Pres.

TEST

Phase contrast - will not satisfy EPA / is not too accurate. EPA will test for quality assurance

polarized light microscope is needed → Lab has ordered equipment but has not arrived - will be 45.00 per sample

3/5/81

~~Susan Johnson~~ -

Darryl Miller -

only 2 inspectors in Ak. (Safety & compliance)
1 volunteer - inspects asbestos on request.

Industrial
Ray Jorgensen - Chief, Hygienist
super. people who are employed and inspect work sites.
did a study on identifying & evaluating asbestos → Tom Hannah. 10/12 entries on asbestos. Priority is haphazard, no specific program to look for asbestos.
priorities:
1. employee complain
2. agency referral
3. follow up inspections
* 4. programmed inspections (about 15 yr.) 2
only about 4/asbestos

must prove exposure in court require heavy documentation — much time.
demolition work - should be sampled first

Union - workers are aware of hazard
but frequently must provide own protection

Precautionary measures are possible.

- An effective control program would take more staff and several years.
- self-analysis plans
  - A. consultation
  - B. reimbursement for testing

Data - identifying establishments by region in State

Fed. OSHA - ~~Ships~~

~~Septa~~ DEC - train sanitation people
DOTPF - train people

Analysis / engineering control -

May need use a certain lab for legal means with acceptable. X ray diffraction microscopy to differentiate fibrous material / asbestos. Send to N.W. Environ. Health Services Richland Wash. (Boar Cert
One lab in Anch — Oil & Geological.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

Shroud w/ advertising for asbestos

existing standard: 2 fibers per cubic ~~centimeter~~ centimeter of air TWA 8 hrs. = 2 Million fibers per cubic meter of air, worker may intake 8 cubic meters of air or more per day

existing technology allows, and NIOSH proposes 0.5 fibers per cubic centimeter of air level (see NIOSH publication) — pg. 1

Health hazards associated with exposure to friable asbestos in industrial situations has been a world-wide concern and a subject of major documentation, linking asbestos to many types of cancer.

There are 1,897 places of employment in Alaska where potential exposure to asbestos exists. Most of the responsibility for ~~protecting~~ alerting employees ~~from~~ to these hazards rests ~~with the~~ on the consciences of their employers, as the Division of Occupational Safety & Health has only two field employees for the entire state and can manage ~~only~~ approximately four site inspections per year related to asbestos.

Five new positions for Industrial Hygienists were approved with some funding for salaries and combined with adequate travel appropriations, have succeeded in making the site inspection program implemental.

My concern for the health protection of all employees prompts me to urge the funding of these positions as well as the Division's ~~request~~ travel budget request for FY82.

for Industrial Hygienists

Two new positions were approved without funding for salaries ~~and some~~ combined with inadequate travel funds, have succeeded in making the site inspection program ineffectual in protecting workers from many Health hazards.

Inadequate Travel Expenses

~~[illegible]~~ Duckworth/Bennett

Health hazards associated with exposure to friable asbestos in industrial situations has been a world-wide concern and subject of major documentation. Asbestos has been widely used since 1940, no "safe" levels of exposure have been determined and exposure to the damaged substance has been linked to many types of cancer. ~~[illegible]~~ ~~1,897 places of employment have potential~~ ~~identified as potential asbestos exposure~~ There are 1,897 places of employment in Alaska where potential exposure to asbestos exists. Only four of these establishments were selected for inspection by the Division of Occupational Safety and Health because only two industrial hygienists are employed to conduct ~~[illegible]~~ site inspections in the entire state.

— Concern for adequate protection of employees —

Health hazards associated with exposure to friable asbestos in industrial situations has been a world-wide concern and a subject of major documentation, linking asbestos to many types of cancer.

There are 1,897 places of employment in Alaska where potential exposure to asbestos exists. Approximately four site inspections for asbestos are done yearly by O.S.H. because of required priorities and lack of manpower. ~~Although~~ two positions for Industrial Hygienists have been approved but remain unfunded.

My concern for the adequate health protection of all employees prompts me to urge the funding of these positions and ~~fund~~ the Division's request for travel expenses for the Industrial Hygienists for FY 82.

(202) 755-2700 DIRECTOR E.P.A.

OFFICE OF SOLID WASTE (755-9170)

OFFICE OF TOXIC SUBSTANCE – 755-0310

(DIR.) RICHARD GUYMOND – 755-2196

ASBESTOS PROJECT

REGION X EPA

* Margo Partridge 206 442 5560

John Keller

~~Portland~~

nothing difficult about taking samples, as long as all training is the same.

– some instances people have not wanted to have whole core samples taken!

– good records must be kept on locations

– should be sure to take random samples (in different places) and mark samples well.

– most school districts have used maintence personnel

– should wear protective equipment.

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

magnesium oxide / silicate
compounded with water

Asbestos is the generic term for a number of naturally occurring fibrous mineral silicates, a mineral that is incombustible, flexible, and cannot be biologically destroyed easily. Since the mid-1970's concern has grown over the hazards of asbestos in schools, as loose, flaking asbestos material was discovered in schools in the country and medical evidence indicating linkage between asbestos and disease mounted.

Asbestos fibers are indestructible, and once inhaled into the lungs are never released. Asbestosis, a debilitating disease caused when the lungs are clogged with fibers, is only related to the exposure to asbestos, other related diseases are lung, esophagal, stomach and colon cancers, and mesothelioma, a cancer of the lining of the chest cavity so rare that prior to its linkage to asbestos it was not listed in the cancer registry.

For a generation, asbestos was hailed as a "miracle mineral" because of its fireproofing and insulating qualities. It found its way into over 4000 industrial uses ranging from brake-linings to floor tiles to modeling clay. Its use was mandated in local building codes and the word asbestos became a reassurance against fire and disaster. Following WW II and into the 50's asbestos was sprayed everywhere, school construction was at apeak with the "baby boom" and concern for fire safety in education was a national trend. Sources of asbestos in schools are sprayed-on insulation, decorative or acoustical products, reinforced cement and plaster products, pipe insulation, floor tiles and fireproof textiles.

When researchers linked the exposure to airborne asbestos fibers to cancer in the mid-60's, they turned a thriving industry into an industrial villain. Johns-Manville Corporation, the world's largest producer of asbestos, was marketing seven million tons of the material a year.

The most devastating fact about asbestos is that the latency period is extensive - up to 40 years. Little is understood about the physical capacity of the human body to withstand asbestos, but no level of exposure has been determined to be safe, with each individual physiology being different. Some people are susceptible to disease after minimal exposure, although incidence is highest with those who work directly with the material and inareas around shipyards andindustries. Joseph Califano HEW

It has been impossible for science to predict the hazard to the general public since comprehensive studies are years away. It has been determined that children are more apt to be affected by these carcinogens because of the growth process and the affect on cell development.

Hearings were begun in Congress in 1979 concerning asbestos hazards in schools after surveys in some states revealed an alarming amount of damaged asbestos and poor air quality in Eastern schools. The Asbestos School Hazard and Control Act of 1980 was the result of months of hearings. The Department of Education has complied with submitting state plans in accordance with the act, and planning has been followed through with the DEC, DOT/PP, and DOE working together to develop a plan to comply with P.L. 96-270. The Federal Asbestos act was to provide money to states to assist in detection and renovation, unfortunately this money was never funded for this program.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

THE MOUNT SINAI MEDICAL CENTER
ONE GUSTAVE L. LEVY PLACE • NEW YORK, N.Y. 10029

Mount Sinai School of Medicine • The Mount Sinai Hospital

November 3, 1980

Environmental Sciences Laboratory
Cummings Basic Sciences Building
10 East 102 Street
New York, New York 10029
(212) 650-6173

Mr. Jack M. Endsley, Business Agent
Local 97 IAMFIAW
407 Denali Street
Anchorage, Alaska 99501

Dear Mr. Endsley:

Our investigation of deaths among members of Local 97 January 1, 1967-December 31, 1976 indicated that 10 men died of cancer;

Ed Kelly	Lung cancer	1967
Ed Campbell	Lung cancer	1968
Fred Moffit	Lung cancer	1968
Kenneth Wise	Peritoneal mesothelioma	1968
Lloyd Larson	Leukemia	1970
Willis Moore	Lung Cancer	1970
Bill C. Anderson	Lung Cancer	1975
Hoyt Gilley	Peritoneal mesothelioma	1975
Howard Kilpinger	Abdominal cancer	1976
Henry Moore	Lung cancer	1976

We have information concerning deaths 1977-1980 (to date) but I am not sure that this is yet complete. However, if such additional information would be of assistance to you, please write me.

With all best wishes.

Cordially,

Irving J. Selikoff, M.D.
Professor

IJS:jm
cc: Mrs. Janet S. Kaffenburgh

MOUNT SINAI SCHOOL OF MEDICINE
of The City University of New York
FIFTH AVENUE AND 100TH STREET • NEW YORK, N.Y. 10029

Department of Community Medicine

March 8, 1976

Mr. Jack N. Endsley, Business Agent
Local No. 97, IAHPIAW
407 Denali Street, Room 302
Anchorage, Alaska 99501

Dear Mr. Endsley:

Thank you very much for the information you have provided in the case of Hoyt B. Gilley of Local No. 97. This will be of great value to us, and I am most appreciative.

Our first information indicates that Mr. Gilley died of malignant mesothelioma. I call this to your attention since the question of the protection of the widow by workmen's compensation may arise. I realize that Mr. Gilley died in North Charleston, South Carolina but he was a member of your local.

With warm personal regards.

Sincerely yours,

Irving J. Selikoff, M.D.
Professor

IJS:ss
97-2223

THE MASON CLINIC
1100 NINTH AVENUE
P.O. BOX 900
SEATTLE, WASHINGTON 98111
TELEPHONE (206) 223-6600

DEPARTMENT OF MEDICINE
Section of Chest and Infectious Diseases
RICHARD H. WINTERBAUER, M.D.
JOHN D. ALLEN, M.D.
EDWARD H. MORGAN, M.D.
DAN E. OLSON, M.D., PhD.
NEELY E. PARDEE, M.D.

August 30, 1979

To Whom It May Concern:

Re: BARTHOLOMY, MILTON W.
Mason Clinic No. 30-76-84

It has been determined that Mr. Bartholomy has interstitial pulmonary fibrosis resulting from prolonged asbestos exposure, and this conclusion is confirmed by biopsy and microscopic studies of pulmonary secretions. Physiologic impairment is severe, and Mr. Bartholomy should be considered totally disabled on this basis. Any additional exposure to asbestos or to any other airborne dust or irritant fume will threaten Mr. Bartholomy's safety and future survival, and this fact should be taken into consideration in support of the conclusion that he has disability. Disability should be considered total and permanent.

Sincerely,

Neely E. Pardee, M.D.

NEP:mc

PERMANENT INK | 75 – 53 – D | BUREAU OF VITAL STATISTICS

DECEASED — NAME: FIRST: BILL | MIDDLE: CALVIN | LAST: ANDERSON

Field	Value
2. Sex	MALE
3. Race	CAUCASIAN
4. Date of death	JANUARY 26, 1975
5a. Age — last birthday	47 YEARS
6. Date of birth	MARCH 3, 1927
Place of death	ALASKA
7a. Recording district	ANCHORAGE
7b. City, town or location	ANCHORAGE
7d. Hospital or other institution	GLENMORE NURSING HOME
7e. Street and number	4895 Cordova Street, Anchorage, Alaska
8. State of birth	STILWELL, OKLAHOMA
9. Citizen of what country	U.S.A.
10. Marital status	☐ Married ☐ Never married ☐ Widowed ☒ Divorced
11. Surviving spouse	NONE
12. Social security number	446-26-2973
13a. Usual occupation	ASBESTOS WORKER
13b. Kind of business or industry	CONSTRUCTION
14a. Residence — State	ALASKA
14b. Recording district or county	ANCHORAGE
14c. City, town, or location	ANCHORAGE
14d. Inside city limits	☐ Yes ☒ No
14e. Street and number	8241 SPRUCE ROAD,
14f. Length of stay in 14c	28 YEARS
15. Father — name	JAMES ANDERSON
16. Mother — maiden name	MILDRED LEE
17a. Informant — name	JACK ENDSLEY
17b. Mailing address	8241 SPRUCE ROAD, ANCHORAGE, AK.

18. PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b) AND (c)) SEE REVERSE SIDE

Immediate cause (a): Arsenic Lung

Due to, or as a consequence of (b): Asbestosis

Due to, or as a consequence of (c):

PART II. OTHER SIGNIFICANT CONDITIONS:

IF VIOLENT DEATH: ☐ Accident ☐ Homicide ☐ Suicide ☐ Undetermined

Injury at work: ☐ Yes ☐ No

Field	Value
21a. Hour of death	3:00 P.M.
21b. Dates attended — from	1/1/75
21c. To	1/26/75
21d. Date last seen alive	1/26/75
Hour of death (medical examiner)	3:00 p.m.
Date pronounced dead	Jan 26, 1975
Signature	(signature)
Name	DAVID DIETZ, M.D.
Date signed	1-18-75
Address	825 L STREET, ANCHORAGE, ALASKA 99510
☐ Burial ☐ Removal ☒ Cremation	
23b. Date	1-30-75
Cemetery or crematory	SPENARD HEIGHTS CREMATORY, ANCHORAGE, ALASKA
Permit issued by	ANCHORAGE
Funeral director — signature	LEE NOEGLEIN
Funeral home	EVERGREEN MEMORIAL CHAPEL
Local registrar, vital statistics	(signature)
Address	ANCHORAGE

CERTIFIED TRUE COPY
BUREAU OF VITAL STATISTICS
ANCHORAGE, ALASKA
January 30, 1975
(signature)

ORIGINAL - STATE COPY

Bill C. Anderson

Joined Local #97 approximately July, 1951.

Application shows 2 years previous trade experience with Brower Insulation Company in Alaska.

Was issued a Withdrawal Card in January, 1954.
Withdrawal returned August, 1954.

Active membership in Local 97 during 1955, 1956, 1957, 1958, 1959, 1960.

Was issued a Traveler in December, 1960.

Traveler was returned May, 1961.

Traveler issued March, 1971 - returned Sept., 1971.

Traveler issued January, 1972. - returned July 1972.

RECORDER'S NO. 76 - 133 - D

ALASKA DEPARTMENT OF HEALTH AND WELFARE
BUREAU OF VITAL STATISTICS — JUNEAU, ALASKA 99801

DATE REGISTERED

DECEASED — NAME (1) FIRST: HENRY MIDDLE: CALLAWAY LAST: MOORE

(2) SEX: MALE (3) RACE: CAUCASIAN (4) DATE OF DEATH: MARCH 27, 1976

(5a) AGE — LAST BIRTHDAY: 72 YEARS (5b) UNDER 1 YEAR: MONTHS / DAYS (5c) UNDER 1 DAY: HOURS / MINUTES (6) DATE OF BIRTH: JUNE 7, 1903

(7a) PLACE OF DEATH: ALASKA RECORDING DISTRICT: ANCHORAGE (7b) CITY, TOWN OR LOCATION: ANCHORAGE (7c) INSIDE CITY LIMITS: ☒ YES ☐ NO

(7d) HOSPITAL OR OTHER INSTITUTION — NAME (IF NOT IN EITHER, GIVE STREET AND NUMBER): PROVIDENCE HOSPITAL (7e) STREET AND NUMBER: 3200 PROVIDENCE DRIVE

(7f) LENGTH OF STAY IN 7b: 27 YEARS (8) STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY): BASTROP, TEXAS (9) CITIZEN OF WHAT COUNTRY: U.S.A.

(10) MARITAL STATUS: ☒ MARRIED ☐ NEVER MARRIED ☐ WIDOWED ☐ DIVORCED (11) SURVIVING SPOUSE (IF WIFE, GIVE MAIDEN NAME): CLARA M. CROWE

(12) SOCIAL SECURITY NUMBER: 558-03-0068 (13a) USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED): RETIRED INSULATOR (13b) KIND OF BUSINESS OR INDUSTRY: CONSTRUCTION

(14a) RESIDENCE — STATE: ALASKA (14b) RECORDING DISTRICT OR COUNTY: ANCHORAGE

(14c) CITY, TOWN, OR LOCATION: ANCHORAGE (14d) INSIDE CITY LIMITS: ☒ YES ☐ NO (14e) STREET AND NUMBER: 1720 SCENIC WAY

(14f) LENGTH OF STAY IN 14c: 27 YEARS (15) FATHER — NAME FIRST MIDDLE LAST: DAN MOORE (16) MOTHER — MAIDEN NAME FIRST MIDDLE LAST: ETHEL CALLAWAY

(17a) INFORMANT — NAME: CLARA M. MOORE (17b) MAILING ADDRESS — STREET OR P.O. BOX NO., CITY OR TOWN, STATE, ZIP CODE: 1720 SCENIC WAY, ANCHORAGE, ALASKA 99501

(18) PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b) AND (c)) SEE REVERSE SIDE — APPROXIMATE INTERVAL BETWEEN ONSET AND DEATH

IMMEDIATE CAUSE (a) Bronchogenic Carcinoma

DUE TO, OR AS A CONSEQUENCE OF: (b) Asbestosis

DUE TO, OR AS A CONSEQUENCE OF: (c)

(MALFUNCTION OR DRINKING SIGNIFICANTLY INVOLVED. INDICATE UNDER ITEM 18 OR ITEM 20)

(CONDITIONS, IF ANY, WHICH GAVE RISE TO IMMEDIATE CAUSE (a), STATING THE UNDERLYING CAUSE LAST)

PART II. OTHER SIGNIFICANT CONDITIONS: CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN PART I(a): Atherosclerotic cardiovascular disease

(18a) AUTOPSY ☐ YES ☐ NO (18b) ☐ YES ☐ NO

VIOLENT DEATH

(20a) ☐ ACCIDENT ☐ HOMICIDE ☐ SUICIDE ☐ UNDETERMINED (20b) DATE OF INJURY (MONTH, DAY, YEAR) (20c) HOUR (20d) HOW INJURY OCCURRED (ENTER NATURE OF INJURY IN PART I OR PART II, ITEM 18)

(20e) INJURY AT WORK ☐ YES ☐ NO (20f) PLACE OF INJURY (AT HOME, CANNERY, ETC. SPECIFY) (20g) LOCATION — STREET AND NUMBER, CITY OR TOWN, STATE, ZIP CODE

(21a) CERTIFICATION — PHYSICIAN (SIGN UNDER 23a): DEATH OCCURRED AT THE PLACE ON THE DATE, AND TO THE BEST OF MY KNOWLEDGE, DUE TO THE CAUSE(S) STATED. (21a) HOUR OF DEATH (21b) DATES IN ATTENDANCE FROM 1972 (21c) TO 3-27-76 (21d) DATE LAST SEEN ALIVE BY PHYSICIAN: 3 27 76 (21e) BODY VIEWED AFTER DEATH BY PHYSICIAN: ☒ YES ☐ NO

(22a) CERTIFICATION — MEDICAL EXAMINER OR CORONER (SIGN UNDER 23a): ON THE BASIS OF THE EXAMINATION OF THE BODY AND/OR THE INVESTIGATION, IN MY OPINION, DEATH OCCURRED ON THE DATE AND DUE TO THE CAUSE(S) STATED. HOUR OF DEATH M. (22b) DATE PRONOUNCED DEAD MONTH DAY YEAR (22c) HOUR

OR OTHER FILING CERTIFICATE

(23a) SIGNATURE: Thomas C. Wood M.D. DEGREE OR TITLE (23b) NAME (TYPE OR PRINT): THOMAS C. WOOD, M.D.

(23c) DATE SIGNED (MONTH, DAY, YEAR): 3-29-76 (23d) MAILING ADDRESS — STREET OR P.O. BOX NO., CITY OR TOWN, STATE, ZIP CODE: 207 E. NORTHERN LIGHTS BLVD., ANCHORAGE, ALASKA

(24a) ☐ BURIAL ☐ REMOVAL ☒ CREMATION (24b) DATE (MONTH, DAY, YEAR): 3-31-76 (24c) CEMETERY OR CREMATORY — NAME AND LOCATION (CITY OR TOWN, STATE): SPENARD HEIGHTS CREMATORY, ANCHORAGE

(25) PERMIT ISSUED BY: ANCHORAGE — FUNERAL DIRECTOR — SIGNATURE: R.D. ROME — FUNERAL HOME — NAME AND ADDRESS (STREET OR P.O. BOX NO., CITY OR TOWN, STATE, ZIP CODE): EVERGREEN MEMORIAL CHAPEL, I

(27a) RECORDER-REGISTRAR: VITAL STATISTICS Deputy Clerk (27b) ADDRESS: ANC

CERTIFIED TRUE COPY
BUREAU OF VITAL STATISTICS
DEPUTY CLERK
April 1st, 1976

STATE FILE NUMBER COURTESY COPY

CERTIFICATE OF DEATH

STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC HEALTH

LOCAL REGISTRATION DISTRICT AND CERTIFICATE NUMBER COURTESY COPY

DECEDENT PERSONAL DATA

1a. NAME OF DECEASED—FIRST NAME	1b. MIDDLE NAME	1c. LAST NAME	2a. DATE OF DEATH—MONTH DAY, YEAR	2b. HOUR
EDWARD	JOSEPH	KELLY	May 31, 1967	12:45

3. SEX	4. COLOR OR RACE	5. BIRTHPLACE (STATE OR FOREIGN COUNTRY)	6. DATE OF BIRTH	7. AGE (LAST BIRTHDAY)	IF UNDER 1 YEAR	IF UNDER 24 HR.
Male	White	Missouri	December 4, 1915	51 YEARS		

8. NAME AND BIRTHPLACE OF FATHER	9. MAIDEN NAME AND BIRTHPLACE OF MOTHER	10. CITIZEN OF WHAT COUNTRY	11. SOCIAL SECURITY NUMBER
Patrick Kelly, Ireland	Catherine Smith, Ireland	U.S.A.	493-09-3601

12. LAST OCCUPATION	13. NO. OF YEARS IN OCCUPATION	14. NAME OF LAST EMPLOYING COMPANY OR FIRM (GIVE ADDRESS)	15. KIND OF INDUSTRY OR BUSINESS
Pipe Coverer	14	E.J. Bartells Co.	Asbestos Pipe Construction

16. IF DECEASED WAS EVER IN U.S. ARMED FORCES, GIVE WAR OR DATES OF SERVICE	17. SPECIFY MARRIED, NEVER MARRIED, WIDOWED, DIVORCED	18a. NAME OF PRESENT SPOUSE	18b. PRESENT OR LAST OCCUPATION OF SPOUSE
World War II	Married	Doris Kelly	Housewife

PLACE OF DEATH

19a. PLACE OF DEATH—NAME OF HOSPITAL	19a. STREET ADDRESS—(GIVE STREET OR RURAL LOCATION. DO NOT USE P.O. BOX NUMBER)	
Veterans Administration Hospital	150 Muir Road	

19c. CITY OR TOWN	19d. COUNTY	19e. LENGTH OF STAY IN CITY OF DEATH	19f. LENGTH OF STAY IN CALIFORNIA
Martinez	Contra Costa	2 weeks	2 weeks

LAST USUAL RESIDENCE (WHERE DID DECEASED LIVE—IF IN INSTITUTION ENTER RESIDENCE BEFORE ADMISSION)

20a. LAST USUAL RESIDENCE—STREET ADDRESS (GIVE STREET OR RURAL LOCATION. DO NOT USE P.O. BOX NUMBER)	20b. IF INSIDE CITY CORPORATE LIMITS ☐ YES ☐ NO	IF OUTSIDE CITY CORPORATE LIMITS ☐ YES ☒ NO OR UNKNOWN	21a. NAME OF INFORMANT (IF OTHER THAN SPOUSE)
Mile 101 Seward Highway			Wife

20c. CITY OR TOWN	20d. COUNTY	20e. STATE	21b. ADDRESS OF INFORMANT (STREET AND NUMBER, CITY, STATE)
Bird Creek		Alaska	Same as 20a

PHYSICIAN'S OR CORONER'S CERTIFICATION

22a. PHYSICIAN (I HEREBY CERTIFY THAT DEATH OCCURRED AT THE HOUR, DATE AND PLACE STATED ABOVE, AND THAT I LAST SAW THE DECEASED ALIVE ON THE DATE STATED.)	22c. PHYSICIAN OR CORONER (SIGNATURE)	
Time of death 5/22/67	▶ s/ Michael L. [illegible]	M.D.
22b. CORONER (I HEREBY CERTIFY THAT DEATH OCCURRED AT THE HOUR, DATE AND PLACE STATED, AND THAT I VIEWED THE REMAINS OF DECEASED AS WELL AS THE CIRCUMSTANCES OF DEATH.)	22d. ADDRESS	22e. DATE SIGNED
	VAH, Martinez, [illegible]	May 31, 19[illegible]

FUNERAL DIRECTOR AND LOCAL REGISTRAR

23. METHOD OF DISPOSITION	24. DATE	25. NAME OF CEMETERY OR CREMATORY	26. SIGNATURE OF EMBALMER (LICENSE NO.)
Burial	6/2/67	Anchorage, Alaska	s/ Donald W. Oltman 301

27. NAME OF FUNERAL DIRECTOR (OR PERSON)	28. DATE ACCEPTED BY LOCAL REGISTRAR	29. LOCAL REGISTRAR (SIGNATURE)
Connolly & Taylor Inc. Martinez, California	▶	

MEDICAL AND HEALTH DATA

CAUSE OF DEATH

30. CAUSE OF DEATH

PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c).)

IMMEDIATE CAUSE (a) Pulmonary Embolism — (APPROX. INTERVAL BETWEEN ONSET AND DEATH) hrs.

CONDITIONS IF ANY, WHICH GAVE RISE TO THE ABOVE CAUSE (a) STATING THE UNDERLYING CAUSE LAST.

DUE TO (b)

DUE TO (c)

PART II. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO THE TERMINAL DISEASE CONDITION GIVEN IN PART I.

Carcinoma of lung with pancoast tumor of right thorax

OPERATION AND AUTOPSY

31. OPERATION—CHECK ONE	32. DATE OF OPERATION	33. AUTOPSY—CHECK ONE
☐ NO ☒ YES	4/14/67	☐ YES ☐ NO

INJURY INFORMATION

34a. SPECIFY ACCIDENT, SUICIDE OR HOMICIDE	34b. DESCRIBE HOW INJURY OCCURRED
35a. TIME OF INJURY (MONTH, DAY, YEAR)	

35b. INJURY OCCURRED ☐ WHILE AT WORK ☐ NOT WHILE AT WORK	35c. PLACE OF INJURY (E.G., IN OR ABOUT HOME, FARM, STREET, OFFICE BUILDING, ETC.)	35d. CITY, TOWN OR LOCATION — COUNTY — STATE

DEPARTMENT OF PUBLIC HEALTH
VITAL STATISTICS SECTION

CERTIFIED COPY OF DEATH CERTIFICATE

WASHINGTON STATE DEPARTMENT OF HEALTH — BUREAU OF VITAL STATISTICS

CERTIFICATE OF DEATH

Field	Entry
Deceased — Name (First, Middle, Last)	WILLIS W. MOORE
Sex	Male
Date of Death	June 13, 1970
Race	White
Age — last birthday (years)	56
Date of Birth	April 22 1914
County of Death	King
City, Town, or Location of Death	Seattle
Inside City Limits	Yes
Hospital or Other Institution	The Doctors Hospital
State of Birth	Washington
Citizen of What Country	U.S.A.
Married, Never Married, Widowed, Divorced	Married
Surviving Spouse	Lucille Fisher
Social Security Number	531-07-3184
Usual Occupation	Pipe coverer
Kind of Business or Industry	
Residence — State	Wash.
County	Snohomish
City, Town, or Location	Edmonds
Inside City Limits	Yes
Street and Number	16011 52nd Ave. W.
Father — Name	Willis Tom Moore
Mother — Maiden Name	Libby Pilling
Informant — Name	Lucille Moore (Wife)
Mailing Address	16011 52nd Ave. W., Edmonds, Washington

Part I. Death was caused by:

(a) Carcinoma left lung — [illegible] 10. 70
(b) [illegible], [illegible] — [illegible] - 68
(c) [illegible] failure — [illegible] 10. 70

Part II. Other significant conditions:

Autopsy: No

Accident, Suicide, Homicide, or Undetermined:
Date of Injury:
How Injury Occurred:
Injury at Work:
Place of Injury:
Location:

Certification — Physician: [illegible] 68 to June 13 70; last saw alive June 13 70; Death occurred 6:00A

Certifier — Name: [illegible] H. HORRDICK MD — Signature: [illegible] M.D. — Date Signed: June 15 [illegible]
Mailing Address: 1105 COBB BLDG Seattle WA

Burial, Cremation, Removal: Cremation
Cemetery or Crematory — Name: Bleitz Crematory
Location: Seattle, Washington
Date: June 16, 1970
Funeral Home — Name and Address: Bleitz Funeral Home 316 Florentia ST. Seattle, Wash. 98109
Funeral Director: [illegible]
Registrar: D. V. Wiman M.D.
Date Received by Local Registrar: JUN 16 1970

I HEREBY CERTIFY, That the foregoing is a true, full and correct copy of the original Certificate of Death on file in this office.

[illegible] M.D.
Seattle-King County Registrar

By S. Lyttle

Seattle, Wash. JUN 18 1970

1. Fred Forrest Moffet | 2. male | 3. May 3, 1900

4. RACE (WHITE, NEGRO, AMERICAN INDIAN, ETC. (SPECIFY)): White | 5a. AGE—LAST BIRTHDAY (YEARS): 59 | 5b. UNDER 1 YEAR (MOS. / DAYS) | 5c. UNDER 1 DAY (HOURS / MIN.) | 6. DATE OF BIRTH (MONTH, DAY, YEAR): 11-2-1908 | 10. COUNTY OF DEATH: Clark

7. CITY, TOWN, OR LOCATION OF DEATH: Vancouver | 8. INSIDE CITY LIMITS (SPECIFY YES OR NO): Yes | 9. HOSPITAL OR OTHER INSTITUTION—NAME (IF NOT IN EITHER, GIVE STREET AND NUMBER): Vancouver Memorial Hospital

DECEASED

USUAL RESIDENCE WHERE DECEASED LIVED. (IF DEATH OCCURRED IN INSTITUTION, GIVE RESIDENCE BEFORE ADMISSION.)

11. STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY): Kansas | 12. CITIZEN OF WHAT COUNTRY: USA | 13. MARRIED, NEVER MARRIED, WIDOWED, DIVORCED (SPECIFY): Married | 14. SURVIVING SPOUSE (IF WIFE, GIVE MAIDEN NAME): Bernice I. Haden

15. SOCIAL SECURITY NUMBER: 522-05-7598 | 16. USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED): Asbestos Mechanic | 17. KIND OF BUSINESS OR INDUSTRY: ----

18. RESIDENCE—STATE: Washington | 18a. COUNTY: Clark | 18b. CITY, TOWN, OR LOCATION: Vancouver | 18c. INSIDE CITY LIMITS (SPECIFY YES OR NO): yes | 18d. STREET AND NUMBER: 2413 Howard St.

PARENTS

19. FATHER—NAME (FIRST MIDDLE LAST): Henry W. Moffet | 20. MOTHER—MAIDEN NAME (FIRST MIDDLE LAST): Emma McCullum

21. INFORMANT—NAME: Bernice I. Moffet | 21a. MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP): 2413 Howard St., Vancouver, Washington

CAUSES

PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c).) | APPROXIMATE INTERVAL BETWEEN ONSET AND DEATH

22. IMMEDIATE CAUSE
(a) Carcinomatosis due to
DUE TO, OR AS A CONSEQUENCE OF:
CONDITIONS, IF ANY, WHICH GAVE RISE TO IMMEDIATE CAUSE (a), STATING THE UNDERLYING CAUSE LAST
(b) Probable mesothelioma owing from pleura
DUE TO, OR AS A CONSEQUENCE OF:
(c) Owing to asbestosis of the lung

PART II. OTHER SIGNIFICANT CONDITIONS: CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN PART I (b) | 23a. AUTOPSY (YES OR NO): Yes | 23b. IF YES WERE FINDINGS CONSIDERED IN DETERMINING CAUSE OF DEATH: Yes

24a. ACCIDENT, SUICIDE, HOMICIDE, OR UNDETERMINED (SPECIFY) | 24b. DATE OF INJURY (MONTH, DAY, YEAR) | 24c. HOUR | 24d. HOW INJURY OCCURRED (ENTER NATURE OF INJURY IN PART I OR PART II, ITEM 22 OR 23)

24e. INJURY AT WORK (SPECIFY YES OR NO) | 24f. PLACE OF INJURY (AT HOME, FARM, STREET, FACTORY, OFFICE BLDG., ETC. (SPECIFY)) | 24g. LOCATION (STREET OR R.F.D. NO., CITY OR TOWN, STATE)

CERTIFICATE

25a. CERTIFICATION—PHYSICIAN: I ATTENDED THE DECEASED FROM: 7-20-61 | TO: 5-3-68 | 25b. AND LAST SAW HIM/HER ALIVE ON: 5-3-68 | 25c. DID/DID NOT VIEW THE BODY AFTER DEATH: Did not | 25d. DEATH OCCURRED (HOUR): 4:40 pM | AT THE PLACE, ON THE DATE, AND, TO THE BEST OF MY KNOWLEDGE, TO THE CAUSE(S) STATED

25e. CERTIFICATION—CORONER: ON THE BASIS OF THE EXAMINATION OF THE BODY AND/OR THE INVESTIGATION, IN MY OPINION, DEATH OCCURRED ON THE DATE AND DUE TO THE CAUSE(S) STATED. HOUR OF DEATH: M | 25f. THE DECEDENT WAS PRONOUNCED DEAD (MONTH, DAY, YEAR, HOUR)

25g. CERTIFIER—NAME (TYPE OR PRINT): Dennis H. Secoat, M.D. | SIGNATURE: Dennis H. Secoat, M.D. | DEGREE OR TITLE | DATE SIGNED (MONTH, DAY, YEAR): 5-7-68

25h. MAILING ADDRESS—CERTIFIER (STREET OR R.F.D. NO.): 3914 Main Street | CITY OR TOWN: Vancouver | STATE: Washington | ZIP: 98660

BURIAL

26a. BURIAL, CREMATION, REMOVAL (SPECIFY): Burial | 26b. CEMETERY OR CREMATORY—NAME: Evergreen Mem. Gardens, | 26c. LOCATION (CITY OR TOWN, STATE): Vancouver, Washington

26d. DATE (MONTH, DAY, YEAR): 5-7-1968 | 26e. FUNERAL HOME—NAME AND ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP): Vancouver Funeral Chapel, Vancouver, Wash. 98660

26f. FUNERAL DIRECTOR—SIGNATURE: Wm Stephens | 26g. REGISTRAR—SIGNATURE: [illegible] | 26h. DATE RECEIVED BY LOCAL REGISTRAR: MAY 10 1968

THIS IS TO CERTIFY, that the foregoing is a true copy (photographic) of a record on file with the Department of Health, Vancouver, Washington.

MAY 10 1968

Donald A. Champaign, M.D.
District Health Officer

SEAL

By Shirley Weiss
Clerk

Sacramento, Calif.
March 6, 1968
Arthur Williams
1829 8th Ave. Delta

Mr. Eugene C Rapp,
Business Agent, Loc.97,
Asbestos Workers Union,
Anchorage, Alas. 99501.

Dear Mr. Rapp: RE: Edward H. Campbell (Deceased)

Thank you for the prompt reply to my letter and I am sorry I caused the confusion. After receiving the official Death Certificate, and before forwarding it to you, I thought perhaps you may require a copy of Letters Testamentary from the Superior Court in the County where Mr. Campbell's Will is being probated which will be March 11, 1968.

I also appreciate the information regarding his employment in Alaska during 1967 for Income Tax purposes. I have received copies of forms W-2 and WR-500 from R.I. Lawler covering the Federal and State income tax information.

Enclosed is an official copy of Mr. Campbell's death Cert.

Very truly Yours,

Arthur Williams
Executor E.H. Campbell's Estate.

Enc/

NOTE: The Will omitted my middle Initial and was filed for probate as Arthur Williams

PLACE OF DEATH: Yavapai — CITY: Prescott — INSTITUTION: VA Center

DATE OF BIRTH: 7 8 1912 — AGE: 55 — MARITAL STATUS

BIRTHPLACE: Virginia — CITIZEN OF WHAT COUNTRY: USA — SOCIAL SECURITY NO.: 525 07 [illegible] — USUAL OCCUPATION: [illegible]

RESIDENCE: Unknown — COUNTY: Unk. — CITY OR TOWN: Unk.

STREET ADDRESS OR R.F.D.: Unk. — HOW LONG LIVED IN ARIZONA: IN THIS TOWN Unk. IN STATE Unk. — PREVIOUS PLACE OF RESIDENCE: Unk.

FATHER'S NAME: Unk. — MOTHER'S MAIDEN NAME: Unk.

ADDRESS: Prescott, Arizona

MEDICAL CERTIFICATION OF CAUSE OF DEATH

PART I. DEATH WAS CAUSED BY:

A. IMMEDIATE CAUSE: Bronchopneumonia [illegible]

B. DUE TO OR AS A CONSEQUENCE OF: [illegible]

C. DUE TO OR AS A CONSEQUENCE OF:

PART II. OTHER SIGNIFICANT CONDITIONS

DATE OF INJURY — PLACE OF INJURY — WHERE LOCATED

1 26 68 2

VA Center, Prescott, Arizona

DATE OF DISPOSITION — CEMETERY OR CREMATORY: VA Cemetery — Prescott, Arizona

Funeral Home — 303 S. Cortez, Prescott, Ariz.

42 — 131

CERTIFIED COPY OF VITAL RECORD

STATE OF ARIZONA)

ss

COUNTY OF MARICOPA)

Date Issued: [illegible]

This copy is a true and exact reproduction of the document officially registered and placed on file in the DIVISION OF VITAL RECORDS, ARIZONA STATE DEPARTMENT OF HEALTH, PHOENIX, ARIZONA.

Issued under the authority of ARS 36-341 and by direction of:

FENTON H. BUTLER
Deputy State Registrar

GEORGE SPENDLOVE, M. D., M. P. H.
Commissioner of Public Health
and State Registrar

THIS COPY NOT VALID UNLESS PREPARED ON SAFETY PAPER DISPLAYING [illegible] IN COLOR AND IMPRESSED WITH RAISED SEAL OF ISSUING AGENCY

PATIENT [illegible] HOSP. NO. 67-1503

AGE 68 ROOM PATH. NO. S-68-27

PHYSICIAN Dr. Wain DATE

TISSUE OR ORGAN Autopsy page 3

CLINICAL HISTORY:

splenic pulp are collections of dark brown pigment consistent with hemosiderin. The capsule of the spleen is somewhat thickened and for the most part covered by thick layers of tumor as previously described. The kidneys are essentially normal. Bordering the capsules of the kidney are thick sheets of tumor showing areas of necrosis. Also scarce areas of fat necrosis. The adrenal glands are essentially normal except for occasional blood vessels within the cortex and medulla which are dilatated by recent to partially organized thrombi. The mucosa of the urinary bladder is flattened but otherwise intact. The muscle coat appears edematous. Bordering the muscle coat are thick sheets of tumor. The esophagus is lined by stratified squamous epithelium showing extensive areas of leukoplakia. In addition the mucosa is focally ulcerated or destroyed and replaced by large numbers of fibrin as well as neutrophil adjacent inflammatory cells. The submucosa is edematous throughout which are dilated blood vessels and variable numbers of chronic inflammatory cells. Sections of the pancreas reveal a few areas of intralobular fibrosis. The islet langerhans appear to be increased in number and larger than normal but otherwise is not remarkable. Islet appear normal. In the adjacent fat are scattered clusters of tumor cells and a few chronic inflammatory cells.

SUMMARY: Approximately 6 months prior to his last admission, this middle aged white man was admitted to Providence Hospital and underwent removal of mass in the right epididymis as well as an exploratory laparotomy which disclosed abdominal cavity to be covered by tumor both of which were subsequently diagnosed as a malignant mesothelioma. In spite of treatment including chemotherapy, he progressively deteriorated.

Autopsy disclosed extensive ascites and extensive upper involvement in which the entire serosal surface of the intestines, mesentery and peritoneal lit enamel and covered by thick layers of tumor. No evidence of invasion of the adjacent organs. There is evidenced mesenteric involvement the mesenteric lymph nodes in some areas the peritoneal area. In addition, the tumor nodules were found in the subcutaneous tissue of the abdomen probably due to implantation by previous paracenteses. Incidental finding included a number severe acute ulcerative esophagitis mainly in the region of the esophagogastric junction.

The case patient apparently had a history of prolonged contact with asbestos and death was the result of an extensive widespread involvement of all peritoneal surfaces of the abdominal cavity, and all serosal surfaces of the abdominal organs as a result of a malignant mesothelioma.

The current medical literature implicates asbestos as a significant factor/[illegible] of the mesotheliomas. The usual exposure period prior to the development of mesotheliomas varies from 15 to 40 years.

PATHOLOGIST

AGE 43 ROOM PATH. NO.

PHYSICIAN Dr. [illegible] DATE [illegible]

TISSUE OR ORGAN [illegible] - Page 2

CLINICAL HISTORY:

to be thickened and edematous. As previously mentioned the entire serosal surface of the stomach, small intestine, and large intestine are covered by thick to thin layers of friable grey-white tumor and limited to the serosal surface with no evidence of invasion of the underlying wall or evidence of obstruction. The stomach is empty, lined by an intact mucosa containing some clear mucus. The duodenum contains a small amount of yellow-grey liquid material. The large intestine contains some liquid fecal material, and gas. The majority of the surface of the right lobe of the liver is covered by sheets of tumor as is the gallbladder and porta hepatis. Serial sections through the liver reveals no evidence of metastatic tumor. The liver parenchyma is relatively firm and dark red. The gallbladder contains no calculi. The common duct appears to be slightly dilated, but is otherwise patent as are the hepatic ducts. The spleen is covered on all surfaces by abundant amount of soft, friable tumor, which by blunt dissection is freed from the capsule of the spleen. The spleen is of average size, relatively firm and dark red. The pancreas is encased by sheets of tumor which are removed by blunt dissection. Serial sections through the entire pancreas discloses no grossly recognizable lesions. Removal of the tumor from the surface of the peritoneum posteriorly discloses two normal sized, normal appearing adrenal glands. The kidneys are of average size and grossly not remarkable. The pelves and ureters are normal and of average size. The pelvic surface of the urinary bladder is covered by sheets of tumor. The urinary bladder is distended with approximately 100 cc. of clear yellow urine. The mucosa of the urinary bladder is somewhat congested but otherwise not remarkable. The prostate is of average size. The inferior and superior vena cava are widely patent as is the portal vein. The abdominal aorta and common iliac arteries are also patent and show evidence of [illegible] atherosclerosis. The entire mesentery fat is covered by layers of soft, grey-white tumor and within the mesenteric fat are scattered small, somewhat enlarged, firm grey-white lymph nodes. The periaortic lymph nodes, and retroperitoneal lymph nodes about the pancreas are enlarged, and grey-white.

Representative sections of the major organs are submitted for microscopic examination.
[illegible]:jcs

[illegible] : Within the sections of the lungs, are variable numbers of [illegible] and occasional asbestos bodies.
The lungs show evidence of [illegible] with [illegible] subpleural [illegible]. [illegible] severe generalized congestion and some evidence of pulmonary edema. The myocardium of the heart is not remarkable. The epicardial fat and aortic [illegible] severe serous atrophy. [illegible] and [illegible] are scattered nodules as well as small groups of neoplastic cells [illegible] consist of pale granular cytoplasm and enlarged [illegible] nuclei which in general contain [illegible] clumped chromatin and prominent nucleoli. The liver is [illegible] congested and on the [illegible] are sheets of tumor essentially identical to the tumor previously described within the [illegible] [illegible] are fairly large and [illegible] tumor cells. There is no direct extension into the liver and no evidence of metastatic nodules. The serosa of the [illegible] small intestine and large intestine in general are covered by thick sheet of identical tumor cells which appear to be limited to the serosa. No evidence of invasion of the underlying muscle coats. Throughout the serosa are dilated lymphatic vessels frequently filled with tumor cells. The adjacent mesenteric fat in addition is covered by similar sheets of tumor. Several mesenteric lymph nodes are also involved by identical tumor. The spleen is congested and throughout the

PATHOLOGIST

[illegible]

PHYSICIAN: Dr. [illegible] DATE:

TISSUE OR ORGAN: [illegible]

CLINICAL HISTORY: This middle aged white man was admitted to Providence Hospital on [illegible] for supportive care due to progressive and severe dehydration, [illegible], nausea, and weight loss as the result of carcinomatosis.

Approximately six months previous a mass in the right epididymis was excised, followed by an exploratory laparotomy which disclosed the peritoneal cavity to be rather [illegible] seeded by tumor. In addition a small palpable mass was present in the omentum. The tumor within the epididymis and abdominal cavity were identical and subsequently diagnosed as a malignant mesothelioma. He was referred [illegible] for chemotherapy, and subsequently has been maintained on chemotherapy. He has progressively deteriorated in spite of treatment.

[illegible]: WBC [illegible], normal differential. Hemoglobin [illegible] grams.

Supportive treatment was instituted along with chemotherapy, and periodic abdominal paracentesis. He rapidly deteriorated and expired on [illegible] at [illegible] A.M.

An autopsy permit was signed by the [illegible] of him.

[illegible]:

The autopsy was performed at the [illegible] on the morning of [illegible].

This is the body of a well developed and [illegible] white male appearing to be [illegible] [illegible]

The body is opened in the usual fashion. [illegible]

[illegible]

[illegible] Compensation [illegible]
and Wade, Kenneth

cc: E. J. Bartells, Company
Employers Insurance of Wausau, Portland, Ore.
Trustees of Insulation & Asbestos Workers Welfare Trust
New York Life Insurance Company
Mr. Eric E. Wohlforth, Attorney at Law, [illegible] L St., Anchorage, Alaska

General and Vascular Surgery

American Board of Surgery

207 E. Northern Lights Blvd.
Anchorage, Alaska [illegible]
Telephone [illegible]

February 16, 1969

Alaska Workmen's Compensation Board
P. O. Box 1149
Juneau, Alaska 99801

Re: WISE, Kenneth -Group# [illegible]

Gentlemen:

The following is a summary on Mr. Kenneth Wise.

This 48-year old white male has had a 20-year exposure to asbestos fibers while applying asbestos as an insulating agent about pipes. Approximately, June 1968 he was admitted to the hospital because of abdominal distention and weakness. Evaluation revealed a malignant mesothelioma of his peritoneal cavity. Asbestos fibers were found in his sputum.

Consultation with the Cancer Research Institute at the University of California Medical Center, San Francisco, California, was obtained. Their recommendation was that he be maintained on Vincristine 1 mg. intravenously weekly. They agreed with the diagnosis and concurred that there appeared to be a causal relationship between the asbestos exposure and the malignant mesothelioma.

Mr. Wise was provided supportive care in Anchorage after his return from San Francisco. He was admitted to the hospital and passed away on December 12, 1968 as a direct result of the malignant mesothelioma.

Autopsy demonstrated extensive spread of the malignant mesothelioma through his peritoneal cavity and the contents. In addition, asbestos fibers were detected microscopically.

Current medical literature implicates asbestos as a significant factor in causation of mesotheliomas.

<u>IMPRESSION</u>: This 48-year old gentleman was exposed to asbestos for a prolonged period of time. As a natural course of this exposure he developed a malignant mesothelioma of his peritoneal cavity, and as a direct result of this expired.

Should other information be desired do not hesitate to communicate with me.

Sincerely yours,

Michael P. Hein, M.D.

MPH/mps
Enc: Autopsy Report

1. Edward M. Campbell | 2. Male | 3. White | 4. 2 0 0

Place of death — a. County: 5. Yavapai | b. Town or city: Prescott | c. Hospital or institution (if residence, give street address): VA Center | d. In city limits? ☒ Yes ☐ No

Date of birth: 6. 7 8 1912 | Age (years last birthday): 7a. 55 | If under 1 year, mos. days: — | If under 1 day, hrs. min.: — | Marital status: ☐ Married ☐ Widowed ☐ Never mar. ☐ Divorced | Surviving spouse (if wife, give maiden name): 9. —

Place of birth (state or country): 10. Virginia | Citizen of what country? 11. USA | Social security no.: 12. 526 07 4919 | Usual occupation: 13a. Tile Layer | Type of business: 13b. Constr.

Usual residence — a. State: 14. Unknown | b. County: Unk. | c. Town or city: Unk. | d. Zip code: Unk.

Street address or R.F.D. (P.O. box not acceptable): 14f. Unk. | In city limits? 14g. ☐ Yes ☐ No | How long lived in Arizona? In this town: 15a. Unk. | In state: 15b. Unk. | Previous place of residence (city and state): 16. Unk.

Father's name (a. first, b. middle, c. last): 17. Unk. | Mother's maiden name (a. first, b. middle, c. last): 18. Unk.

Informant's signature: 19a. VA Hospital Records (signed: [illegible] E. Lawton) | Relationship to deceased: 19b. None | Address: 19c. Prescott, Arizona | Date signed: 19d. 2/6/68

20. Medical statement of cause of death. Fill out carefully. Enter immediate cause on line A. Other precipitating causes should be given on lines B and C respectively. List underlying cause last.

Part I. Death was caused by: (Enter only one cause on each line)

A. Immediate cause: Bronchiogenic carcinoma

B. Due to or as a consequence of: with widespread metastases

C. Due to or as a consequence of:

Estimated time between onset and death: 3 Mos.

If deceased was adult female, was she pregnant at death or any time in past year? Yes, no, unknown. 21. Specify:

Part II. Other significant conditions (other conditions of significant medical importance contributing to death but not directly related to immediate cause)

Autopsy? 22a. ☒ Yes ☐ No | If yes, were findings considered in determining cause of death? Yes or no. 22b. Specify:

Manner of death: ☐ Accident ☐ Suicide ☐ Homicide ☒ Natural causes ☐ Undetermined

Date of injury (mo. day yr.): 24a. — | Hour: 24b. — M. | At work when injured? (yes, no, unk.): 25. — | How did injury occur? (circumstances only — not cause): 26. —

Place of injury (home, store, factory, street, etc.): 27. Specify: — | Where located? (street address, city and state): 28. —

Certification — physician or medical examiner: I attended (examined) the deceased from (on) 29a. 1 16 68 to 2 6 68 | And I saw (did not see) him/her alive last time on: 29b. — | I (did) (did not) view body after death: —

Death occurred at: 1:25 A.M. on the date and at the place listed above and to the best of my knowledge and professional judgment due to the causes stated.

Signature: R. N. Denton, M.D. | Title

29c. (Type name here): R. N. Denton, Staff Physician

Mail address: 30. VA Center, Prescott, Arizona | Date signed: 31. 2-8-68

Certification — coroner: From examination of the body and/or my investigation, in my opinion death occurred in the manner and under the circumstances stated. Deceased was pronounced dead on (mo. day year hour): 32a. — | I (did) (did not) view body after death: —

Signature: — | Precinct or district: 33. —

32b. (Type name here): | Mail address: 34. — | Date signed: 35. —

Supplementary entries: 36.

Disposition of body — burial, cremation or removal: 37. Specify: Burial | Date of disposition: 38. 2-9-68 | Cemetery or crematory name: 39. VA Cemetery | Street address, city and state: Prescott, Arizona

Funeral home name: 40. Ruffner Funeral Home | Street address, city and state: 303 S. Cortez, Prescott, Ariz. | Funeral director's signature: 41. JM Collins | Cert. no. 42. 202

Date registered: 43. 2/9/68 | Reg. file no. 44. 38 | Registrar's signature: 45. Martha Schlichter (Dep.) | Reg. district: 46. 1311 | Date recd. in state: 47. FEB 15 1968

VS-2 Rev. [illegible]

CERTIFIED COPY OF VITAL RECORD

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

Date Issued: FEB 19 1968

This copy is a true and exact reproduction of the document officially registered and placed on file in the DIVISION OF VITAL RECORDS, ARIZONA STATE DEPARTMENT OF HEALTH, PHOENIX, ARIZONA.

Issued under the authority of ARS 36-341 and by direction of:

Fenton H. Butler
FENTON H. BUTLER
Deputy State Registrar

GEORGE SPENDLOVE, M. D., M. P. H.
Commissioner of Public Health
and State Registrar

UNIVERSITY OF ALASKA, FAIRBANKS
Fairbanks, Alaska 99701
WAMI Medical Education Program
February 24, 1981

Senator Don Bennett
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Senator Bennett:

The health hazards associated with asbestos contamination have been documented for you by the Alaska Health Care Advocates in consultation with Dr. Irving Selikoff, an acknowledged expert in the field. This group has, with the help of Alaska construction unions, brought together for you evidence to indicate that there is considerable asbestos exposure in the construction trades and in older buildings such as public schools. I thoroughly support the proposal by Alaska Health Advocates, and the similar resolutions by the Western Alaska Building and Construction Trades Council to support the funding of a 6-8 weeks assessment of the problem by a qualified, independent consultant who will contribute to the identification of corrective measures.

Sincerely,

Helen Anne Myers

Helen Anne Myers, Ph.D.
Assistant Professor of
Medical Science

HAM/bm

Wayne Myers MD.

406 "G" Street, Anchorage, Alaska 99501 (907) 272-2332

ALASKA LUNG ASSOCIATION, *Inc.*

February 26, 1981

Leo C. Kaye, *Executive Director*

Alaska State Legislature
Pouch V
Juneau, Alaska

The ALASKA LUNG ASSOCIATION is aware of, and extremely concerned about, the asbestos problem in Alaska. We frequently receive calls from workers who are concerned about asbestos exposure (as well as other types of occupational health hazards).

The problem is one which should be thoroughly studied, on all levels and the scope of the problem documented. The study should include the following:

1. How many workers in Alaska were exposed to asbestos in the past?

2. a) How many are exposed now?
   b) Are family members exposed (to dusty clothes)?

3. To what degree are workers exposed?

4. To what degree is the State Division of Occupational Safety and Health able to address occupational health hazards, including asbestos exposure?

5. How does Alaska Worker's Compensation law address occupational health hazards, specifically those related to asbestos exposure?

6. What is the feasibility of a medical surveillance program?

It has long been known that asbestos exposure causes fatal lung diseases including cancer(s), and the State should take a hard look at the problem immediately.

Additionally, the State should undertake a comprehensive effort to determine how many schools, hospitals, and other public buildings are contaminated by friable asbestos materials. Although the State Department of Education has filed a report with the federal government concerning asbestos exposure in the

schools and a detection program, there are a number of serious questions regarding the proposed guidelines which the state should study. For example, are there any enforcement policies regarding the detection program, or is it left to the discretion of the local educational agency? Further, the federal guidelines do not address the potential hazards in hospitals and other public buildings, and no State agency is addressing the serious problems and questions posed by Alaska Health Care Advocates regarding occupational health hazards in general, and asbestos exposure in particular.

The ALASKA LUNG ASSOCIATION strongly supports the intensive study proposed to the Legislature by Health Care Advocates, and urges the State to insure it is conducted in the immediate future.

Respectfully,

Leo C. Kaye
Executive Director

/f

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

THE MOUNT SINAI MEDICAL CENTER
ONE GUSTAVE L. LEVY PLACE • NEW YORK, N.Y. 10029

Mount Sinai School of Medicine • The Mount Sinai Hospital

Environmental Sciences Laboratory
Cummings Basic Sciences Building
10 East 102 Street
New York, New York 10029
(212) 650-6173

December 17, 1980

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

Dear Ms. Johnson:

I'm sorry the reprint wasn't included; here it is.

Insofar as fibrous glass is concerned, I don't think we are further along. The case described in Japan (by Professor Sano) was in a woman who worked in a fibrous glass plant - but when her lung tissue was examined, asbestos was also present; apparently, there hadn't been such exposure many years before. Therefore, it cannot be considered a "fibrous" case.

The matter is still open; cancer can easily be produced in animals with the material but we don't know anything of how human beings will react, one way or the other, because of inadequate studies so far.

Sincerely yours,

Irving J. Selikoff, M.D.
Professor

IJS:ss
Enc.

THE MOUNT SINAI MEDICAL CENTER
ONE GUSTAVE L. LEVY PLACE • NEW YORK, N.Y. 10029

OF THE CITY UNIVERSITY OF NEW YORK

Mount Sinai School of Medicine • The Mount Sinai Hospital

November 30, 1980

Environmental Sciences Laboratory
Cummings Basic Sciences Building
10 East 102 Street
New York, New York 10029
(212) 650-6173

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

Dear Ms. Johnson:

Your letter of November 11, 1980 includes a number of important points. May I suggest the following:

1. Who has been exposed to asbestos? Workers in general, and their family contacts. Major groups include: asbestos miners, asbestos millers, asbestos products manufacturers, insulators, construction workers in a variety of trades, shipyard workers, brake repair and brake maintenance, power production and utilities, many railroad workers, maintenance and repair in a very large variety of facilities, etc.

2. Avoidance of victimization in surveillance: An important problem. Generally, it can be solved by having the personal physician certify that the worker has been examined, without giving any report of the findings. Confidentiality is essential.

3. Surveillance programs: I doubt whether any hard and fast rigid structure is useful--rather, the medical facilities that are available should be examined and judgments made how they might best be used. After that, the rest falls in line; physicians can readily define what should be done. They should be asked to do so, especially since they can obtain expert advice before making a proposal. The principal diseases for which prevention and early diagnosis are useful include: asbestosis, bronchogenic carcinoma, gastrointestinal cancer, cancer of the mouth and pharynx, larynx cancer, kidney cancer. There is very little we can do about mesothelioma if it occurs. A background for such approaches is contained in the attached reprint.

4. Surveillance should also include an important educational component; both with regard to smoking and the necessity to avoid further exposure.

Ms. Susan Johnson November 30, 1980

Insofar as the legislature is concerned, a simple statement can be made that the schedule of examinations and their content should be the responsibility of the State Department of Health, with consultation with the various worker groups involved.

5. With regard to the documentation concerning the nine men who died of asbestos-associated disease, I'm afraid Jack Endsley will have to work with you on that, although I can send him the death certificates. The other information was obtained on the basis of it being held confidential when doctors, hospitals, pathologists, etc. were contacted.

6. Thank you for sending me the Clinton Creek material. We have extensive photographs of the situation when it was operating.

Please give my warm regards to Jack Endsley!

Sincerely yours,

Irving J. Selikoff, M.D.
Professor

IJS:sa
Enc.

THE MOUNT SINAI MEDICAL CENTER
ONE GUSTAVE L. LEVY PLACE • NEW YORK, N.Y. 10029

OF THE CITY UNIVERSITY OF NEW YORK

Mount Sinai School of Medicine • The Mount Sinai Hospital

Environmental Sciences Laboratory
Cummings Basic Sciences Building
10 East 102 Street
New York, New York 10029
(212) 650-6173

November 4, 1980

Ms. Susan Johnson
Alaska Health Care Advocates
P.O. Box 1037 DT
Anchorage, Alaska 99510

Dear Ms. Johnson:

The litany of difficulties you are experiencing with regard to prevention of asbestos-associated disease is all too familiar and corrections all too scant.

First, on the surveillance side. Some good can be expected but how surveillance might be institutionalized is unsolved. Our medical care system in the United States developed as a method for diagnosis and treatment of gross clinical disease and, by and large, it can do a good ob. Moreover I would want to improve this, not substantially alter it since the diagnosis and therapy it makes available are valuable.

How to include preventive care is only now beginning to be examined. Until now, prevention was limited to broad public health measures such as sanitation, vaccination, educational advice. How to add surveillance of high risk groups?

It would appear to me, at this moment, that we have few options but to use the medical care system that exists. This has the advantage of it being in existence, and including much medical competence.

The scientific and medical contents of such a program would not be too difficult to work out and, if it became a practical problem, I would be willing to offer my judgments and ideas. However, the public health aspects at this time take precedence; how to identify those exposed in the past, who constitute the "high risk groups," how to offer them the continuing surveillance that could be of assistance, how to pay for this.

I don't know if there will be a single solution, or multiple local efforts. This is in flux at the moment.

With regard to the question of "standards": there is no known safe level for asbestos exposure. The Department of Labor Standards reflect a desire to decrease exposure as much as is feasible, with

with the understanding that this will simultaneously decrease risk, albeit not eliminating it. Five fibers per milliliter (5 million per cubic meter) is not "safe," nor are 2 million fibers per cubic meter nor are 1 hundred thousand fibers per cubic meter. But the latter will ultimately produce less disease than the first. Thus, there should be no avoidable exposure to asbestos.

How to do this with 25 million tons or more of asbestos in place in industries, institutions, industrial facilities, etc. in our country, needing repair, maintenance, removal? How to work with asbestos materials woven into the fabric of our industrial society and not easily removed or replaced with substitutes?

I sympathize with the State people who simply find it impossible to continually monitor the myriad of sites at which exposure might occur. And I am not sure that education and notice and information might not do more good than the monitoring. A worker aware of the potential danger can do much more to protect himself than the industrial hygienist hy his side with an air pump taking measurements. A protective respirator would be more useful than the air pump. For members of local 97, it will be uncommon to find asbestos materials used much in the future, but repair and maintenance and removal of asbestos-content insulation will continue to add to the risk engendered in the past. Knowledge of this will be valuable, in addition to knowing potential value of medical surveillance.

Jack Endsley is right about workers' compensation. Ultimately, on the overall, for the asbestos-related diseases, only about 1 in 10 receives compensation. Overall, too, it has turned out not to be a major source of continuing financial support even for widows.

Donald Spatz of our Laboratory is coordinating a research project on asbestos worker compensation. I expect that in about 3 to 4 months, much data will become available. Perhaps you should write to him here, to establish your line of communications in this regard. Work is being done for the U.S. Department of Labor and it will have nationwide relevance. Richard Fineberg may also find it useful to write to Don. Finally, Roy Steinfurth at the International has a great amount of very valuable firsthand experience in this regard;

Mr. Roy J. Steinfurth
Insulators Health Hazard Program
511 Machinists Building
1300 Connecticut Avenue, N.W.
Washington, D.C. 20036

(Conversely, do you think that Fineberg's data could be of assistance to us, in specific regard to Alaska?)

I've asked Dr. William J. Nicholson of our Laboratory to send you

material concerning the asbestos in schools problem; he is one of the country's experts on this and would be able to provide specific advice, should you write him.

Concerning asbestos information for workers; this is a matter of very great interest to WISH (Workers Institute for Safety and Health) who are preparing an asbestos meeting for the AFL-CIO and other unions at the beginning of December, in Washington. You may wish to write them.

Mr. Sheldon W. Samuels, Director
Occupational Safety & Health &
Environmental Health
Industrial Union Department, AFL-CIO
815 16th Street, N.W.
Washington, D.C. 20006

With all best wishes.

Cordially,

Irving J. Selikoff, M.D.
Professor

IJS:jm
cc: William J. Nicholson, Ph.D.
Donald Spatz

Insulators Health
Hazard Program

511 Machinists Building
1300 Connecticut Ave., N.W.
Washington, D.C. 20036
(202) 785-2150

April 23, 1976

Mr. Jack Endsley
407 Denali Street, Room 302
Anchorage, Alaska 99501

Dear Sir and Brother:

We were extremely sorry to hear of the unfortunate deaths of the following members: HOWARD H. KIPLINGER, REG. NO. 19251

Since his widow or some member of his family may be eligible for workmen's compensation benefits, as well as other benefits, we are offering our assistance if it is needed.

Due to the many different individual State Workmen's Compensation Act and the ambiguous wording in the Acts, many times speedy handling of these cases is extremely important. Even though there is a one or two year statute of limitation in filing for benefits, there is sometimes a thirty (30) day reporting or filing clause. This means that each application for workmen's compensation should be filed as soon as possible.

If the attorney selected for the case is not skilled or well versed in compensation laws, we at this office may be able to assist you by having another attorney aid him in preparing his case.

Please feel free to call at anytime, if our assistance is needed.

With best regards, I remain

Fraternally yours,

Roy J. Steinfurth

Roy J. Steinfurth
Insulators Health Hazard Program

RJS/bgm

CERTIFICATE OF DEATH

STATE OF CALIFORNIA—DEPARTMENT OF PUBLIC HEALTH

STATE FILE NUMBER

LOCAL REGISTRATION DISTRICT AND CERTIFICATE NUMBER: 3600

DECEDENT PERSONAL DATA

- 1a. Name of deceased—first name: HARRY
- 1b. Middle name: HORTON
- 1c. Last name: REED
- 2a. Date of death: FEBRUARY 20, 1965
- 2b. Hour: 1115 A.
- 3. Sex: MALE
- 4. Color or race: CAUCASIAN
- 5. Birthplace: WYOMING
- 6. Date of birth: AUGUST 1, 1915
- 7. Age: 49 YEARS
- 8. Name and birthplace of father: JAMES O. REED, ILLINOIS
- 9. Maiden name and birthplace of mother: BLANCHE A. HORTON, IOWA
- 10. Citizen of what country: U.S.A.
- 11. Social security number: 483-05-6793
- 12. Last occupation: INSULATOR
- 13. Number of years in this occupation: 5
- 14. Name of last employing company or firm: FIBERGLASS of LOS ANGELES
- 15. Kind of industry or business: FIBERGLASS CONSTRUCTION
- 16. If deceased was ever in U.S. Armed Forces, give war or dates of service: WORLD WAR No. 2
- 17. Specify married, never married, widowed, divorced: MARRIED
- 18a. Name of present spouse: HELEN M. REED
- 18b. Present or last occupation of spouse: HOUSEKEEPER

PLACE OF DEATH

- 19a. Place of death—name of hospital: COMMUNITY HOSPITAL
- 19b. Street address: 1500 WEST 17th STREET [X]
- 19c. City or town: SAN BERNARDINO
- 19d. County: SAN BERNARDINO
- 19e. Length of stay in county of death: 5 YEARS
- 19f. Length of stay in California: 5 YEARS

LAST USUAL RESIDENCE

- 20a. Last usual residence—street address: 111 NORTH DATE AVENUE
- 20b. Inside city corporate limits: [X]
- 20c. City or town: RIALTO
- 20d. County: SAN BERNARDINO
- 20e. State: CALIFORNIA
- 21a. Name of informant (if other than spouse): MRS. HELEN M. REED
- 21b. Address of informant: 111 NORTH DATE AVENUE, RIALTO, CALIFORNIA

PHYSICIAN'S OR CORONER'S CERTIFICATION

- 22a. Physician: 11/25/64 — 2/20/65 — 2/19/65
- 22c. Physician or coroner—signature: [signature] M.D.
- 22d. Address: 1700 N. WATERMAN AVE, SAN BERNARDINO, CALIFORNIA
- 22e. Date signed: 2/22/65

FUNERAL DIRECTOR AND LOCAL REGISTRAR

- 23. Specify burial, entombment or cremation: CREMATION
- 24. Date: 2-23-65.
- 25. Name of cemetery or crematory: MOUNTAIN VIEW CEMETERY CREMATORY, SAN BERNARDINO.
- 26. Embalmer—signature: Ralph Wm Allen 373
- 27. Name of funeral director: RALPH WM. ALLEN FUNERAL HOME
- 28. Date accepted for registration by local registrar: 2-23-65
- 29. Local registrar—signature: M E Cosand, MD

MEDICAL AND HEALTH DATA

CAUSE OF DEATH

30. Cause of death

Part I. Death was caused by	Approximate interval between onset and death
Immediate cause (a): Inanition + respiratory failure	2 days
Due to (b): Intestinal obstruction	2 weeks
Due to (c): Carcinomatosis from widespread mesothelioma	5-6 months

Part II. Other significant conditions contributing to death but not related to the terminal disease condition given in Part I (a)

OPERATION AND AUTOPSY

- 31. Operation—check one: [X]
- 32. Date of operation: 2/3/65
- 33. Autopsy—check one: [X]

INJURY INFORMATION

- 34a. Specify accident, suicide or homicide:
- 34b. Describe how injury occurred:
- 35a. Time of injury: Hour / Month / Day / Year
- 35b. Injury occurred: [ ] While at work [ ] Not while at work
- 35c. Place of injury:
- 35d. City, town or location / County / State

4-3-2
1-2-23

BELLINGHAM-WHATCOM DISTRICT

DEPARTMENT OF PUBLIC HEALTH

Certified Copy of Death Certificate

The original certificate of death from which this certified copy has been made will be on file in the Washington State Department of Health. Additional certified copies may be secured from

Dist. No. M-1

Registrar's No. 70-294

Lloyd	A.	Larson	M	May 30, 1978	
White	61		May 4, 1909	Whatcom	
Bellingham, Washington	yes	St. Lukes Hospital Bellingham, Washington			
Minnesota	USA	Married	Hazel		
unknown	Retired Asbestus Worker				
Washington	Whatcom	Everson	no	2682 Hampton Road	
James P. Larson		Elvina Nelson			
Hazel Larson		2682 Hampton Road Everson, Washington			

PART I — DEATH WAS CAUSED BY

(a) Chronic lymphocytic leukemia — 7 yrs.

(b) Septicemia secondary to E. Coli Septicemia — 2 mos.

(c) Peritoneal abscess + lymphadenitis.

PART II — OTHER SIGNIFICANT CONDITIONS: NO

ACCIDENT, SUICIDE, HOMICIDE OR UNDETERMINED:

INJURY AT WORK:

May 28, 1968	May 30, 1970	5-30-70	yes	11:55p	

Karl Kutnerian M.D. — 6.2.70

Bellingham Medical Center Bellingham, Washington 98225

Cremation	Greenacres Memorial Park	Ferndale, Washington
June 2, 1970	Gillies Funeral Home	Lynden, Washington 98264

JUN 5 1970

This is to certify that the foregoing is a true, full, and correct copy of the original certificate of death of LLOYD A. LARSON *temporarily on file in this office.*

STATE OF ARIZONA

ORIGINAL
STATE COPY

STATE OF ARIZONA
DEPARTMENT OF HEALTH SERVICES - VITAL RECORDS SECTION
CERTIFICATE OF DEATH

DEATH No. D 102-

Name of deceased (First, Middle, Last)	CHARLES L. VINCENT
Sex	Male
Date of death	October 12, 1979
Race	White
Was decedent of Spanish origin	No
Was deceased ever in U.S. armed forces	No
Place of death: County	PIMA
Town or city	TUCSON
Hospital or institution	UNIVERSITY OF ARIZONA HOSPITAL
Date of birth	April 23, 1906
Age	73
Married, never married, widowed, divorced	Married
Surviving spouse	Elizabeth Gordinier
State of birth	New York
Citizen of what country	U.S.A.
Social security no.	070-12-3858A
Usual occupation	Fire Covering
Kind of business or industry	Building Contractor
Residence: State	Arizona
County	Pima
Town or city	Tucson
Zip code	85710
Street address	#520 7570 E. Speedway
Inside city limits	Yes
On reservation	No
How long in Arizona	13
Former state of residence	California
Father's name	Arthur Vincent
Mother's maiden name	Margery Halliday
Informant's signature	Elizabeth Vincen
Relationship to deceased	Wife
Address	#520 7570 E. Speedway Tucson Arizona 85710
Burial, cremation, removal	Burial 10/15 1979
Cemetery or crematory	T.M.P. South Lawn Tucson Arizona
Embalmer's signature	[signature] 555A
Funeral home	Arizona Mortuary East 4601 E. 1st St. Tucson Arizona
Funeral director	[signature] 574H

To the best of my knowledge, death occurred at the time, date and place and due to the cause(s) stated.

Signature and title: William A. Sibley M.D.

Date signed: OCTOBER 14 1979 — Hour of death: 10:10 P.M.

Name of attending physician if other than certifier:

On the basis of examination and/or investigation, in my opinion death occurred at the time, date and place and due to the cause(s) and manner stated.

Signature and title:

Date signed: — Hour of death: — Pronounced dead on: — Pronounced dead at:

Name and address of certifier (physician or medical examiner): WILLIAM A. SIBLEY M.D. 1501 N. CAMPBELL, TUCSON, ARIZONA 85724

Date received: Oct.19,1979 — 3358 — Registrar's signature: [signature], Deputy — 1016

Part I. Immediate cause: AMYOTROPHIC LATERAL SCLEROSIS — 2 yrs.

Due to or as a consequence of:

Due to or as a consequence of:

Part II. Other significant conditions: RHEUMATOID ARTHRITIS, ASBESTOSIS

Autopsy: NO — Was case referred to medical examiner: NO

Manner of death: Accident / Suicide / Homicide / Pending investigation / Could not be determined

Date of injury — Hour — Injury at work — How injury occurred — Place of injury — Location (Street address, City or town, State)

Supplementary entries

CERTIFIED COPY OF VITAL RECORD

STATE OF ARIZONA) ss
COUNTY OF PIMA)

Date issued OCT 2 3 1979

This is a true and exact reproduction of the document officially registered and placed on file in the VITAL RECORDS SECTION, DEPARTMENT OF HEALTH SERVICES, PHOENIX, AZ, issued under the authority of A.R.S. 36-341, and by direction of

[signatures]

68-390-D

ALASKA DEPARTMENT OF HEALTH AND WELFARE
BUREAU OF VITAL STATISTICS — JUNEAU, ALASKA 99801

IDENTIFYING INFORMATION CONCERNING DECEASED

Kenneth B Wies

Sex: male | Race: white | Date of death: Dec 11, 1968

Age: 48 | Date of birth: Sept 27, 1920

Place of death: ALASKA | Recording district: Anchorage | City, town or location: Anchorage, Alaska

Hospital or other institution: Providence Hospital | Street and number: 3200 Providence Drive

Length of stay: 6 days | State of birth: Port Arthur, Texas | Citizen of what country: USA

Married | Surviving spouse: Eugene C Wade

Social security number: 442-07-8638 | Usual occupation: insulator | Kind of business or industry: Asbestos worker

Residence — State: Alaska | Recording district or county: Anchorage

City, town or location: Anchorage | Street address: 6512 E. 8th Ave

Length of stay: 14 years | Father — name: Travis Floyd Wies | Mother — maiden name: Lillian A Schofield

Informant — name: Imogene Wies | Mailing address: 6512 E 8th Anchorage, Alaska

PART I. DEATH WAS CAUSED BY:

Immediate cause: Mesothelioma, Peritoneal | about

Malignant due to

Asbestos exposure

PART II. Other significant conditions: None

Hour of death: 10:30 pm | 8-7-67 | 12-11 | Same

Michael ... Hein, M.D.

Date signed: 12-16-68 | 207 ... Anchorage, Alaska

Dec 13, 1968

Anchorage

JAMES A. HANSON | Anchorage | 12/17/68

2 — RECORDER'S COPY

Asbestos Health Hazard

Asbestos, the material in question is a magnesium oxide & silicate compounded with water. Came into popular use in the 1940's because of its insulating properties and the fact that it is virtually indestructible. It was used widely in school buildings through the 1950's because of publicity on the fire hazards to school children.

For a generation asbestos was hailed as a miracle mineral because it is incombustible, very flexible and cannot be accidentally destroyed easily ~~[illegible] [illegible] heat~~. It found its way into 4,000 industrial uses ranging from insulating brake linings, floor tiles - even to school modeling clay. (300 use was mandated in local building codes, as fire [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]) Following WWII and into the 50's asbestos was sprayed everywhere and was particularly used in schools when "baby boom" parents developed major concerns over fire hazards in school buildings.

When researchers linked the exposure to airborne asbestos fibers to cancer in the [early] 60's they turned a thriving industry into an industrial villain. Johns-Manville Corporation the world's largest producer of asbestos was selling over million tons of material a year for industrial use.

The ~~[illegible]~~ most devastating fact about asbestos is that ~~[illegible]~~ the latency period for any signs of the carcinogen-related disease is extensive - up to 40 years. Little is understood about the physical capacity of the human body to withstand exposure to asbestos, but no level of exposure is known to be safe, and it seems to be related to each ~~[illegible]~~ individual

exposure. though Incidence is highest in areas around shipyards and industries using asbestos, and ~~higher~~ also in urban areas where vehicles and thus brake linings, are plentiful.. It has been impossible for science to predict to impact on the general population ~~[illegible]~~ from asbestos exposure, ~~[illegible]~~ ~~[illegible]~~. Studies are years away and results dependent on the individuals environment. It has been established the children are more susceptible to asbestos related disease because of cell development.

Asbestos removal not part of razing of downtown library

By SHEILA TOOMEY
Daily News reporter

The demolition contract for Loussac Library does not contain specifications for the safe removal of asbestos, despite warnings from the Department of Environmental Conservation (DEC) that the structure probably contains the hazardous substance.

An agreement reached Wednesday between state and city officials will provide for such specifications in some future contracts, came too late to affect the Loussac agreement.

Loussac is scheduled to be torn down next month to make room for a new convention center — part of the Project 88 downtown renovation project. The $78,000 demolition contract has been awarded to Iconco of Washington, a Seattle firm.

Asbestos, widely used for insulation during the 1940's and 1950's, has since been identified as a hazardous substance known to cause several types of cancer and an often fatal lung

See Back Page, ASBESTOS

forum

State bill would deal with asbestos contamination

compass

points of view from our community

• Former Alaska Local 97 member Bill Anderson died in 1975 from lung cancer due to occupational exposure to asbestos. While dying, the destitute Anderson applied for and was rejected worker's compensation by the Worker's Comp Board. After he died, the Board decided they had erred and should have awarded Anderson compensation. There were no survivors to receive the benefits.

• Disabled and bitter, Charles Vincent warned his local union (97) to fight for better working conditions. He was fighting for his life, and last, Vincent died of asbestosis due to occupational exposure to asbestos in 1979.

• Milton Bartholomy was a former contractor and member of Local 97. Before he died, Bartholomy angrily told Health Care Advocates (HCA) that workers in the Bush needed a police force to protect them from health hazards on the job. Bartholomy died of asbestosis due to occupational exposure in January, 1981.

By SUSAN JOHNSON
Second of three articles

Documents maintained by Local 97 of the International Association of Heat and Frost Insulators and Asbestos Workers and Dr. Irving J. Selikoff, leading authority on asbestos-related diseases of the Mt. Sinai School of Medicine (N.Y.), show that between 1967 and 1978, 13 members of Local 97 died of cancers induced from occupational exposure to asbestos. Local 97 documents show a total of 13 dead, dating from 1968 to the present. Today, there may be still other members of Local 97 whose lives are slowly being ravaged by cancers due to asbestos exposure. Most have left widows and children to contend with an [illegible] worker's compensation.

Members of Local 97 are not the only group of workers in Alaska who are inhaling asbestos fibers. Other asbestos workers include: sheetmetal mechanics, electrical workers, boilermakers, pipefitters, laborers, roofers, cannery and maintenance workers.

Ray Brown of Roofers Local 190 says his membership often works with asbestos-filled roofing tiles. Brown worries about asbestos, which is largely produced and promoted nationwide by the Johns-Manville company, and the possible threat to the health of his membership. His work with tiles includes a substantial amount of cutting, which creates asbestos dust. Brown, the business agent for the Roofers, wants contractors to use an asbestos-free substitute.

Dave Cheon, state president of the Western Building and Trades Council, AFL-CIO, and business agent for the Boilermakers, is worried too. His members have worked alongside the asbestos workers over the last 30 years. To what extent Boilermakers will suffer from the exposure to asbestos is a matter of grim speculation.

Don Wagoner, Trades Council vice-president and business agent for the Pipefitters Local 367, has a member who is now struggling with cancer from exposure to asbestos. Wagoner wonders about other members

In an unknown number of statewide schools and public buildings, children, teachers, and maintenance workers have been exposed to varying levels of airborne asbestos fibers over a period of time. After investigating the problem, Sens. Charlie Parr, D-Fairbanks, and Terry Stimson, D-Anchorage, have promoted Senate Bill 238 — a state asbestos health hazard program. The proposed program would be an initial step towards addressing asbestos contamination in Alaska.

It is critical that school officials charged with overseeing the work in schools, contractors, school personnel, state agencies and the workers involved all receive the necessary information to enforce the precautions required for safe asbestos removal. Unsafe work practices will needlessly subject workers to cancer and death from asbestos; and needlessly threaten the lives of family members of workers who are not provided protective equipment on the job, particularly disposable clothing.

Mesothelioma — a rare cancer almost never found apart from asbestos exposure — has been induced in family members of asbestos workers, most probably from dust in the worker's clothing. Unsafe work practices will needlessly aggravate the problem the bill seeks to solve; if work procedures are not strictly specified and controlled, asbestos dusts may again become suspended in the air, and lodged indefinitely in a child's lungs. How to legislatively insure protection and avoid exacerbating existing occupational/public health hazard warrants careful consideration.

□ Susan Johnson is executive director of Alaska Health Care Advocates, a non-profit corporation that investigates occupational/public health issues.

□ Next: Recommendations for safe removal of asbestos from schools and public buildings.

Recommendations to minimize asbestos dangers

By SUSAN JOHNSON
Last of three articles

compass

points of view from our community

In anticipation of the asbestos-related work in building renovations statewide and the possible threat to the health and well-being of the workers and families involved, Health Care Advocates has a specific action plan.

Steps should be required of all renovation and/or demolition work, beyond the regulations that currently exist. As discussed in Part I of this series, a federal research agency terms asbestos standards for occupational exposure "grossly inadequate." The proposed in-state renovation work will precipitate an asbestos-related occupational health hazard to unprecendented levels in Alaska. The state Division of Occupational Safety and Health (DOSH) should act immediately to minimize the inherent risks involved. If asbestos exposure can not be eliminated, worker exposure must be controlled to the maximum extent possible.

Recommendation: The DOSH should begin immediately to promulgate standards based on the proposed National Institute of Occupational Safety and Health (NIOSH) standards. Health studies show that the lower exposure, the lower the risk of developing cancer and asbestosis. (There should be no detectable exposure at all.)

Between August of 1979 and September of 1980, the Department of Environmental Health at the University of Washington strictly monitored the removal of 135,000 square feet of asbestos ceilings from 17 public schools. A significant factor, according to university officials in reducing worker exposure to asbestos during the removal appeared to be the attitude of the employer, the respirator training provided, the experience of the employees as well as prompt feedback from the laboratory analysis of air samples. Since the protection of school children and workers was a very real public concern extensive monitoring was performed before removal, during the rip-off, before re-entry, and one month later.

Recommendation: That there be legislative mandate for monitoring procedures which are at least as strict as those used in Washington for any renovation or demolition work conducted. All workers should be trained and state certified to do asbestos-related work; such a requirement recently was instituted in California.

Any worker who applies for any asbestos-related job should be required to take a baseline medical examination at the expense of the employer or the state. All medical surveillance data should be promptly evaluated and the results reported to the employee in strict confidence. Workers should be allowed an independent medical evaluation by physicians of their choice.

These recommendations are based on data gathered by private and government research organizations which have found existing standards inadequate.

□

In Alaska, DOSH has the authority and an obvious need and responsibility to promulgate new standards. In addition to addressing the anticipated demolition work, new standards would greatly improve severe inadequacies of the existing regulations. The existing standards are oriented towards the factory worker, not the construction trades. For example, only workers in a fixed place of employment, such as a factory, are legally provided an eating area separate from the clothes changing area.

□

Because of the complexity of the problem, not all can be stated here. Health Care Advocates supports the creation of a Special Asbestos Commission made up of experts, including labor, to oversee the proposed work in the schools and other public buildings, and to ensure the program is ongoing. A legislatively established commission in Massachusetts helped that state grapple with the asbestos problem in a rational manner.

Finally, we stress not only the urgency of responsibly attending to asbestos contamination in the workplace and public buildings but also the need to address broader problems of occupational health and public policy in Alaska. A state as commited to industrial growth as Alaska is must be equally committed to those whose labor makes development possible — the Alaska worker.

□ Susan Johnson is executive director of Alaska Health Care Advocates, a non-profit organization investigating occupational/public health hazards and policy.

Anch D News 5/27/81

Asbestos in library

Continued from Page A-1

disease called asbestosis. Its use now is regulated by the federal government.

The problem of safe asbestos removal and disposal was brought to the attention of city officials in February by Carl Harmon, a DEC environmental engineer.

Harmon received a complaint about dust levels associated with the demoliton of the old City Hall Annex — removed this past winter to make way for a new performing arts center. On a visit to the site, Harmon said, he discovered the partially demolished building was riddled with asbestos.

"I just went over to talk to them (the contractor) and I noticed fibrous matter I identified as asbestos," he said Friday.

Harmon said DEC should have been notified of the presence of asbestos in the building because the agency is responsible for supervising hazardous waste disposal. Upon inspection Harmon found the contractor — also Iconco — was "taking reasonable precautions" with the dangerous substance.

Iconco is experienced in asbestos removal and was not surprised to find it, said Don Loran of Iconco. The asbestos in the prior demolition project was disposed of safely, but "the city was upset because they didn't know it was in there," he said.

As a result of the City Hall Annex discovery, Harmon suggested to the city that stipulations warning prospective bidders of the presence of asbestos be included in future contracts.

"It was my understanding they planned to do that," Harmon said Friday. "They did not confide in me that another contract was being let at this time."

Loran, whose company stripped the asbestos from most Seattle public schools in 1979 during a drive to make the Seattle school district asbestos free, said a special contract stipulation about asbestos "should be in there."

The special equipment needed for proper asbestos disposal adds to the cost of a project and "many people don't handle it right," he said.

Paul Diener, director of public works, said contractors are responsible for safe disposal of all hazardous substances encountered during a demolition project and the process is supposed to be monitored by state and local environment and safety inspectors.

Diener said he has not been approached to include a special asbestos disposal specification in demolition contracts. "We feel our present specs do cover it. . . I have directed my engineering division and project managers that they should make a point to alert contractors that there might be hazardous material," Diener said. Loran has notified the federal Environmental Protection Agency and DEC about the possibility he may find asbestos when the demolition of Loussac begins.

"Any asbestos encountered in Loussac will have to be disposed of at a site designated by myself and under my supervision," Harmon said.

PLEASE NOTE

THE ORGINAL FILE CONTAINS AN ILLEGIBLE ~~OVERSIZED~~ DOCUMENT THAT IS UNSUITABLE FOR FILMING. PLEASE REFER TO THE ALASKA STATE ARCHIVES TO VIEW THE ORIGINAL.

NEWSPAPER CLIPPING

"ASBESTOS: A BAD ACTOR, BUT HOW BAD, HOW LONG?"

N.Y. TIMES 7/15/79

NOTE REGARDING THE FOLLOWING FRAME ON MICROFILM:

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

LEGISLATIVE HISTORY — P.L. 96-270
"ASBESTOS SCHOOL HAZARD DETECTION AND CONTROL ACT OF 1980"

LEGISLATIVE HISTORY
P.L. 96-270

ASBESTOS SCHOOL HAZARD DETECTION AND CONTROL ACT OF 1980

P.L. 96-270, see page 94 Stat. 487

Senate Report (Labor and Human Resources Committee) No. 96-710, May 15, 1980 [To accompany S. 1658]

House Report (Education and Labor Committee) No. 96-197, May 15, 1979 [To accompany H.R. 3282]

Cong. Record Vol. 125 (1979)

Cong. Record Vol. 126 (1980)

DATES OF CONSIDERATION AND PASSAGE

Senate May 22, 1980

House December 13, 1979; May 30, 1980

The Senate bill was passed in lieu of the House bill.

The Senate Report is set out.

SENATE REPORT NO. 96-710

[page 1]

The Committee on Labor and Human Resources, to whom was referred the bill (S. 1658) to establish a program for the inspection of schools to detect the presence of hazardous asbestos materials, to provide loans to local educational agencies to contain or remove hazardous asbestos materials from schools and to replace such materials with other suitable building materials, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill as amended do pass.

SUMMARY OF LEGISLATION

S. 1658, the Asbestos School Hazard Detection and Control Act of 1980, makes Federal financial assistance available to states and local educational agencies and non-public schools for the detection and abatement of hazardous asbestos materials in school buildings. The purpose of this bill is to establish a program to help schools identify and control the exposure of school children and school personnel to potentially debilitating asbestos fibers in the ambient air.

The bill provides for a two-tiered program of Federal assistance to schools—first, through grants to local educational agencies, State educational agencies, and non-public schools to detect potential hazards in schools and second, through loans to school districts and nonpublic schools to control detected hazards. The Department of Education would administer both components of the program.

ALASKA HEALTH CARE QUARTERLY

VOL. 1, NO. 1 SPRING 1981

Occupational health hazards and the rate of cancer

"The idea that human cancers are predominantly caused by genetic factors died hard, although the role of individual susceptibility needs further investigation and may be important . . ."
John Higgson, M.D., Director of the International Agency for Research of Cancer, Lyon, France.

What fraction of the cancer incidence in the United States is attributable in whole or in part to occupational exposure to carcinogens? Conventional estimates are quite small with figures ranging between 1%-5%. These figures are both speculative and deficient. According to a report by the National Cancer Institute (NCI) and the National Institute of Environmental Health Sciences (1978), a conservative estimate reflects 20% of all cancers as caused by occupational exposure to carcinogens. These two organizations have data to reasonably and persuasively argue 38% as the total excess incidence of cancers related to occupational toxins, but chose to cautiously estimate 20%.

A well studied example is asbestos exposure. According to a 1978 Department of Health, Education and Welfare report, between 8 and 11 million workers have been exposed to asbestos in the United States since the beginning of World War II. The total fraction of heavily exposed workers likely to die is close to 44%. Workers who were less heavily exposed, and are expected to induce some type of cancer, number approximately 0.55 million. The average number of cancers attributable to asbestos per year over the next 20 years is 67,000 — or 17% of all cancers *detected* annually in the United States. Other occupational health hazards and cancer?

- Arsenic. This industrial product will cause an estimated 2,100-7,300 excess cancers per year.
- Petroleum distillates. The estimated number of excess lung cancers will range from 2,400-12,000 per year.
- Benzene. The estimated number of excess leukemia cases per year due to occupational exposure to benzene is 240-1,400.

There are approximately 400 known carcinogens and literally thousands of suspected carcinogens of which approximately one thousand have been tested. Only 14 have been regulated.

Labor in Alaska

We have learned to live with this toxic material(s) — you become so used to it, you forget about fighting about it. I guess that's why change never gets made.
— Asbestos worker, Local 97

There is no known safe dose or exposure level to carcinogens; repeat ten times. It is too often forgotten except by those who are victims of environmental or occupational disease.

- Jack Endsley, Business Agent for Local 97 of the International Association of Heat and Frost Insulators and Asbestos Workers (IAHFIAW) has limited his lung capacity severely due to occupational exposure to asbestos.
- Bill Anderson, former 97 member, died in 1978 from occupational exposure to asbestos. Anderson was never awarded workers' comp. The Compensation Board rejected his case, and only after he died did the board decide they "erred" and claimed Anderson eligible for compensation. Anderson had no living dependents.
- Henry C. Moore died in 1976 as a result of occupational exposure to asbestos. Two years later the workers' comp board released the employer from any financial obligation to the widow of Mr. Moore. The reason? Mrs. Moore was presented a (small) lump sum of $35,000 in an out-of-court settlement with the employer.
- In a telephone call to Mr. Milton Bartholomy this past fall, HCA Director Susan Johnson asked the dying asbestos worker what he thought about employer compliance with state/federal law regarding protective equipment on the job. Mr. Bartholomy's response: "You need a police force in the Bush to protect the worker . . . ." Mr. Bartholomy died January of 1981.
- Mr. Richard Pitts, former maintenance worker for Hollywood Apartments on Government Hill and member of the Pipefitters, recently had one lung removed due to asbestos exposure during repair and removal of asbestos insulation. Mr. Pitts is now undergoing cobalt treatment, and has been told

continued on page 7

Alaska Health Care Quarterly: our first issue

There is little that is more sacred and important than life, and there is nothing more fundamentally essential to life than health. Whether you speak of personal health, occupational health, or environmental health, it matters not, for these distinctions are simply academic. The only difference is the setting — our bodies, our workplace, our planet.

Health Care Advocates is an organization dedicated to the health of all Alaskans, whether in the home, workplace or out in search of a breath of fresh air.

As this first edition of *Health Care Quarterly* shows, Health Care Advocates is working on a broad spectrum of health related issues. Articles include a look at occupational health and the rate of cancer, a historical overview of industrial hygiene, an article by a union member on enforcement of the Occupational Safety and Health Act, and a discussion of programs and policies concerning health care financing in Alaska.

— Board of Directors

Editor's Note: The first issue of Health Care Quarterly *is in celebration of and dedication to the health and well being of all workers in Alaska, and to the brilliance and commitment of Dr. Irving Selikoff and colleagues at Mt. Sinai School of Medicine, New York City, New York. Thank you.*

Occupational Safety and Health Act: Is it a state law?

by DAN MIDDAUGH

(Dan Middaugh is a member and former apprenticeship coordinator for Local 97 of the Heat and Frost Insulators and Asbestos Workers.)

Is it a state law? Is what a state law? Health care on the job. Does the man on the job have laws to protect him and his family from loss of income due to health problems? If so, how do we go about getting this protection?

This type of question is asked over and over by asbestos workers. The reasons this type of question arises so often are lack of proper protective equipment, lack of clean lunch areas, lack of adequate clean-up facilities, the failure of the Department of Occupational Safety and Health to make job checks, and the apparent lack of interest on the part of the contractors we work for.

Fiberglass, asbestos, calcium silicate, foamglass — these and many other materials used by the asbestos worker, are potential killers. To date we only have proof positive that asbestos is fatal. Many of the other materials are presently under study. Should we wait to find out that one of the many other materials we use is another asbestos? I say NO! Simple and *preventive* health care measures now, in the form of toxic dust respirators, proper clothing, and clean lunch areas, may save many lives in the future. Some recent studies have stated that inhalation of fibrous glass is as harmful, if not more so, than asbestos. These studies are not confirmed so let's wait! Why not — asbestosis has been recognized as a disease since 1927 — yet regulation of asbestos was not authorized until the early 1970's. Health protection on the job was not stronger than it is now. The laws that exist are rarely enforced and, in the area of health hazards there are laws which should exist and do not.

We, the Asbestos Workers, take the assumed risk of health problems when we take the job. However, we feel it is within our reasonable rights to ask for safety and health protection on the job.

On a recent job in Glenallen, Alaska, a particular company shipped materials to the job site that had warning labels reading: *WARNING: This product may be harmful to your health (may cause death).* My complaint is that even though the company had full knowledge of the potential danger of the product they did not ship proper protective health equipment with the material, and then complained to the crew about refusing to work without proper respiratory protection.

Compound this blatant negligence with the fact that the Department of Occupational Safety and Health (DOSH) isn't seen on the job sites until the men have made a serious complaint — which results in laying off the crew member(s) that make waves — and you can understand why the question comes up so often.

Is it really a law? Do we have protection on the job under state statute?

Cancer and children

As much as environmental carcinogens affect working adults, they affect the general public, including the more vulnerable sector of the public — children. In March of 1975, Dr. Irving Selikoff provided a bleak example of remiss federal policy in relation to carcinogenic risks and children. Selikoff had his researchers test 19 commercial baby and body powders. Nine of the products were found to contain asbestos fibers in quantities ranging from 2 to 20 percent. According to the researchers, many of the powders contained nickel which can also cause serious respiratory diseases and cancer (Larry Agran, *The Cancer Connection*).

According to research conducted by two Canadian investigators in 1974, carefully reviewed records of 386 children who died of cancer before they were 5 years old showed that a disproportionately high number of these children had fathers who worked with recognized cancer-causing substances at the time of their birth (Agran, ibid).

HCA radio programs

Health Care Advocates produces a weekly radio program on Anchorage Public Radio affiliate KSKA (103 FM). Health Care Reports will be heard next at 6:15 p.m. during every Saturday in May and June. The program examines a wide variety of health issues.

An HCA radio documentary on problems of consumer health care financing in Alaska has also been heard on a number of Public Radio stations throughout the state, in addition to being aired on Anchorage's KRKN-FM. These stations include KRBD in Ketchikan, KTOO in Juneau, KUAC in Fairbanks, KMXT in Kodiak, KYUK in Bethel, KOTZ in Kotzebue and KBRW in Barrow.

HCA has also produced a documentary on occupational health problems in Alaska. This half-hour program aired in Anchorage at 6:00 p.m. on Saturday, April 25 over KRKN (102 FM), and in two parts over KSKA at 6:15 p.m. on Saturday, May 2 and 9. For the air date in your area call your local public radio affiliate or call us at 272-6652.

Alaska's school systems and asbestos contamination

Director met with Anchorage school officials regarding the potential danger to school children, maintenance workers, and teachers from asbestos contamination in the Anchorage School District.

School officials, who had been apprised of the situation in August of 1979 (see box) felt reluctant to implement corrective action without securing further evaluation of the problem. The case presented to school officials by the EPA (Environmental Protection Agency) was rejected. EPA recommended removal of the friable asbestos (at West High), and an ongoing maintenance program in other areas. "Under no circumstances" were Anchorage school officials willing to accept removal of the material as a corrective measure. Johnson asked school officials to respond in writing regarding the schools policies and procedures and asbestos contamination.

December, 1980

Johnson met with Senator Stimson (D-Anch.) to apprise him of the situation. The Senator expressed grave concern, and a willingness to undertake corrective action. Stimson then held a three-way meeting with school board president Vince Casey, HCA director, and himself regarding the problem. Johnson presented a 21 page report, and was asked to address the full school board. Additionally, Johnson was to gather (more) information on the Massachusetts Special Asbestos Commission (a commission HCA still feels would be valuable). Stimson would talk to colleagues in Juneau in an effort to both inform legislators, and to expedite a solution to the problem.

January, 1981

Johnson had still not received any word from the Anchorage School district. At the end of the month, Johnson went to Juneau to discuss the asbestos problem in the workplace, schools and other public buildings with Senators Parr, Bennett Stimson, Representatives Cotten, Hurlbert, Rogers, Clocksin, and others. The level of interest of state officials was high.

Johnson also met with Department of Education Director, Lee Hayes. Hayes had just filed a report with the federal government which would make the state eligible for federal funds to assist in implementing corrective action.

March, 1981

Senator Parr introduced legislation which would set up an asbestos health hazard program and 1.8 million dollars to fund the program.

Recommendations

In brief, HCA commends and supports the efforts of Senator Parr. However, there are some gaps in the legislation which we strongly feel should be addressed. Due to lack of space, we will refer to them here briefly.

1. Before removal of asbestos is adopted as a policy for corrective action, it is imperative that other corrective measures (i.e., enclosure or encapsulation) are explored for a few simple reasons:

a. The problem of asbestos contamination as a public and/or an occupational health hazard can be aggravated by removing asbestos. Removal is *the dustiest* job, and the risk of human exposure to airborne fibers is increased during this procedure — even when the work is strictly regulated. NIOSH (National Institute of Occupational Safety and Health) is issuing policy directives which suggest other types of corrective action are implemented unless removal is absolutely necessary.

b. Alaska Health Care Advocates, the unions and industrial hygienists with the DOSH all agree that work procedures for removal of asbestos should be written out in the bill and mandated to be in accordance with the proposed NIOSH standards for (work) exposure to asbestos in order to maximize worker health and safety. This is also a way of insuring protection to the general public. If work procedures are controlled, the release of fibers from repair work will be minimized.

2. The work procedures should be under the jurisdiction of the Department of Labor. Instead of spending state money to train and hire personnel, the state would be prudent to find an additional IH (Industrial Hygienist) under the DOL. The IH will have already had training, and will be an ongoing investment in investigating areas other than and including asbestos contamination.

3. Unless the asbestos is removed from all schools and public buildings in one fell swoop, the health hazard program must be an ongoing one. Why? Simply, if a sanitarian enters "x" area, detects asbestos, decides it is a hazard, and proposes corrective action that is a job completed. However, a sanitarian may also detect asbestos in "y" area, decide it is not endangering anyone at the present time, and not propose corrective action. One, two, or three years later, the material may have deteriorated enough to present a threat to users of the building. If there is no ongoing detection program, no corrective measures will be proposed, and exposure to children and teachers will continue.

There are other recommendations HCA will make to Senator Parr, other legislators, and state agencies regarding this. Anyone interested in the details can receive additional information by calling the HCA office.

Resource

Asbestos and health hazards in the schools — Dr. William Nichols. Asbestos and health hazards in the workplace — Dr. Irving Selikoff, Mt. Sinai School of Medicine, New York City, New York (212) 650 6173.

Environmental Protection Agency Samples and Analysis in the Anchorage School System

School/Bldg	City	Interior Location	Date Tested	Results
1 Dimond High	Anchorage	pool entrance	8/23/79	10% chrysotile EPA Exposure No. = 16
2 West High	Anchorage	mechanical space below the pool ceiling	8/23/79	10% chrysotile EPA Exposure No. = 78 maintenance workers exposed
3 West High	Anchorage	Boy's P.E. locker room, ceiling	8/20/79	10% chrysotile EPA Exposure No. = 48 student exposure
4 Bartlett/Begich	Anchorage	Room W 313, above drop ceiling	8/23/79	10% chrysotile EPA Exposure No. = 16 likely maintenance worker's exposure
5 Mt. Spurr Elementary	Anchorage	Boiler room, pipe wrapping	8/27/79	5% chrysotile maintenance workers exposed

Occupational health — an historical overview

Historically, there has been a serious lack of concern for protecting the health of the worker. Until recent history, slaves performed "common" labor — and few were concerned with the health and welfare of slaves. The idea of manual labor was so disdainful, that at one point in Egyptian culture, the peoples of Egypt were prohibited by law from performing it. With this societal attitude the prevalent one, it is no wonder there were marginal efforts to control the work environment and provide a healthful workplace.

During the 2nd century, Galen wrote a prolific series of concepts on anatomy and pathology. Although the Greek physician recognized the dangers of acid mists to copper miners at the time of his work, he never gave serious consideration to any type of solution to the problems associated with occupational health hazards. During the Middle Ages, little was done to advance the working conditions of laborers; feudalism was well underway. During the 11th and 12th centuries, observation and experimentation flourished, yet the study of occupational disease was virtually ignored.

Achievement in the field of industrial hygiene was void until 1473 when a pamphlet on occupational health and hygiene instruction was authored by Ulrich Ellenbog. Later in 1556, Georgius Agricola effectively described the health hazards associated with the mining industry. His publication included sections on proper ventilation, protective masks for miners, and a discussion of diseases including silicosis. But, still no improvement of working conditions occurred.

Sadly, as late as the 16th century, the subject of industrial hygiene was fraught with mysticism. It was believed the demons inhabited the mines and could be controlled by fasting and prayer. Only in 1700 was silicosis described in accurate pathological terms.

The author Bernado Ramazzini outlined cautions which he felt would alleviate many industrial hazards. His recommendations were ignored for centuries.

The 18th century saw notable changes in the interest and direction of industrial hygiene.

- Sir George Baker attributed "Devonshire Colic" to lead in the cider industry and was instrumental in its removal.
- Percival Pott was responsible for recognizing soot as one of the causes of scrotal cancer. Pott was a catalyst towards passage of the Chimney Sweepers Act of 1788.
- A political and medical influential, Charles Thackrah asserted in a 200 page treatise on occupational health "...let benevolence be directed to prevention, rather than to the relief of evils...."

In spite of these improvements, which were reflected both in attitude and policy, the 18th century produced few true safeguards against hazardous working conditions.

In the United States, an early 20th century champion for social responsibility and occupational health and welfare was Dr. Anne Hamilton. She not only presented substantial evidence of a relationship between illness and exposure to toxins, she proposed concrete solutions to the problems. Public awareness was now becoming acute.

- 1908 - Federal government passed a compensation act for certain civil employees.
- 1912 - The first state industrial hygiene programs were established in New York and Ohio.
- 1913 - The Occupational Safety and Health Activity of the Public Health Service was passed.

By the time of the great Depression, the federal government was becoming quickly acclimated to a need for intervention in both the economy and the welfare of American life.

Four decades later, after political battles and much compromise, the 1970 Occupational Safety and Health Act (OSHA) was passed. The impetus for the Act?

"The on-the-job health and safety crisis is the worst problem confronting the American worker, because each year, as a result of their jobs, over 14,500 workers die. In only 4 years time, as many people have died because of their employment as have been killed in almost a decade of American involvement in Vietnam. Over 2,000,000 workers are disabled annually through job related accidents ... over 1.5 billion is wasted in lost wages, and the annual loss to the GNP is over $8 billion. Ten times as many days are lost from job-related disabilities as from strikes, and days of lost productivity through accident and illness are ten times greater than the loss from strikes ...."

(H.R. Rep. No. 1291, 91st Congress, 2nd session, 14-15, 1970)

The intent of the Act?

"To assure as far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources ...."

The result of the Act?

The intent of the Act is easily and eloquently stated, yet implementation has been a long, uphill struggle. Overall, the worth of the Act has more than proved itself over and over. According to a 1979 report by Mark Green of Congress Watch and Norman Waitzman of Corporate Accountability Research, due to OSHA 350 deaths per year are avoided, and 40-60 thousand injuries per year are avoided. This translates into approximately $5.1 billion per year for the OSHA safety program. The best current estimates for the *benefits* of OSHA's toxic program and noise abatement standard add up to 7 billion saved by 1985.

Still, there is much work to be done. This is particularly true for individual state Divisions of Occupational Safety and Health. Industry has long lobbied Congress to weaken the OSHA. In 1980 under Carter, workplaces with fewer than 10 employees were exempt from safety inspections. According to one source, that totals approximately 15 million workers who do not have their place of employment protected by the law. Under Reagan? Organized labor is already acting to try and offset the proposed dismantling of OSHA.

Falling between the medical care cracks

by DON BANTZ and DANIEL JANIK

Since the establishment of Title 19 of the Social Security Act, Congress has continued to appropriate increasing amounts of public tax monies to assist low income persons in obtaining medical care. Medicaid, like a number of other federally funded medical and social programs for the low income, minority or disadvantaged, uses a "means test" based on gross income to determine who may or may not receive services at public expense. But, what happens to persons who do not qualify for Medicaid yet are "low income" by Alaskan standards and cannot afford medical care? What about persons who want to get off of public support but face the spectre of sudden loss of all these supports? What about Alaskans who suddenly find themselves out of a job and don't want to "go on welfare" but don't have enough to make it alone while finding another? What about new Alaskans who need ongoing medical care and can't seem to find a doctor who will take new patients, or who use Anchorage's only two emergency rooms as their "regular doctor"? What happens to these people who seemingly "fall between the medical care cracks"?

Anchorage's Neighborhood Health Center estimates that there are probably about 12,000 Anchoragoites in just such situations, depending on time of year and prevailing employment conditions. Like most other non-profit, community run service agencies, the Center accepts new patients from within the Greater An-

continued on page 8

Fiberglass — another asbestos?

Asbestos caused injuries have been called a "pub[illegible] health disaster of unprecedented dimensions" (JAMA Medical News, 1978) "that will result in an average of 20,000 deaths per year" (JAMA Medical News 18 Jan. 1980). "Continued use of asbestos, despite clear knowledge of its dangers," said a NIOSH (National Institute of Occupational Safety and Health)spokesman, "verges on the criminal." Some trial lawyers are now contending the toxic effects of asbestos were known 80 years ago.

Even if the use of asbestos were totally banned today, there are millions of victims who have been harmfully exposed and will develop diseases over the next two decades. In Alaska, members of the International Association of Heat and Frost Insulators and Asbestos Workers, Local 97 comprise part of that group. Of that particular local, there is but one living retiree of 23. Of the 22 dead, 13 died of asbestos-related disease.

The irony of the story is this: the major substitute large companies are using for asbestos in insulation work is fiberglass. As is asbestos, fiberglass is used in thousands of consumer products: there are 3[illegible],000 products on the mar[illegible] containing fiberglass. Drs. Daum [illegible] Stellman of the Oil, Chemical a[illegible]d Atomic Workers' Union caution: *Fibe[illegible] glass may cause cancer.* As pointed ou[illegible] by these two physicians, "fiberglass [illegible] is a dangerous material [illegible] it causes lung scarring upon continued [illegible] and may also cause cancer . . . [illegible] [illegible]tion results from contact." Thus far, the Stanton Hypothesis presents the strongest argument regarding the potential carcinogenicity of fiberglass. Dr. Mearl Stanton of the National Cancer Institute suggests that it is the size and shape of inorganic (asbestos) fibers that in some way resulted in "neoplastic change in mesothelial tissues and that other inorganic fibers of similar size and shape might do the same . . . experimentally, this has been shown to be so with fibers as diverse as . . . brucite, and fibrous glass." (Selikoff in "Public Health and Preventive Medicine, 11th ed.," "Occupational Respiratory Diseases: Asbestos Asssociated Diseases"). Dr. Selikoff goes on to heed, there is "increasing concern over new types of inorganic fibers which tend to have valuable commercial properties, and result in industry unknowingly introducing "other asbestoses" into the market, with identification of the human risk of cancer much too late, after many people have been exposed."

Yet, because there is "no conclusive evidence" concerning the potential carcinogenic impact of fiberglass, there are minimal regulations protecting the worker from exposure. According to a 1979 NIOSH report on fiberglass, there have been experiments demonstrating that fiberglass is a cancer causing agent, but due to the methodology employed (implantation of fibers in rats vs. rats inhaling the fibers) the results can not be extrapolated to human exposure. NIOSH has proposed stricter standards than those that presently exist. Additionally, Dr. Selikoff of Mt. Sinai Medical School (New York), Dr. Shannon of McMaster University (Canada), and others will continue to study the impact of fibrous glass on human beings.

Asbestos standards

After decades of knowing asbestos exposure was dangerous, a standard was finally proposed in 1972. Labor representatives had proposed a standard of 5 fibers per cubic centimeter of air. This level was adopted as a temporary emergency standard for a 3 month period of time in 1972. A permanent standard became law 3 months after the emergency standard was announced. According to Drs. Stellman and Daum:

"[illegible] the asbestos industry forced the government to compromise: the 2 fiber level would be the permanent standard, but the government did not put it into effect until 1976 (the compromise made to industry). M[illegible]reover, the standards are aimed at preventing asbestosis, not cancer. In fact, there is new evidence that cancer and even asbestosis has occurred among British workers who have been exposed to no more than 2 fibers per cubic centimeter throughout their working lives. If health were really the intention, no asbestos exposure would be permissible and specific industrial hygiene techniques that eliminate exposure would be included in the law.

The 2 fiber level translates into 2 million fibers per cubic meters of air. Since a worker may inhale approximately 8 cubic meters of air or more during a day's exposure, working under 'standard' conditions allows augmentation of the lung burden of asbestos [illegible] these figures only refer to longer fibers greater than 5 microns in length. They do not include a very much larger number of fibers shorter than 5 microns — many only visible by electron microscopy." (Dr. Irving Selikoff)

Dr. Selikoff goes on to point out that the lungs of an individual sufficiently scarred to cause death by asbestosis may contain only *0.5 gram or so of asbestos.* New standards presently under consideration by the federal Occupational Safety and Health Administration are as follows:

[illegible] a ruling: 500,000 fibers per cubic meter of air with an 8 month time weighted average with a ceiling of 5 million fibers per cubic centimeter.

b [illegible] ruling: 100,000 fibers per cubic meter with an 7 hour TWA and a ceiling of 500,000 fibers pe[illegible] cubic meter of air.

Also proposed: [illegible] a stricter medical surveillance program, r[illegible]spirator program, enginee[illegible]ing program, and hygiene facilities.

However, Reagan has instituted a moratorium on all new standards, for both health and safety, for an indefinite period of time. The state of Alaska does have the discretion to strengthen state OSHA laws.

Fiber Glass, the Miracle Material

— [illegible]

Reprinted from the Oil, Chemical, Atomic Workers newsletter Lifelines, Feb. 1979

Committees and Commissions

Health Care Advocates is working to insure the low to moderate income and other under represented consumers gain representation on various health care committees, commissions, and boards.

Ileen Seil, Welfare Rights organizer, is an example of how well this can work. Seil, recently appointed to the State Med[illegible]al Care Advisory Committee is working hard to illustrate the concerns of the low to moderate income consumer and Medicaid policy. Seil feels the committee has a lot of potential, and can facilitate positive cha[illegible].

Other consumers i[illegible] [illegible]ed in participating on this or other health care policy making boards, [illegible] [illegible]tact Health Care Advocates staff person, David Pierce.

Proposed State health insurance program

Currently thousands of Alaskans have little or no health care coverage. The facts speak for themselves.

- Fact: The U.S. Bureau of the Census reports that in 1976 there were 9,410 children and 27,495 adults in Alaska who didn't have any health insurance coverage.
- Fact: In 1978, the Alaska Department of Revenue reports 40.2% of all taxpayers had annual incomes of $15,000 or less.
- Fact: Legislative Researcher Sharmin Haley reports that there are 44,000 residents this year who have no health care coverage. The Battelle Research Institute concurs with this figure.
- Fact: The Alaska Health and Social Services Department determined that last December 5,049 adults and 10,840 children were Medicaid eligible, the highest in four years. This was the last month for which Medicaid statistics are available.
- Fact: Among states that participate in the federal Medicaid program on a 50% matching basis, Alaska ranks 45th in the number of optional medical services offered to poor people. Services and eligibles not covered in Alaska include adult dental care, physical therapy, prenatal care, unemployed fathers and caretaker relative of a child between the ages of 18 and 21, among others.
- Fact: The State Catastrophic Illness Program is the only state program designed to assist moderate income residents who incur huge medical bills. Yet each applicant must absorb bills of $1,000 before receiving aid under the program. A family of three with an annual income of $10,000 must absorb bills of $1,000 before qualifying for the Catastrophic Illness program.

The provisions in Committee Substitute for Senate Substitute for House Bill 41 (CSSSHB 41) is meant specifically to assist those residents who have little or no medical coverage.

State Health Plan/Cost Sharing Plan

Section one of CSSSHB 41 directs the Commissioner of Administration to establish minimum benefit standards for a comprehensive health plan, open to any resident of the state. Any resident enrolled in the state health plan or insured under another private health policy with benefits that meet or exceed the state plan would receive a subsidy based on their household income, in order to help them defray the costs of health insurance. Those residents already enrolled in a group plan or public program would be eligible for any benefits under the state program that exceed their current benefits.

Uninsured groups that would be eligible for the state plan and cost sharing program include high risk "uninsurables" who are subject to broad exclusions for pre-existing medical conditions, non-union and seasonal workers such as fishermen, cannery workers and construction workers and self employed individuals. The cost sharing mechanism covers eligible households whose incomes are 125% of the median income or less.

Alcoholism and Drug Dependency Coverage

Drug and alcohol dependency has long been recognized as one of Alaska's most acute social and medical problems, causing physical, mental and financial suffering to victims and to their families, friends and employers. CSSSHB 41 sets up a pilot project program for state employees by requiring that their health insurance includes coverage for inpatient and outpatient treatment and detoxification. The results of this program will be used to determine if and how it might be feasible to expand such coverage to other groups.

Improvements in the State's Public Assistance Programs

- Medical Assistance by Insurance or Health Service Contracts: The Health and Social Services Department would have the option of using Medicaid and General Relief Medical funds to purchase private insurance for those who are presently covered under Public Assistance programs, if and when it is determined to be more cost effective.
- Interest on Late Payments: In the past doctors, hospitals and other providers have had to wait up to two years before being reimbursed by the state for services provided to poor people. As a result many low income patients have a hard time finding a doctor who will accept their medical assistance coupons. CSSSHB 41 authorizes the state to make interim payments to large medical assistance providers. The bill also mandates penalty interest on overdue medical assistance bills of one percent after 45 days and two present after 90 days.
- Medical Services to be Provided: CSSSHB 41 expands Medicaid services and eligibles in Alaska to include physical therapy, adult dental care, dentures, coverage for unemployed fathers and caretaker relatives of a child over 18 and under 21, among others.

House Bill 41 embodies proposals that are well formulated and address many of the glaring deficiencies in Alaska's present health care financing programs. Basic health care — like education — should be accessible to all our residents regardless of their ability to pay. House Bill 41 does this in a way that is consistent with the financial needs and dignity of the state's medically needy, that provides for fair and consistent reimbursement to providers for medical services performed, and that is most cost effective to the state in terms of financing and administration.

Editor's Note: CSSSHB41 passed the State House 22-14 and is scheduled to go before Senate HESS the second week in May.

Medical care cracks continued from page 4

chorage Area regardless of income, applying a "sliding fee" to the bills of patients who don't have third party reimbursement resources and whose monthly income is less than twice the Alaska poverty income as determined by the federal government (about $800/month for a single person, $1,715/month for a family of four). Thus an Alaskan trying to get off of public support can continue to receive medical services and assume an increasing amount of financial responsibility. Temporarily indisposed persons, if necessary, also have a place to go for medical assistance until they are back on their feet and ready to return to their private doctor. No one is refused care on the basis of income.

No matter how you slice the cake, though, someone has to pay for services. The Anchorage Neighborhood Health Center, like most community service agencies, requires a combination of federal, state, municipal, community, local physician and direct patient support. Thus the burden of paying for these services is distributed over many sources, and the taxpayer can regard such an agency as his own insurance policy against a time as he too may need these services. Continued shared participation is both the strength and the challenge for community service agencies who will be "filling in the cracks" in the difficult years ahead.

Don Bantz is Executive Director of the Anchorage Neighborhood Health Center. Daniel S. Jana, MD, MPH is the Medical Director. The Neighborhood Health Center is located at 1217 East 10th Avenue, Anchorage, AK 99501.

Occupational health hazards continued from page 1

by his doctor that his right lung has as much asbestos as his left lung . . . .

Documents maintained by Local 97 of the IAHFIAW and Dr. Irving Selikoff, the physician who first pioneered in the field and detected the link between asbestos exposure and cancer, show that between 1967 and 1976 ten Local 97 workers died of various cancers induced as a result of occupational exposure to asbestos. According to death certificates maintained by 97, another worker died in 1965, one in 1979, and Mr. Bartholomy in 1981. Total deaths to date: 13. The average life expectancy for a pipe coverer is 15% less than someone in the general population. This due primarily to past asbestos exposure will continue unless something is done now regarding present exposure.

Who is Exposed

Local 97 members can be defined as asbestos workers, or those whose work has primarily consisted of the application of asbestos for thermal and acoustical insulation. They are the obvious group of exposed workers.

All workers from the various crafts of building and trades AFL-CIO work in close physical proximity on any given job and are therefore exposed simultaneously to toxic materials. Yet the Boilermaker or the Painter is not given protective equipment by the employer for the work conducted by the Asbestos worker. Other workers who are directly exposed to asbestos include:

- Brake repair and auto repair workers (brake linings contain 50% or more asbestos).
- Roofers who use tiles which contain asbestos are exposed to considerable amounts during cutting operations.
- Maintenance workers are frequently asked by ignorant employers to remove old asbestos insulation, or to repair deteriorating asbestos insulation.
- According to a state Division of Occupational Safety and Health report, other workers who have been exposed to illegal levels of asbestos include: cannery workers, electrical workers (IBEW), fishermen, and machinists, to name a few.
- Family members. Dr. Selikoff and colleagues have documented cases to family members of asbestos workers who have died from exposure to the tiny fibers brought home in the clothes of workers who were not provided protective equipment.

Protection on the Job

A recent HCA survey of 97 members showed that when working with asbestos:

Protective Clothing

55% of the workers never (0% of the time) had protective clothing provided.

Respirators

13% of the workers had respirators provided occasionally (1-99% of the time).

66% of the workers usually (50.1% - 99% of the time) had respirators provided.

Only 6% of the workers always (100% of the times had respirators provided.

Vacuum Cleaners

58% of the workers never (0% of the time) had vacuum cleaners provided for clean-up activities.

Lockers

100% of the workers were never (0% of the time) provided lockers to isolate work and/or street clothing from each other to avoid bringing dusts home. A commonly cited situation is for the worker to be provided one area to eat and change his work clothes in.

Portable Exhausts

84% of the workers were never (0% of the time) provided portable exhausts for confined spaces.

Bagging

39.4% of the workers were never (0% of the time) provided bagging for disposal of asbestos materials.

Power Table Saws

21% of the workers were never (0% of the time) provided with power table saws with ventilation.

10.5% of the workers were always (100% of the time) provided with power table saws with ventilation.

Power Hand Saws

74% of the workers were never (0% of the time) provided power hand saws with ventilation.

Is it only Local 97 that has problems with securing protection on the job? Dave Chess, Business Agent for Boilermakers Local and President of the Western Council of Building and Trades, AFL-CIO says, "No." According to Chess, the health hazards faced by the Boilermakers are extremely serious. Not only are workers exposed to asbestos, but also to welding and toxic fumes and countless safety violations. Chess works hard to "police negotiated contracts" for his members as a means of helping them protect themselves.

On the job he believes it is effective for workers to take responsibility for their own health and safety. Chess believes much more is needed to protect the worker. The issues involved are complex. One problem highlighted by Chess is retaliatory firing (i.e. workers who are fired for complaining about working conditions), which he feels happens continually. "Discrimination against people who bring health and safety problems probably happens more than even I am aware of."

Don Wagner, Business Agent for the Pipefitters, and Vice President of Western Council, Building and Trades AFL-CIO feels protecting the worker from toxic materials is a dilemma for workers who do not work directly with the material, but physically close — those who do, such as his membership.

As Wagner says: "People working directly with asbestos wear masks. However, members from the other trades have no knowledge of the dangers involved, and are consequently breathing it (asbestos) in all the time. If the public were made more aware of some of these problems, maybe more preventive measures would be taken."

Division of Occupational Safety and Health

A basic philosophy of the Occupational Safety and Health Act is that inspections in the workplace have as their objective improved conditions in the workplace. In part, this objective is obtained by a multiplier effect — an inspection of an establishment in a particular industry will usually produce voluntary compliance actions by other employers in that industry. The ultimate value cannot be found in its punitive effect, but rather in its deterrent effect. If not faced with that possibility of an inspection, employers would lose most of their motivation for achieving the goals of the act.

The Alaska Division of Occupational Safety and Health does not include in its employers with an out of state address of non-fixed places of employment in their general scheduled inspection system for inspections. In other words, all workers in construction, which includes all Building and Trades workers, only have their work site inspected by an industrial hygienist if:

a) the worker is hurt.

b) the worker files a formal complaint, which is signed by the worker (this can be particularly threatening to a worker who is afraid that his signature on a complaint will precipitate retaliatory firing).

c) the employer requests an inspection.

d) safety officer makes a referral to an industrial hygienist.

This effectively precludes preventing worker exposure to toxic materials and employer non-compliance with existing laws and occupational health regulations. Equally important, it

continued on page 8

Occupational health hazards

continued from page 7

negates that basic conceptual foundation which workplace inspections were built on.

According to the chief industrial hygienist, this results in part in a 64.8% failure rate for detecting asbestos-related health hazards: 1,230 asbestos-related places of employment are not included in the general scheduled inspection system because they are non-fixed or multi-site places of employment. The statistics for other high hazard industries, and the State Division of Occupational Safety and Health's ability to protect the worker are as compellingly disturbing. For welding and toxic fumes, the failure rate is 80.4%, or 217 places of employment; for detecting lead, the failure rate is 60%, or 208 places of employment; for detecting silica, the failure rate is 66.3%, or 76 places of employment . . . .

Craftworkers, operators, and laborers comprise the largest category of Alaska wage and salary employees, or 32% of the workforce statewide. Employment for these workers is expected to increase by 3,550 per year thru 1985 (Annual Planning Information, Alaska Department of Labor FY 1981, page 25).

A DOSH is severely needed to assist in adequate protection of the worker, and the Alaska DOSH is in need of some support to adequately fulfill that objective. As the Business Agent for the Laborers put it, without a stable financial base which needs to be eventually expanded, it is impossible for the industrial hygienists to sufficiently execute their work, and provide meaningful protection for the worker.

The policies and procedure the state DOSH should be scrutinized, with input and assistance from that department in respect to occupational health hazards, particularly asbestos exposure, and ideally exposure to all toxic materials.

Worker's Compensation and Occupationally-Related Disease:

Once the worker has induced an occupationally-related, or asbestos-associated disease, what is the feasibility of compensation?

According to the recently published Barth study (*Workers Compensation and Work Related Illnesses and Diseases*) there are great discrepancies between the compensation awarded for average work injuries and for occupational diseases. He discusses:

a) The average amount of time a victim waits before receiving benefits for occupational diseases vs. the average amount of time a victim of an average work injury waits. Nationally, it is one year for occupational diseases vs. two months for compensation of the average work injury.

b) The percentage of occupational disease awards. Nationally, 60% of the claims are denied for occupational disease and only 10% of the average job injury awards are denied.

c) The number of occupational disease awards that are resolved in compromise and release agreements which involve small lump settlements which usually release carriers from further liability for income maintenance and health care costs. Nationally, over 50% of occupational disease awards receive such treatment and only 16% of all regular injury awards receive such treatment.

d) The amount of compensation for the worker who has been totally disabled for life by occupational disease. Nationally, only one eighth of the workers income is replaced.

e) The flow of funds into and out of insurance company reserves. Nationally, only 60¢ of every premium dollar is paid out as cash or medical benefits, therefore 40¢ of every worker's dollar goes to pay expenses which include insurance company reserves, dividends, litigation costs, overhead, etc.

According to a progress report published by Dr. Irving Selikoff of the Mt. Sinai School of Medicine, for a comprehensive analysis on workers' compensation benefits for asbestos workers who have induced asbestosis, mesothelioma, and/or lung cancer, there are significant problems with workers' compensation. His preliminary report discusses 175 workers in 34 states who induced mesothelioma and applied for workers' compensation. He also discusses the experience of the surviving dependents who applied for compensation:

a) Only 37% applied prior to death.

b) Only one-half received compensation.

c) One-half had claims pending at death.

d) Average victim of mesothelioma was disabled less than 6 months prior to death, and worker compensation did not have sufficient time to process all the applications for benefits.

e) Forty percent of the survivors filed for claims for which the majority received a weekly cash award of about $80 and others received a lump sum averaging $20,000.

f) Approximately two-thirds of the claims were contested and 84% required the services of an attorney.

g) Three-fourths of the widows did not file for compensation and said they did not know they could file for benefits.

h) Tort litigation including third party liability suits were filed by about 22% of the survivors of mesothelioma victims; three-fourths of the suits settled at an average amount of $93,000 (less $35,000 for legal fees).

The conclusions which can and have been drawn thus far are that workers' compensation benefits are not easily accessible or adequate for occupational illness victims and/or their surviving dependents.

Health care Advocates and Western Building and Trades Council, AFL-CIO, have brought these concerns to the legislature. We have asked that the state fund an intensive study to address the problem in respect to the Division of Occupational Safety and Health (preventive level) and Workers' Compensation and occupational disease (after the fact). We have armed ourselves with documentation of the facts, and have outlined an unquestionably serious problem which merits immediate attention. After a full analysis has been made, corrective action can be taken. Maybe then workers and their families can rest assured that increasing industry in Alaska will not only be good for the economy of a few, but for those who make development possible — labor in Alaska.

WESTERN ALASKA BUILDING and CONSTRUCTION TRADES COUNCIL,

A.F.L.-C.I.O.

National highlights

Occupational safety and health

☐ Labor received a major blow when, in a 5-4 decision issued July 2, 1980 the Supreme Court struck down the new OSHA standard on benzene exposure. (Benezene causes leukemia, which the court did recognize) . . . OSHA efforts to develop *stricter asbestos standards were delayed* by the Benezene ruling. (Reprinted from *Safer Times*, No. 36, October/November 1980. Philadelphia Area Project on Occupational Safety and Health. Philadelphia, Penn.)

☐ Worker's Compensation? Nearly 2 million U.S. workers are partly or severely disabled because of occupational diseases, and in 1978 alone, the lost time of these workers added up to $11.4 billion. Who pays the tab? Not industry, according to a recent U.S. Labor Department study. Only 5% of the disabled got workers' compensation, and only one-eighth of lost wages were replaced by compensation. The workers themselves and taxpayers in general got stuck with the rest of the bills — 53% got Social Security, 21% got pensions, 17% veterans benefits, and 16% had to go on welfare. (Reprinted from CACOSH, Health and Safety News, January/February 1981, Chicago, Ill.)

☐ In Alaska? Senator Terry Stimson (D-Anch), and Representative Brian Rogers (D-Fbks) headed up a legislative interim committee to look at workers' compensation in Alaska. The results? 1) Insurance and rate making aimed at promoting a competitive and open rating system; self insurance and group insurance made easier for employers to secure; 2) increased penalties to carriers who cut benefits and neglect to report changes in workers' comp dept.; carrier required to notify the division of any change in payments - Rehabilitation and benefits will be addressed during the next interim committee. Senator Stimson is now seriously considering addressing workers' comp in relation to occupational diseases as well. For more information, write Senator Stimson and/or Rep. Rogers, Pouch V, Juneau 99811.

☐ Fiberglass Exposure? NIOSH (Nat'l Institute for Occupational Safety and Health) recommends that worker exposure to fiberglass be controlled so that no worker is exposed at an airborne concentration greater than 3 fibers per cubic centimeter of air, diameter equal to or less than 3.5 microns and length equal to or greater than 20 microns, determined as time weighted average concentration for up to a 10 hour work shift in a 40 hr. work week which is stricter than the standards presently maintained by OSHA (see article on Fiberglass)

Membership welcomed

As a small, private non profit organization, HCA must depend on the contributions of its membership in order to continue the valuable work it is engaged in. If you like what Health Care Advocates is doing, please join us. You will receive our quarterly newsletter and other timely and informative mailings, and you will have the right to vote in the annual HCA Board of Directors election.

If you do want to support HCA so that it continues its unique role in advocating for the health of all Alaskans, please submit your contribution to us at P.O. Box 1037 DT, Anchorage, Alaska 99510.

Name _____

Address _____

City _____ Zip _____

Telephone (work) _____ (home) _____

Dues

☐ $5.00 Low Income/Students ☐ $10 Individuals

☐ $25 Organizations ☐ Membership and General Support

Thank You
The Alaska Health Care Advocates