ALASKA LEGISLATURE COMMITTEE FILES 1985-1986 8672

3214.59 HHESS HB 57

59

Demolition / Renovation of Friable Asbestos

Applicability Categories Section 61.145

61.145(c) Demolition – ORDERED by State or local gov't., facility structurally unsound and in danger of imminent collapse.
≥ 260 lin.ft. (pipe) or ≥ 160 sq.ft. other fac. comp.

Notification Req. Section 61.146

Written notification to EPA required as early as possible prior to demolit.
Recommend at least 10 days

(1) Name/add. of owner/op. of ren./dem. firm
(2) Bldg. description (size, age, prior use)
(3) Amount of asb. in facility

(4) Fac. location for dem./renov.
(5) Start date / Completion date
(6) Descrip. of dem./renov. and methods
(7) Procedures followed in dem./renov. to comply with Subpart M
(8) Name & location of waste disp. site

Emission Control Proced. Section 61.147

Notification Req. Section 61.146

(9) Name, title and authority of State/local gov. rep. ordering demolition.

SEND NOTIFICATIONS TO:

EPA

Alaska Operations Office

3200 Hospital DR.

Suite 101

Juneau, AK 99801

ATTN: NATIONAL DIRECTOR

Emission Contm' Proced. Section 61.147

(d) After removing facility component w/ asb.
- Wet during stripping -OR-
- Use local exhaust vent. & collection (NO V.E. or designed & oper. 61.154)

(e) All asbestos removed or stripped
- Asb. must remain wet until contained for disposal
- Do not drop - lower material to ground
- Dust-tight chutes or containers if > 50 feet above ground - Exception: 61.147 (b)

(f) Temp. at wetting point < 32°F
- Comply w/ (d) and (e) - no other wetting requirements

Demolition / Renovation of Friable Asbestos

Applicability Categories Section 61.145

61.145(d) Renovation ≥ 260 lin-ft. (pipes) or ≥ 160 sq.ft. other fac. comp

Notification Req. Section 61.146

Written notification to EPA required.
as early as possible prior to renov
Recommend at least 10 days

(1) Name/addl. of owner/op. of rem./dem. fac
(2) Bldg. description (size, age, prior use)
(3) Amount of asb. in facility

(4) Fac. location for dem./renov.
(5) Start date / Completion date
(6) Descrip. of dem./renov. and methods
(7) Procedures followed in dem./renov.
to comply with Subpart M
(8) Name & location of waste disp. site

Emission Control Proced. Section 61.147

(a) Remove asb. before wrecking or dismantling that would break RSB. mat. or preclude access

(b) Removal of facility component w/asbestos in sections
- Wet the areas to be cut
- Do not drop - lower the units to ground

(c) Removing/stripping asb. from intact facility components

Notification Req. Section 61.145

SEND NOTIFICATIONS TO:

EPA

ALASKA Operations Office

3200 Hospital Dr.

Suite 101

Juneau, AK 99801

Attn: Asbestos Demo

Emission Control Proced. Section 61.147

Exception: unavoidable damage to equipment

- Request EPA to make determination
- If damage unavoidable, must use exhaust ventilation & collection sys. (No V.E. or designed & oper. 61.154)

(d) After removing facility component, insp.

- Wet during stripping —OR—
- Use local exhaust vent. & collection (No V.E. or designed & oper. 61.154)

(e) All asbestos removed or stripped

- Asb. must remain wet until contained for disposal
- Do not drop - lower material to ground
- Dust-tight chutes or containers if > 50 feet above ground - Exception: 61.147 (b)

(f) Temp. at wetting point < 32°F

- Comply w/ (d) and (e) - no other wetting requirements

Demolition / Renovation Projects
Standards for Waste Disposal of Friable Asbestos *

61.152

(a) Deposit all asbestos waste (friable & control equip) at waste disposal site operated by 61.158

(b) No visible emissions (collection, process, packaging, transport, deposit)

-OR-

1) Treat asb. waste with water (No V.E. or use Air cleaning 61.154)
- Seal wet asbestos in leak-tight containers (suggest 6 mil bag)
- Label containers (61.152(b)(1)iii OR 29CFR 1910.1001(g)(2)(iv))

-OR-

2) Process asbestos waste into non-friable forms (no V.E. or use Air cleaning 61.154)

-OR-

3) Submit alternative disposal to EPA for approval

* Demolition/Renovation projects < 260 lin.ft. or < 160 sq.ft. of friable asb are excluded from EPA waste disposal requirements but are not excluded from DofL or ADEC regulations.

Demolition / Renovation Projects
Active Waste Disposal
61.156

a) No V.E. from waste disposal site

b) Natural barrier or warning signs & fencing

c) Instead of a) and b) at least once every 24 hours newly deposited asbestos waste covered with a minimum of 6 inches of compacted non-asbestos-containing material.

Substance (Note 1)	ppm	mg/M³ (Note 2)
Coal tar pitch volatiles, BaP phenanthrene, acridine, chrysene		
Cobalt, metal fume & dust		0.1
Copper fume		0.1
Dusts and Mists		1
Corundum Al_2O_3 (Note 4)		
Cotton dust, raw—See §1910.1043 and (Note 7)		1
Crag herbicide		15
Cresol (all isomers)-Skin	5	22
Crotonaldehyde	2	6
Cumene-Skin	50	245
Cyanide (as CN)-Skin		5
Cyanogen	10	
Cyclohexane	300	1,050
Cyclohexanol	50	200
Cyclohexanone	50	200
Cyclohexene	300	1,015
Cyclopentadiene	75	200
2,4-D		10
DDT-Skin		
DDVP, see Dichlorvos		
Decaborane-Skin	0.05	
Demeton-Skin		
Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	50	
1,2-Diaminoethane, see Ethylenediamine		
Diazomethane	0.2	0.4
Diborane	0.1	0.1
C 1,2-Dibromoethane (ethylene dibromide)-Skin	25	190
Dibutyl phosphate	1	5
Dibutylphthalate		5
C Dichloroacetylene	0.1	0.4
C o-Dichlorobenzene	50	300
p-Dichlorobenzene	75	450
Dichlorodifluoromethane	1,000	4,950
1,3-Dichloro-5,5-dimethyl hydantoin		0.2
1,1-Dichloroethane	100	400
1,2-Dichloroethane	50	200
1,2-Dichloroethylene	200	790
C Dichloroethyl ether-Skin	15	90
Dichloromethane, see Methylene chloride		
Dichloromonofluoromethane	1,000	4,200
C 1,1-dichloro-1-nitroethane	10	60
1,2-Dichloropropane, see Propylene dichloride		
Dichlorotetrafluoroethane	1,000	7,000
Dichlorvos (DDVP)-Skin		1
Dieldrin-Skin		0.25
Diethylamine	25	75
Diethylamino ethanol-Skin	10	50
C Diethylene triamine-Skin	10	42
Diethylether, see Ethyl ether		
Difluorodibromomethane	100	860
C Diglycidyl ether (DGE)	0.5	2.8
Dihydroxybenzene, see Hydroquinone		
Diisobutyl ketone	50	290
Diisopropylamine-Skin	5	20
Dimethoxymethane, see Methylal		
Dimethyl acetamide-Skin	10	35
Dimethylamine	10	18
Dimethylaminobenzene, see Xylidene		
Dimethylaniline (N-dimethylaniline)-Skin	5	25
Dimethylbenzene, see Xylene		
Dimethyl 1,2-dibromo-2,2-dichloroethyl phosphate, (Dibrom)		3
Dimethylformamide-Skin	10	30
2,6-Dimethylheptanone, see Diisobutyl ketone		
1,1-Dimethylhydrazine-Skin	0.5	1
Dimethylphthalate		5
Dimethylsulfate-Skin	1	5
Dinitrobenzene (all isomers)-Skin		1
Dinitro-o-cresol-Skin		0.2
Dinitrotoluene-Skin		1.5
Dioxane (Diethylene dioxide-Skin	100	360
Diphenyl	0.2	1
Diphenyl amine		10
Diphenylmethane diisocyanate (see Methylene bisphenyl isocyanate MDI)		
Dipropylene glycol methyl ether-Skin	100	600
Di-sec. octyl phthalate (Di-2-ethylhexylphthalate)		5
Emery (Note 4)		
Endosulfan (Thiodan®)-Skin		0.1
Endrin-Skin		0.1
Epichlorhydrin-Skin	5	19
EPN-Skin		0.5
1,2-Epoxypropane, see Propylene oxide		
2,3-Epoxy-1-propanol, see Glycidol		
Ethane (Note 3)		
Ethanethiol, see Ethylmercaptan		
Ethanolamine	3	6
2-Ethoxyethanol-Skin	200	740
2-Ethoxyethylacetate (Cellosolve acetate)-Skin	100	540
Ethyl acetate	400	1,400
Ethyl acrylate-Skin	25	100
Ethyl alcohol (ethanol)	1,000	1,900
Ethylamine	10	18
Ethyl sec-amyl ketone (5-methyl-3-heptanone)	25	130
Ethyl benzene	100	435
Ethyl bromide	200	890
Ethyl butyl ketone (3-Heptanone)	50	230
Ethyl chloride	1,000	2,600
Ethyl ether	400	1,200
Ethyl formate	100	300
Ethyl mercaptan	0.5	1
Ethyl silicate	100	850
Ethylene (Note 3)		
Ethylene chlorohydrin-Skin	5	16
Ethylenediamine	10	25
Ethylene dibromide, see 1,2-Dibromoethane		
Ethylene dichloride, see 1,2-Dichloroethane		
C Ethylene glycol dinitrate and/or Nitroglycerine-Skin (Note 8)	0.2	
Ethylene glycol monomethyl ether acetate, see Methyl cellosolve acetate		
Ethylene imine-Skin	0.5	1
Ethylene oxide	50	90
Ethylidine chloride, see 1,1-Dichloroethane		
N-Ethylmorpholine-Skin	2	9
Ferbam		15
Ferrovanadium dust		1
Fibrous glass (Note 4)		
Fluoride (as F)		2.5
Fluorine	0.1	0.2
Fluorotrichloromethane	1,000	5,600
C Formaldehyde	5	6
Formic acid	5	9
Furfural-Skin	5	20
Furfuryl alcohol	50	200
Gasoline (Note 9)		
Glycerine mist (Note 4)		
Glycidol (2,3-Epoxy-1-propanol)	50	150
Glycol monoethyl ether, see 2-Ethoxyethanol		
Graphite, (Synthetic) (Note 4)		
Guthion, see Azinphosmethyl		
Gypsum (Note 4)		
Hafnium		0.5
Helium (Note 3)		
Heptachlor-Skin		0.5
Heptane (n-heptane)	500	2,000
Hexachloroethane-Skin	1	10
Hexachloronaphthalene-Skin		0.2

nent shall be cleaned and disinfected immediately after each use.

The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.103 *Respiratory protection*), in accordance with their respective scope and definitions.

§ 1910.93 Ventilation.

(a) *Abrasive blasting.*—(1) *Definitions applicable to this paragraph* • • •

(ii) *Abrasive-blasting respirator.* A continuous flow air-line respirator constructed so that it will cover the wearer's head, neck, and shoulders to protect him from rebounding abrasive.

• • • • •

(5) *Personal protective equipment.* (i) Only respiratory protective equipment approved by the Bureau of Mines, U.S. Department of the Interior (see 30 CFR Part 11) shall be used for protection of personnel against dusts produced during abrasive-blasting operations.

(ii) Abrasive-blasting respirators shall be worn by all abrasive-blasting operators: • • •

(B) When using silica sand in manual blasting operations where the nozzle and blast are not physically separated from the operator in an exhaust ventilated enclosure.

• • • • •

(8) *Scope.* This paragraph (a) applies to all operations where an abrasive is forcibly applied to a surface by pneumatic or hydraulic pressure, or by centrifugal force. It does not apply to steam blasting, or steam cleaning, or hydraulic cleaning methods where work is done without the aid of abrasives.

• • • • •

§ 1910.134 Respiratory protection.

(a) *Permissible practice.* (1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(b) *Requirements for a minimal acceptable program.* (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) Where practicable, the respirators should be assigned to individual workers for their exclusive use.

(5) Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(11) Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed in accordance with standards established by competent authorities. The U.S. Department of Interior, Bureau of Mines, and the U.S. Department of Agriculture are recognized as such authorities. Although respirators listed by the U.S. Department of Agriculture continue to be acceptable for protection against specified pesticides, the U.S. Department of the Interior, Bureau of Mines, is the agency now responsible for testing and approving pesticide respirators.

(c) *Selection of respirators.* Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2-1969.

(d) *Air quality.* (1) Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(2) Breathing air may be supplied to respirators from cylinders or air compressors.

(i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 178).

(ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a

cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(5) (i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(g) *Identification of gas mask canisters.* (1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(3) On each canister shall appear in bold letters the following:

(i)—

Canister for _____
(Name for atmospheric contaminant)

or

Type H Gas Mask Canister

(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than _____ percent by volume of _____."

(4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

TABLE I-1

Atmospheric contaminants to be protected against	*Colors assigned*[1]
Acid gases	White.
Hydrocyanic acid gas	White with ½-inch green stripe completely around the canister near the bottom.
Chlorine gas	White with ½-inch yellow stripe completely around the canister near the bottom.
Organic vapors	Black.
Ammonia gas	Green.
Acid gases and ammonia gas	Green with ½-inch white stripe completely around the canister near the bottom.
Carbon monoxide	Blue.
Acid gases and organic vapors	Yellow.
Hydrocyanic acid gas and chloropicrin vapor	Yellow with ½-inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases	Brown.
Radioactive materials, excepting tritium and noble gases	Purple (Magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors	Canister color for contaminant, as designated above, with ½-inch gray stripe completely around the canister near the top.
All of the above atmospheric contaminants	Red with ½-inch gray stripe completely around the canister near the top.

[1] Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

MATERIAL SAFETY DATA SHEET

SUBSTANCE (Chemical Name)	NO.

PRODUCT NAME, NUMBER, SYNONYM	COMMON OR TRADE NAME

MANUFACTURER'S NAME AND ADDRESS	TELEPHONE NUMBER

HEALTH HAZARDS

HAZARD RATING ( ) DANGER ( ) WARNING ( ) CAUTION

TYPE OF HAZARD

SYMPTOMS OF EXPOSURE

EFFECTS OF EXPOSURE

EMERGENCY FIRST AID

FIRE, EXPLOSION, AND REACTIVITY DATA

EXTINGUISHING AGENTS AND FIRE FIGHTING METHODS

FLASH POINT		FLAMMABLE OR EXPLOSIVE LIMIT	
OPEN CUP ° C	CLOSED CUP °C	LOWER %	UPPER %
IGNITION TEMPERATURE °C		AUTO-IGNITION TEMPERATURE	°C

PRODUCTS FORMED BY FIRE OR EXCESSIVE HEAT

CONDITIONS TO AVOID

STABILITY ( ) Stable ( ) Unstable – Explain Conditions

INCOMPATIBLE MATERIALS AND REACTIONS

PRODUCTS OF DECOMPOSITION

HAZARDOUS POLYMERIZATION ( ) Will not occur ( ) May occur – Explain Reaction and Products

PROTECTION EQUIPMENT

PERSONAL PROTECTION

VENTILATION

ADDITIONAL PROTECTIVE EQUIPMENT

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.

ADDRESS (Number, Street, City, State, and ZIP Code)

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS

CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER			

APPEARANCE AND ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel

EXTINGUISHING MEDIA

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

SAMPLE P.O. CLAUSES

It is a direct condition of the term of this order that the vendor shall supply the purchaser with the information required on the Material Data Sheet attached hereto. In addition the vendor shall supply any material related to the safe use of this material and hazards associated with its use including but not limited to installation procedures and personnel protective equipment requirements. All hazardous components shall be identified. Data requested shall be furnished with the material shipment and a copy sent to this office at

_____

_____

_____

No material will be accepted for delivery without the required information.

04.0101(e) TABLE 1-1

1910.1001	Asbestos.
1910.1002	Coal tar pitch volatiles; interpretation of term.
1910.1003	4-Nitrobiphenyl.
1910.1004	alpha-Naphthylamine.
1910.1005	4, 4'-Methylene bis(2-chloroaniline).
1910.1006	Methyl chloromethyl ether
1910.1007	3, 3'-Dichlorobenzine (and its salts)
1910.1008	bis-Chloromethyl ether.
1910.1009	beta-Naphthylamine.
1910.1010	Benzidine.
1910.1011	4-Aminodiphenyl.
1910.1012	Ethyleneimine.
1910.1013	beta-Propiolactone.
1910.1014	2-Acetylaminofluorene.
1910.1015	4-Dimethylaminoazobenzine.
1910.1016	N-Nitrosodimethylamine.
1910.1017	Vinyl Chloride.
1910.1018	Inorganic arsenic.
1910.1028	Benzene.
1910.1029	Coke Oven Emissions
1910.1043	Cotton dust.
1910.1044	1,2 - dibromo - 3 - chloropropane.
1910.1045	Acrylonitrile.
1910.1046	Exposure to cotton dust in cotton gins.

LAWS OF ALASKA

1983

Source

CSSB 79(Res)

Chapter No.

93

AN ACT

Relating to toxic and hazardous substances in the workplace; and providing for an effective date.

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

THE ACT FOLLOWS ON PAGE 1, LINE 9

Approved by the Governor: July 25, 1983
Actual Effective Date: Sections 1, 3, and 4 take effect July 26, 1983; and Section 2 takes effect July 1, 1984

Chapter 93

AN ACT

Relating to toxic and hazardous substances in the workplace; and providing for an effective date.

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* Section 1. AS 18.60.030 is amended by adding new paragraphs to read:

(12) annually publish a list of toxic and hazardous substances;

(13) maintain a current set of OSHA form 20's or equivalent information for toxic and hazardous substances, and other information relevant to toxic and hazardous substances;

(14) assist employers, upon request, to identify and obtain information on toxic and hazardous substances and develop employee safety education programs.

* Sec. 2. AS 18.60 is amended by adding new sections to read:

Sec. 18.60.065. IMPORTATION OF TOXIC AND HAZARDOUS SUBSTANCES. Toxic and hazardous substances imported into the state shall be accompanied by a federal Occupational Safety and Health Administration (OSHA) form 20 or equivalent information. This requirement does not apply to a substance for which the in-state purchaser has already received the most current information.

Sec. 18.60.066. EMPLOYEE SAFETY EDUCATION PROGRAMS. (a) An employer shall conduct a safety education program for an employee before the employee performs a new work assignment that may result in the employee being exposed to a toxic or hazardous substance for which the employee has not received safety instruction as provided under (b

of this section.

(b) An employee safety instruction program shall inform employee of

(A) the location, properties, and known or susp acute and chronic health effects of the hazardous or toxic stances to which the employee is exposed in the workplace;

(B) the nature of the operations that could resul exposure to hazardous or toxic substances, as well as any ne sary handling or hygienic practices or precautions; and

(C) the location, purpose, proper use, and limitat of personal protective equipment used in the workplace.

Sec. 18.60.067. INFORMATION PROVIDED ON EMPLOYEE'S REQUEST. An employer shall make available to an employee on request a cop the most recent OSHA form 20 or equivalent written information f toxic or hazardous substance to which the employee may be exposed. the employer does not have the copy o. information requested, employer shall request a copy from the department or the manufact of the substance within three state government working days r receiving the request.

(b) If the copy or information requested under (a) of section is not made available to the employee within 15 calendar after the request is received, the employer shall take measure assure that employees are not exposed to the substance to which copy or information pertains until the copy or information is available to the employee who made the request. This subsec applies only to substances for which an OSHA form 20 or equiva information is required under OSHA regulations. This subsection not alter, deny, or abrogate any right an employee may have under to refuse to work under hazardous circumstances.

Chapter 93

Sec. 18.60.068. POSTING OF INFORMATION IN WORKPLACE. (a) The department shall print and make available to employers posters that contain notice of the provisions of this chapter relating to toxic and hazardous substances.

(b) An employer whose employees are or may be exposed in the workplace to a toxic or hazardous substance shall display the following information in a manner designed to notify the employees:

(1) a poster printed by the department under (a) of this section; and

(2) an OSHA form 20 or equivalent information for each toxic or hazardous substance to which an employee may be exposed in the workplace

(A) under normal conditions of work; or

(B) during a reasonably foreseeable emergency, including equipment failure and rupture of containers.

(c) Instead of posting the information required under (b)(2) of this section, an employer may post a list of the chemical name and product name of each toxic or hazardous substance to which an employee may be exposed in the workplace, together with an identification of a location, in or near the workplace and accessible to employees, where an employee may inspect the information listed under (b)(2) of this section.

* Sec. 3. AS 18.60.105 is amended by adding new paragraphs to read:

(6) "be exposed" means to ingest, inhale, or absorb through the skin or eyes a substance, or fumes or other potentially harmful aspect of a substance;

(7) "OSHA" means the federal Occupational Safety and Health Administration;

(8) "toxic or hazardous substance" includes

(A) a chemical listed in 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, "General Industry Standards", Occupational Safety and Health Administration;

(B) a chemical listed in "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment", American Conference of Governmental Industrial Hygienists (Latest Edition);

(C) a substance for which an OSHA form 20 or equivalent information is required under OSHA regulations; and

(D) a substance determined by the department, in accordance with the Administrative Procedure Act (AS 44.62), to be a health hazard to an employee who is exposed to the substance, including a carcinogen, reproductive toxin, irritant, corrosive, sensitizer, hepatotoxin, nephrotoxin, neurotoxin, agent that acts on the hematopoietic system, agent that damages the lungs, a cutaneous hazard and an eye hazard;

(9) "toxic or hazardous substance" does not include

(A) substances that because of their physical state, volume, or concentration do not pose a health hazard upon exposure;

(B) substances that are goods, food, drugs, cosmetics, or tobacco products intended for personal consumption; or

(C) substances in transit;

(10) "transit" means conveyed in a sealed or unopened container by a mode of transportation.

* Sec. 4. AS 18.60.105 is amended by adding a new subsection to read:

(b) In AS 18.60.030(14), 18.60.065 - 18.60.068, and 18.60.105-(a)(9)

(1) "employee" means a person who works for an employer,

but not in a place used primarily as a personal residence;

(2) "employer" means a person, including the state and a political subdivision of the state, who has one or more employees working in a place not used primarily as a personal residence.

(3) "health hazard" means a substance capable of causing acute or chronic adverse effects to health;

(4) "workplace" means a place of employment other than a place used primarily as a personal residence.

* Sec. 5. Sections 1, 3, and 4 of this Act take effect immediately in accordance with AS 01.10.070(c).

* Sec. 6. Section 2 of this Act takes effect July 1, 1984.

84/15 April 13

: CORDOVA AREA STREET SWEEPER CONTRACT, CENTRAL REGION, STATE OF ALASKA
85-25-1-052

The project consists of establishing, on an as needed basis, a no guaranteed minimum usage contract for rental of a street sweeper w/operator to be used in the Cordova area. A Contractors License is required. A Business License is required prior to award.

E: May 3, 1984 at 2:00 PM
State of Alaska
Dept. of Trans. & Pub. Facil.
Central Region, Headquarters
4111 Aviation Ave. (Pouch 6173)
Anchorage, Alaska 99502

PLANS: State of Alaska
Dept. of Trans. & Pub. Facil.
Chief, Technical Services
Pouch 6900 (4111 Aviation Ave.)
Anchorage, Alaska 99502
NO CHARGE

C-25

T: BARTLETT HIGH SCHOOL, ASBESTOS ABATEMENT, ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA

The work includes extensive removal and disposal of asbestos-containing material, demolition and reconstruction of ceilings, walls, and electrical and mechanical systems. Bidders will be prequalified. Because of the highly specialized nature of this construction work, only prequalified bidders will receive Bid Documents and be allowed to submit bids for this project. Prequalification requirements include Alaska contractor's and business licenses, previous asbestos abatement experience involving spray-applied asbestos acoustical and fireproofing material, excellent contract performance record and references.

TE: May 8, 1984 at 2:00 PM
Anchorage School District
Purchasing Department
4600 Debarr Avenue
(Pouch 6-614
Anchorage, Alaska 99502

PLANS: Will be distributed by April 6, 1984 to interested bidders who prequalify

A-26

T: FIVE SCHOOLS - DIMOND, EAST, WEST HIGH SCHOOLS, CLARK JR. HIGH SCHOOL, AND MT. SPURR ELEMENTARY SCHOOL, ASBESTOS ABATEMENT, ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA

The work includes extensive removal and disposal of asbestos-containing material, demolition and reconstruction of ceilings, walls, and electrical and mechanical systems. Bidders will be prequalified. Because of the highly specialized nature of this construction work, only prequalified bidders will receive Bid Documents and be allowed to submit bids for this project. Prequalification requirements include Alaska contractor's and business licenses, previous asbestos abatement experience involving spray-applied asbestos acoustical and fireproofing material, excellent contract performance record and references.

TE: May 8, 1984 at 2:00 PM
Anchorage School District
Purchasing Department
4600 DeBarr Avenue (Pouch 6-614)
Anchorage, Alaska 99502

PLANS: Will be distributed by April 6, 1984 to interested bidders who prequalify

A-15

January 18, 1984

MEMORANDUM

To: HESS Committee members

From: Nancy Bennett, Committee staff

Re: Asbestos history/Alaska information

IN YOUR FOLDER:

A copy of SSHB 5, asbestos health hazard enabling legislation, and HB 57, the companion appropriation bill.

A section analysis of SSHB 5 and memorandum from DOTPF on the costs of inspecting state buildings for asbestos.

School district information on asbestos.

Relevant periodical and newspaper articles.

Information from the EPA/Alaska specific.

Alaska Health Project asbestos packet.

Packet of materials from the Association of General Contractors

ALASKA SCHOOLS INFORMATION:

The EPA has estimated from their Alaskan survey that only half of the school districts have inspected their facilities for asbestos, leaving approximately 220 buildings for review. By regulation, all schools in the USA were to be tested by June 30, 1983, parents and school boards were to be notified of the findings, school employees were to be instructed on minimization of health risks and records were to be maintained on testing and notification.

District needs in Alaska for asbestos abatement:

Kodiak	$ 1,138,507	
Petersburg	107,000	
Delta Greely	99,700	
Cordova	120,000	
Nenana	15,000	
Anchorage	11,000,000	(Phase II)
Skagway	25,000	
Kuspuk	5,296	
Mat-Su	105,959	
Juneau	300,000	(expended, estimate the possiblility of several million)

Ketchikan	(unknown, estimates the possiblity of several million)

HISTORY

Following World War II, asbestos was widely recognized as a miracle fiber - it was an excellent insulator and would not burn - and was therefore widely used in construction during the "Baby Boom" period.

Asbestos was known to be dangerous long before Congressional hearings in the late 1970's, when the Johns-Manville Corporation admitted to paying physicians to down-play the health hazards. Most early reported cases were among pipefitters and shipyard workers who faced heavy exposure in the workplace, but it was soon discovered that family members and people living in close proximity to factories were also affected. Asbestos is an inert material which cannot be removed from the body, and although the symptoms of asbestosis and mesothelioma often take decades to surface, the diseases are always fatal.

Congressional action in 1980 aimed at the removal of asbestos from schools was prompted by the increased susceptibility of children to asbestos because of their higher activity level and elevated respiration.

In 1984, the EPA began applying sanctions to individual school districts for non-compliance, rewrote their regulations for demolition and renovations with asbestos products and have more recently been receiving public pressure to take a more aggressive stance on asbestos in schools. Many speculate that the regulations were designed to bring pressure on states to fund asbestos removal by public notification, placing districts in the precarious position of raising concern about an issue they are unable to address financially. The $172 million authorized by the Asbestos Health Hazard Detection and Control Act of 1980 was never appropriated, although the federal government has made limited funds available in some schools on federal land.

A flurry of lawsuits filed in the last few years against manufacturers, contractors and school districts has pointed out confusion over the issue of liability. In addition, resource limitations of the EPA (they have .1 staff working on asbestos in Alaska) have created difficulty for rural schools districts to receive the type of assistance needed in this technical area

Ombudsman

John B. Chenoweth

State of Alaska

Reply to:

☐ 3201 C Street, Suite 606
Anchorage, Alaska 99503
(907) 563-3673

☑ Pouch WO
Juneau, Alaska 99811
(907) 465-4970

☐ P.O. Box 74358
Fairbanks, Alaska 99707
(907) 452-4001

January 17, 1985

Representative Max Gruenberg, Jr.
Alaska House of Representatives
Pouch V
Juneau, Alaska 99811-3100

RE: House Bill 5

Dear Representative Gruenberg:

The legislation which you have offered is directed at asbestos abatement in school buildings within the state.

Presently, I am investigating a complaint regarding asbestos levels in a correctional institution. Though I am prohibited by statute from discussing details of that investigation until it has been completed and I have received the agency's response, based on my work may I respectfully suggest that you consider extending the asbestos abatement program proposed in the legislation to include other institutions for which the state has a direct operating responsibility. I am asking that you consider extending the program to include, by name, Pioneers' Homes, correctional facilities, and institutions for juveniles and the mentally handicapped and developmentally disabled. I cannot give you an estimate of the incremental cost for the inclusion of these facilities, though the institutions' superintendents or OSHA inspectors (Division of Labor Standards and Safety) may be able to advise you with respect to exposure, need for abatement, and cost.

Sincerely,

John B. Chenoweth
Ombudsman

JBC:jdt

SECTIONAL ANALYSIS - SSHB 5 "AN ACT ESTABLISHING AN ASBESTOS HEALTH HAZARD ABATEMENT PROGRAM; EFD." by Gruenberg, Goll, Davis, Koponen and Navarre

Section 1 Allows the Commissioner of the Department of Education to designate a shorter school term (of at least 150 days) in a particular school for the purpose of abating an asbestos health hazard.

Section 2 Establishes the asbestos health hazard abatement program in the Department of Labor for the purposes of inspecting schools which have not complied with EPA regulations; coordinating state agencies; establishing guidelines for safe working conditions where asbestos is involved; oversight of employee certification programs and adoption of regulations.

CERTIFICATION PROGRAMS. The Department of Labor shall establish guidelines for employee training programs, review and approve those programs meeting the standards. Any contractor undertaking an asbestos related project must have an approved program and certify that each employee is trained. Violations of these requirements would make a contractor liable for civil penalties and guilty of a misdemeanor.

DEPARTMENT OF EDUCATION. Duties of the department includes cooperation with the Department of Labor and school districts; keeping records on asbestos abatement projects, administration and distribution of grants to schools from available funds.

SCHOOL OFFICIALS. Duties of school officials include compliance with EPA regulations for asbestos inspection through contracts or cooperation with the Department of Labor, notification of school personnel and parents of the results, maintaining records and contracting for renovations as needed.

Section 3 Immediate effective date.

NOTE: HB 57 is the companion appropriation bill which would provide $300.0 to the Department of Labor to cover the cost of asbestos inspections and sampling (or contracts for those purposes), and $26 million to the Department of Education for grants to schools for asbestos abatement projects.

RESOLUTION: 84-10

ASBESTOS ABATEMENT IN ALASKA SCHOOLS

The Alaska Public Health Association,

Believing that friable asbestos, similar to that which was discovered in schools in the Anchorage School District, exists in numerous other schools in school districts throughout the State; and

Knowing that an Asbestos Technical Panel, convened in Anchorage by the Anchorage School Board, reviewed thoroughly health hazards associated with asbestos in Anchorage schools; and, as a result, recommended that friable asbestos be removed from Anchorage schools as an unacceptable health hazard[1]; and

Believing that many Alaskan school children in school districts other than Anchorage may be exposed to health hazards from asbestos that are preventable; therefore

Urges passage of Senate Bills 373 and 374; and

Urges the Governor to form a special task force with representatives of Department of Health and Social Services, Department of Labor, Department of Education, Department of Transportation & Public Facilities, Department of Environmental Conservation, parents of school children, and teachers to implement an asbestos abatement program in all Alaskan schools in accordance with recognized standards for asbestos abatement[2]; and

Urges implementation of an asbestos abatement program which will include the following tasks:

1. Implement and insure completion of a comprehensive survey to identify and categorize asbestos in all Alaskan schools.
2. Evaluate health hazards associated with any asbestos (friable asbestos and asbestos in other forms) discovered in the survey and make recommendations for appropriate medical surveillance of students, teachers and workers exposed to asbestos.
3. Insure notification of teachers, parents, and students of the presence of friable asbestos identified in Alaskan schools in accordance with guidelines established by the EPA.
4. Recommend a plan for removal of friable asbestos, where necessary, and develop appropriate bid specifications and guidelines so that school districts can be assured that asbestos will be removed according to established standards which protect workers, students, parents and teachers during the removal process as well as insure that asbestos is removed totally and is adequately disposed of in approved sites.
5. Increase awareness of the health hazards associated with asbestos and protect against future problems by making sure that asbestos containing materials are not used in new construction.

---

1. Asbestos Technical Advisory Panel Recommendations, ASD Memorandum #534(82-83), Anchorage School District, Anchorage, Alaska, May 23, 1983.
2. Asbestos-Containing Materials in School Buildings: A Guidance Document, Part 1 and 2. U.S. EPA, Office of Toxic Substances, Washington, D.C., March 1979.

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

OFFICE OF THE COMMISSIONER

POUCH Z
JUNEAU, ALASKA 99811
PHONE: (907) 465-3900

May 29, 1984

The Honorable Joe Josephson
Alaska State Senate
Pouch V
Juneau, AK 99811

Dear Senator Josephson:

This is in response to your request for information concerning asbestos in public facilities and the Alaska Railroad. What we have learned about the risks associated with the use of asbestos is certainly disturbing.

Facilities

Prior to the known health hazards associated with asbestos (such as lung and intestinal cancer), many State public facilities were constructed utilizing asbestos for floor and ceiling tile, exterior siding, pipe and ceiling insulation, and other products which contained varying amounts of asbestos.

As you know, extensive remodeling efforts are underway at the Anchorage International Airport. As part of this effort, the ceiling above the main ticket lobby is being replaced following the removal of asbestos fireproofing material above the existing ceiling. Overall construction costs will total $1.8 million; $850,000 of that amount is being spent solely for asbestos removal.

An Inventory and Condition Survey of other State facilities will be necessary in order to identify the extent of any additional asbestos problems, and establish priorities for its removal prior to the Department of Transportation and Public Facilities being able to specifically address either the timeframe or the cost involved. We have estimated, however, that the survey, along with necessary laboratory testing, could cost in excess of $5 million, and could take numerous years to complete. Currently we do not have funding to cover this, so I am initiating an in-house survey to try to determine the scope of the problem.

ALASKA RAILROAD

In 1982, it became apparent that the Alaska Railroad had an extensive amount of asbestos located around the railroad work areas. Asbestos had been traditionally used for pipe and boiler insulation, wall coverings, and ceiling and electrical insulation. It also became apparent that the substance would need to be removed from the perimeter of the work areas. It was determined that removal would require the most up-to-date methods in order to comply with Alaska Occupational Health and Environmental Control Standards, and ensure the health and safety of all employees during the removal period. Management and employees of the Alaska Railroad were notified of the hazard, and plans to remove the asbestos were prioritized and initiated. Safety classes were held in which 24 railroad engineering and mechanical personnel were trained in the proper techniques for personal protection and asbestos removal. The Alaska Railroad Manager of Safety was assisted in these classes by Environmental Protection Agency officials and an environmental engineer certified in asbestos identification and removal.

When the actual removal process began, a certified asbestos identification expert was retained for independent monitoring during the procedure. To date, the Railroad's diesel repair shop, the largest building in the yard in Anchorage, has been cleaned up. Asbestos removal costs for this building totaled about $115,000; $50,000 went into monitoring the air to ensure that no asbestos particles were present outside of the area during cleanup. Last year, after the Railroad's safety office had drawn up some rough plans for a decontamination area, a unit was built out of a troop transport rail car. It now contains an area where workers can change from the special suits worn in asbestos areas, and shower following their shift. This entire operation was inspected by at least two experts in asbestos removal, announcing that this was a model program, and that all necessary safeguards were in place to ensure employee protection. The total cost of the "decontamination car" was $75,000.

Last year, the Department of Transportation and Public Facilities conducted its own Inventory and Condition Survey of the Alaska Railroad Facilities. Departmental facilities planning staff and a team of consultants, the architectural firm of Selberg Associates, Inc., performed a general inspection of all railroad facilities, and obtained samples from areas where asbestos was suspect. These field inspections revealed a number of health and safety code deficiencies, among them, the use of asbestos. The DOT&PF estimates that future asbestos removal costs from the Alaska Railroad in Anchorage alone will total $500,000. Replacement of removed insulation materials from Fairbanks, Healy, Whittier, Seward and Portage will add to the total.

The Department of Transportation and Public Facilities remains committed to working cooperatively with the Departments of Labor and Environmental Conservation to ensure that future asbestos removal in public facilities, and the Alaska Railroad, is initiated in the safest, most timely, and cost-effective methods possible.

If we may be of further assistance, please contact this office.

Sincerely,

R. J. Knapp
Commissioner

SF/ajh

ANCHORAGE SCHOOL DISTRICT

LEGISLATIVE REQUESTS SUMMARY SHEET

CATEGORY 1

ESSENTIAL FOR THE HOUSING OF STUDENTS

PRIORITY	PROJECT	ESTIMATED COST
1	Asbestos Removal - Phase II.	11,000,000
2	Chugiak High 28-classroom and library addition/partial renovation of existing facility/roof replacement/replace old junior high lockers/asphalt area behind shops and between hockey rinks.	21,100,000
3	Sand Lake 6-classroom addition/ multipurpose room/lunchroom expansion/ heating system/repair roof.	5,000,000
4	School Site Acquisition Program.	7,932,000
5	Northwood 4-classroom addition/heating system, gym, stage, art room, restrooms, site development, and roof replacement.	5,200,000
6	Bayshore 5-classroom addition with gymnasium.	3,100,000
7	Huffman four-room addition with gymnasium/library/site development.	4,600,000
8	SAVE II/SEARCH facility	5,639,600
9	Campbell 4-classroom addition plus gymnasium/roof replacement.	5,100,000
10	Chugiak High Attendance Area - New Elementary School.	1,200,000
11	Heating Systems.	7,988,180
12	Roof Replacements - Phase II.	3,569,590
13	Student Nutrition Center.	6,000,000
	SUBTOTAL (CATEGORY 1)	$ 87,429,370

1. ESSENTIAL FOR THE HOUSING OF STUDENTS

December 19, 1984

SCHOOL OR DEPARTMENT	PRIORITY	PROJECT TITLE/SUMMARY	PROJECT DESCRIPTION	ESTIMATED COSTS
ASBESTOS REMOVAL - PHASE II	1	Remove asbestos from all Anchorage School District facilities in accordance with the developed removal plan.	This project will remove asbestos from all Anchorage School District facilities where it is identified on a priority basis. ** These funds will also be used to address related health-safety concerns including compliance with Municipal Fire Code requirements. Project Estimate:	11,000,000**

HA/WK

Attachment I

A JOINT VENTURE OF
HOLDEN & ASSOCIATES AND
WILLIAM L KING &
ASSOCIATES

January 31, 1984

Mr. Harry Rogers, Superintendent
Petersburg City Schools
P.O. Box 329
Petersburg, Alaska 99833

RE: Petersburg High School
Asbestos Removal

Per your request we have evaluated the quantity and cost of removal of the asbestos pipe insulation in the 1951 portion of the Petersburg High School.

Per your testing information, the known area of asbestos is confined to the heating supply and return mains, and the insulation of the old boiler. We assume that vertical piping in walls or classes would not be removed. The cost of removing the horizontal runs and the boiler insulation is $107,000.

We have assumed that pieces would be removed in 5' to 10' lengths and properly disposed of according to State and Federal law.

Sincerely,

W. Keith Gerken

cc: Twyla Coughlin, Southeast Regional Resource Center (SERRC)
John Danielsen, City Engineer

PLEASE RESPOND TO:

☐ JUNEAU: MERCHANT'S WHARF, SUITE 225
14 MARINE WAY
JUNEAU, ALASKA 99801

☐ ANCHORAGE: SUITE 211
750 W. 2ND AVENUE
ANCHORAGE, ALASKA 99501

☐ FAIRBANKS: BOX 80667
FAIRBANKS, ALASKA 99708
907-479-6474

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, I

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907) 562-2343

ANCHORAGE INDUSTRIAL CE
5633 B Street

ANALYTICAL REPORT

From Petersburg Public Schools Product Bulk Insulation Samples

Address Petersburg, Alaska Date August 6, 1983

Other Pertinent Data ANALYSIS BY POLARIZING LIGHT MICROSCOPY.

Analyzed by DB Date August 22, 1983 Lab No. 3080

REPORT OF ANALYSIS
BULK INSULATION SAMPLES
PETERSBURG, ALASKA

Samples received August 6, 1983.

FINDINGS:	.....BOILER ROOM..... PIPE - OLD BOILER	OLD BOILER
ASBESTOS PRESENT:	CHRYSOTILE-15% AMOSITE -15%	CHRYSOTILE-15% AMOSITE -15%
OTHER FIBROUS MATERIAL:	NONE SEEN	NONE SEEN
NON-FIBROUS MATERIAL:	CALCIUM CARBONATE-70%	CALCIUM CARBONA 70%

CONCLUSION: THE U.S.ENIVRONMENTAL PROTECTION AGENCY HAS DETERMINED THAT A SAMPL WITH AN ASBESTOS CONTENT GREATER THAN ONE PERCENT BY WEIGHT, IS POSITIVE.

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, I

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907) 562-2343

ANCHORAGE INDUSTRIAL CE
5633 B Street

ANALYTICAL REPORT

From Petersburg Public Schools — Product Bulk Insulation Samples

Address Petersburg, Alaska — Date August 6, 1983

Other Pertinent Data ANALYSIS BY POLARIZING LIGHT MICROSCOPY

Analyzed by DB — Date August 22, 1983 — Lab No. 3080

REPORT OF ANALYSIS
BULK INSULATION SAMPLES
PETERSBURG, ALASKA

Samples received August 6, 1983

FINDINGS:	OLD HIGH SCHOOL PIPE CRAWL WAY	OLD GYM HOT WATER TANK
ASBESTOS PRESENT:	CHRYSOTILE-45%	CHRYSOTILE-60%
OTHER FIBROUS MATERIAL:	CELLULOSE -45%	NONE SEEN
NON-FIBROUS MATERIAL:	SILICATES -10%	SILICATES - 5% UNKNOWN BINDER-3

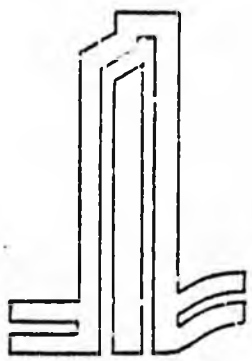
CONCLUSION: THE U.S.ENVIRONMENTAL PROTECTION AGENCY HAS DETERMINED THAT A SAMPLE WITH AN ASBESTOS CONTENT GREATER THAN ONE PER CENT BY WEIGHT, IS POSITIVE.

KODIAK ISLAND BOROUGH

SCHOOL DISTRICT

ASBESTOS ABATEMENT COST ESTIMATE

January 13, 1984



ARCHITECTS ENGINEERS PLANNERS

GOBBELL HAYS PICKERING

821 S. Barksdale, Memphis, Tennessee 38114 (901) 726-0810

GOBBELL HAYS PICKERING

Jan. 16, 1984

Mr. Ray Camardella
Kodiak Island Borough School District
P.O. Box 886
Kodiak, Alaska 99615

Dear Mr. Camardella:

Enclosed is the cost estimate for the asbestos abatement of the spray-applied material in Kodiak High School. We have included our recommendation for abatement, approximate cost and time figures, and phasing possibilities to allow for portions of the building to remain in use during the abatement.

If you have any questions concerning this report or would like to continue on with plans and specifications, please feel free to contact me.

We look forward to working with you on your asbestos abatement problems.

Sincerely,

GOBBELL·HAYS·PICKERING

William L. Wagner

WLW/cr

Enclosures

KODIAK ISLAND BOROUGH SCHOOL DISTRICT

INTRODUCTION

This report was prepared in response to the Kodiak Island Borough School District's request for the proper selection of appropriate abatement measures and cost estimates. Enclosed are Gobbell·Hays·Pickering's recommendations for abatement and approximate construction cost.

VIEWING THE PROBLEM

Asbestos abatement selection is a highly subjective and often difficult process. There are no standards, governmental or otherwise, which provide for clear-cut choices. Abatement costs must be balanced against present and future building use, building life, health considerations, and legal liability; abatement solutions must take into account that balance.

GOBBELL·HAYS·PICKERING feels it is necessary for all concerned to evaluate the level of existing exposure and chance for potential exposure prior to choosing an abatement method. We consider it our professional responsibility in dealing with this problem to provide recommendations toward establishing a safe environment which functions as originally intended or better. The Attorney General's Asbestos Liability Report to the Congress contains the statement that "there is no known safe lower limit of exposure to asbestos fibers. We feel ... exposure should be eliminated if at all practical for health reasons and legal ramifications to the owner. Here, too, cost is a factor. For example, one lawsuit in the future could cost the owner more than a more expensive, but possibly better, original abatement choice.

SELECTION OF A CORRECTIVE ACTION

The following is the United States Environmental Protection Agency's comparison of asbestos abatement alternatives for encapsulation and removal, which we feel are the only two appropriate abatement measures for this application. Outlined with each method are their opinions as to some of the advantages and disadvantages and their thoughts as to when the methods are appropriate or inappropriate. Our abatement recommendation is made with these considerations in mind, and also with practical, health and legal considerations tempered with architectural and engineering experience in asbestos abatement projects.

Method: REMOVAL

Advantages of Method

Eliminates asbestos source

Eliminates need for special operations and maintenance program

Disadvantages of Method

Replacement with substitute material may be necessary

Porous surface also may require encapsulation

Improper removal may raise fiber levels

Appropriate Applications

Always

Inappropriate Applications

Never

General Comments

Containment barriers needed

Worker protection required

Wet removal is required for all types of asbestos

Disposal may be a problem in some areas

Unusual circumstances, complex surfaces, and the presence of utilities may require special removal techniques

Method: ENCAPSULATION

Advantages of Method

Reduces asbestos fiber release from material

Initial cost may be lower than removal

Does not require replacement of material

Disadvantages

Asbestos source remains and must be removed later

If material is not in good condition, sealant may cause material to delaminate

Periodic reinspection required to check for damage or deterioration

Repair of damaged or deteriorated encapsulated surfaces required

Encapsulated surface is difficult to remove and may require dry techniques for eventual removal

Long-term cost may be higher than removal

Appropriate Applications

Material still retains bonding integrity

Damage to material not likely

Material not highly accessible

Material granular cementitious

Inappropriate Applications

Material does not adhere well to substrate

Material is deteriorating or damaged, or damage is likely

Water damage is evident

Material is fibrous, fluffy

General Comments

Containment barriers needed

Worker protection needed

Airless sprayers should be used

Damaged pipe insulation may be taped but not sprayed

Previously encapsulated materials may have to be re-encapsulated

With our previous experience and the United States Environmental Protection Agency's opinions in mind, we have selected removal of all asbestos-containing spray-applied material in the high school. With encapsulation cost exceeding 70% of removal cost and still requiring a costly maintenance program because the material and owner liability still exist, we feel removal is the optimum solution.

PHASING

We have divided the school into two areas we feel can be done in phases to help keep part of the building open during abatement. Phase I includes the major portion of the affected areas, including the multi-purpose entry, library and classrooms of both levels. Phase II would include the corridor outside the gym and pool and two fan rooms on either side of the gym. The first and second floors were not separated due to complications in access to the stairwell during abatement and with the height of the ceiling in the multi-purpose entry.

KODIAK ISLAND BOROUGH SCHOOL DISTRICT
KODIAK HIGH SCHOOL

TABLE A

Removal/Replacement Cost - Phase I

Item	Quantity	Cost/Item	Total
Demolition			
Dropped Ceiling Removal	24,855 S.F.	2.10	$ 52,195.50
Asbestos Removal			
Decon Set Up	1 S-up	3,500.00	3,500.00
Fireproofing Removal	42,785 S.F.	13.00	556,205.00
Waste Transportation & Disposal	372 BLS	30.00	11,160.00
Post Removal Encapsulant	42,785 S.F.	0.70	29,949.50
			$ 600,814.50
Replacement			
New Fireproofing	42,785 S.F.	6.15	263,127.75
Dropped Ceiling Replacemt.	24,855 S.F.	4.38	108,864.90
			$ 371,992.65
		Phase I Construction Cost	$1,025,002.65
		Estimated Time for Completion	60 Days
		Air Monitoring Cost 50 days @ $650/day	$ 32,500.00
		Phase 1 Total Cost*	$1,057,502.65

Estimated costs are excluding A/E fees

KODIAK ISLAND BOROUGH SCHOOL DISTRICT
KODIAK HIGH SCHOOL

TABLE B

Removal/Replacement Cost - Phase II

Item	Quantity	Cost/Item		Total
Demolition				
Dropped Ceiling Removal	1,730 S.F.	2.10	$	3,633.00
Asbestos Removal				
Decon Set Up	1 S-up	3,500.00		3,500.00
Fireproofing Removal	2,970 S.F.	13.00		38,610.00
Waste Transportation & Disposal	28 BLS	30.00		840.00
Post Removal Encapsulant	2,970 S.F.	0.70		2,079.00
			$	45,029.00
Replacement				
New Fireproofing	2,970 S.F.	6.15		18,265.50
Dropped Ceiling Replacemt.	1,730 S.F.	4.38		7,577.40
			$	25,842.90
Phase I Construction Cost			$	74,504.90
Estimated Time for Completion				14 Days
Air Monitoring Cost 10 days @ $650/day			$	6,500.00
Phase II Total Cost*			$	81,004.90

Estimated costs are excluding A/E fees

KODIAK ISLAND BOROUGH SCHOOL DISTRICT
KODIAK HIGH SCHOOL

Cost Summary

Demolition		
Phase I		$ 52,195.50
Phase II		3,633.00
		$ 55,828.50
Asbestos Removal		
Phase I		$ 600,314.50
Phase II		45,029.00
		$ 645,343.50
Replacement		
Phase I		$ 371,992.65
Phase II		25,842.90
		$ 397,835.55
	Construction Total	$1,099,507.55
	Air Monitoring Total	39,000.00
	Total Project Cost*	$1,138,507.55

*Estimated costs are excluding A/E fees

NOTE 1: The asbestos removal figures have been developed using wage rates for asbestos workers instead of general laborers. Prices could be reduced if the Department of Labor approves the use of general laborers and does not require asbestos workers for the removal of the fireproofing.

DRAFT

SECTION 1

EXECUTIVE SUMMARY

Swearingen Associates surveyed two school facilities at Delta Junction and Fort Greely which are operated by the Delta/Greely School District, REAA #15. These schools were surveyed for the presence and extent of asbestos. On December 20 and December 21, 1983, the following facilities were evaluated:

Delta Junction	Fort Greely
1. Delta Junction School	1. Greely School
2. Univ. of Alaska Bldg.	
3. Metals and Ag. Shop	
4. Class Module 1, 2, 3, 4, 5	
5. Support Module A, B, C	

Asbestos was found in the Delta Junction and Greely schools and in the five (5) class modules. No asbestos-containing materials were identified in the University Building, the Shop Building, or in the three Support Modules.

The asbestos found in these facilities was generally in a sound, cement-like compound used as thermal insulation. In several locations, however, "friable" asbestos was identified: asbestos which is in a condition to release microscopic particles into the air. (Examples of friable asbestos include sprayed-on materials and materials which have been physically damaged.)

Friable asbestos, when inhaled or ingested, is associated with a number of serious illnesses; consequently, the Federal government, mainly the Environmental Protection Agency and the Occupational Safety and Health Administration, have issued strict and comprehensive regulations governing the use of asbestos and the limits of occupational exposure to airborne asbestos fibers.

We have prioritized our findings in order of the most serious potential risks of exposure. These priorities are:

PRIORITY ONE: The facility contains friable asbestos which is accessible to all building occupants.

PRIORITY TWO: The facility contains friable asbestos which is accessible to maintenance and custodial personnel only.

PRIORITY THREE: The facility contains only non-friable asbestos which is accessible to all building occupants.

PRIORITY FOUR: The facility contains only non-friable asbestos accessible to maintenance personnel only.

The facilities which have a Priority One asbestos hazard are:

The five Classroom Modules at the Delta Junction School

The facilities which have a Priority Two asbestos hazard are:

Delta Junction School
Fort Greely School

No facilities were identified with only a Priority Three asbestos hazard.

No facilities were identified with only a Priority Four asbestos hazard.

The five Classroom Modules have sprayed-on accoustical ceilings which had been previously sampled and found to contain approximately five percent (5%) asbestos. Air monitoring in each of these modules conducted as part of this survey established that air borne fiber count was less than four percent (4%) of the allowable limit. (Note that the EPA standard test for air borne fibers includes all fibers--lint, dust, asbestos, and animal--not just asbestos.)

There are several techniques which are used to reduce the risks of exposure to asbestos fibers. These include removal of the asbestos containing material, sealing or encapsulating the asbestos-containing material to prevent fiber release, enclosing or barricading the asbestos-containing material so that contact with it is unlikely, and administrative controls and procedures. The latter three, encapsulation, enclosing and administrative controls, all require extensive record keeping and periodic re-inspection. They also will seriously impact future facility modifications as well as retaining a potential hazard in the event of a fire or earthquake. Asbestos removal is generally considered to be the most desireable abatement procedure for schools. The initial costs are higher than the alternatives; however, the potential for future damages are gone as are the administrative requirements for record maintenance.

Swearingen Associates developed a cost estimate for the asbestos removal in the facilities schools identified above: The estimated cost of $99,700 includes asbestos removal and disposal, surface refinishing or insulating, preparation of removal specifications and contract, and, performance verification and certification.

TABLE I

SUMMARY OF ASBESTOS FINDINGS AND COST ESTIMATES

FACILITY	EXPOSURE	CONDITION	PRIORITY	ABATEMENT COST*
DELTA JUNCTION SCHOOL	MAINTENANCE	FRIABLE	P - TWO	$ 8,910
UNIVERSITY OF ALASKA BLDG./	NONE	N/A	N/A	NONE
METALS & AG. SHOP	NONE	N/A	N/A	$ NONE
CLASS MODULES 1, 2, 3, 4, 5	PUBLIC	FRIABLE	P-ONE	$ 70,920
SUPPORT MODULES A, B, C	NONE	N/A	N/A	$ NONE
FORT GREELY SCHOOL	MAINTENANCE	FRIABLE	P-TWO	$ 19,870
			TOTAL	$ 99,700

*Abatement costs include asbestos removal and disposal, surface refinishing or new insulation, removal specifications and contract preparation, and final project acceptance and certification.

Mailed

SOUTH EAST REGIONAL RESOURCE CENTER
S.E.R.R.C. INC.

538 Willoughby Avenue, Juneau, Alaska 99801
Phone: (907) 586-6806

February 20, 1984

Senator Richard Eliason
Pouch V
State of Alaska
Juneau, Alaska 99811

Dear Senator Eliason:

At the request of Senator Josephson's office, we have reviewed each of our facilities projects in South East for asbestos problems. To the best of our knowledge Skagway School is the only one in your district that has a problem.

Official analysis of the problem was conducted by Chemical and Geological Laboratories of Alaska. The school district's construction manager has estimated the cost of removing the asbestors at about $25,000.

While we are submitting this information, the district would not need to be considered if construction funds for completing the new school become available.

Sincerely yours,

Twyla G. Coughlin

Dr. Twyla G. Coughlin
Facilities Planner

cc: Senator Josephson

Dave Lanigan
Superintendent Skagway Schools

Attachment

Satellite Center 215 Main Street, Ketchikan, Alaska 99901
Phone (907) 225-5250

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1278
Anchorage, Alaska 99509

TELEPHONE (907) 562-2343

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

ANALYTICAL REPORT

From Skagway Schools — Product Bulk Asbestos

Address Skagway, Alaska — Date July 11, 1983

Other Pertinent Data ANALYSIS BY POLARIZING LIGHT MICROSCOPY.

Analyzed by DB — Date July 17, 1983 — Lab No. 2849

REPORT OF ANALYSIS
BULK SAMPLES
SKAGWAY, ALASKA

Samples received: July 11,1983

Samples collected by: ----

SAMPLE I.D.	SAMPLE LOCATION	ASBESTOS PRESENT	OTHER FIBROUS MATERIAL PRESENT	NON FIBROUS MATERIAL PRES
	Pipes in furnace room & breezeway between Gym & M.P. room	NONE SEEN	FIBROUSGLASS-100%	NONE SEEN
	Ceiling tile in M.P. room	CHRYSOTILE-10%	CELLULOSE & SYNTHETIC FIBER- 1%	CEMENT 9
	Ceiling Tiles in Classrooms	NONE SEEN	FIBROUSGLASS- 90%	SILICATES 1
	Wrapped pipes in shop	CHRYSOTILE-20% AMOSITE - CROCIDOLITE-1%	NONE SEEN	PLASTER 6
	Supply room downstairs	NONE SEEN	FIBROUSGLASS-100%	NONE SEEN

Asbestos: Still a Danger in Schools

By Elaine S. Knapp, editor

For Phyliss Adams and Ann Gibbs the last year has been a frustrating one—trying to get their local school board to remove asbestos from the school their children attend.

"It's frustrating, our children are being poisoned and there's not anything we can do," Mrs. Gibbs declared. What the Lexington, Kentucky, housewife has done is work through the PTA, form a group of concerned parents, go door-to-door telling parents of the danger, gather hundreds of signatures on petitions, read volumes on asbestos, call and write federal agencies and confront the school administrator and board.

After a year of parental pressure being applied and at least a decade after school authorities knew of the asbestos hazard, Mrs. Gibbs said, "We don't think anything will be done until the government makes them (the school board)." School authorities maintain the asbestos will be cleaned up if money is available for renovation next year.

Ironically, the major government effort to control asbestos lies in Mrs. Gibbs and others like her. Telling parents and teachers that their school has asbestos and relying on them to pressure local action is the heart of the U.S. Environmental Protection Agency's (EPA) strategy to rectify the nationwide problem of asbestos in the schools.

No effective federal program exists to protect school children from asbestos, state efforts vary widely and local schools often ignore the danger due to the cost of cleanup.

Asbestos Dangers

Any exposure to asbestos involves some health risk, according to the Congress, the EPA and the scientific community. Children are especially vulnerable, according to the EPA guidance document on asbestos sent to schools. Their remaining life expectancy provides the 20 to 40 years it takes for disabling and fatal asbestos-related diseases to develop. Large numbers of children may be exposed in a contaminated school and exposure is continuous during the school year. Children are active and breathe more frequently than adults possibly inhaling more asbestos fibers. Smoking can increase the cancer risk due to asbestos exposure.

Most hazardous is friable asbestos that can be crumbled. It sends deadly fibers into the air which may lodge in the lungs indefinitely, according to EPA's guidance document. Asbestos workers often develop a chronic and debilitating lung disease called asbestosis. Lower and shorter exposures are linked to lung and other cancers. Even brief exposure can result in death many years later.

Asbestos diseases include: 1) asbestosis, a disease in which asbestos clogs the lungs, 2) pleural calcification, a deposit of calcium salts in the lung lining, 3) malignant tumors of the lung, 4) mesothelioma, a rapid and fatal cancer of the lung, and 5) intestinal and uterine cancers.

Where It Is, What to Do

Use of asbestos materials was common in schools and other buildings from the mid-1940s until EPA banned sprayed asbestos in 1973. Friable (or soft) asbestos-containing material was used for fireproofing,

insulation or decoration. It was usually sprayed on overhead surfaces, steel beams, ceilings, walls and pipes.

As friable asbestos material ages, it breaks down and releases fibers into the air. School activities can damage or disturb asbestos, such as a ball hitting a gym ceiling. Asbestos material can be disturbed by maintenance activities, vandalism, water damage or vibration from people or machinery and release fibers into the air.

Many experts believe removal of asbestos is the only final and satisfactory solution to asbestos exposure. However, removal may cost more initially and be more complicated. Temporary measures include encapsulation by spraying asbestos with a sealant or enclosing the asbestos. EPA and other experts warn that such temporary measures make removal more difficult and dangerous later on, and must be constantly monitored.

The EPA guidelines call for asbestos work only after construction of sealed containment barriers and worker protection as mandated by OSHA. All but asbestos workers should be kept out of the sealed area and worker change rooms are required.

Hot Potato

Asbestos in the schools has been a "hot potato" tossed among various levels of government and federal agencies. One reason is that removal of asbestos can be quite expensive, especially if large areas of buildings are affected. Funding is basically up to local schools as is asbestos detection and control. No federal funds are available and state aid varies.

The U.S. EPA requires schools to inspect for asbestos and notify parents and employees of asbestos hazards. The EPA doesn't require removal or abatement. "The theory is that PTAs and employees would pressure local districts to take remedial action," said Terrell Hunt, assistant to EPA Deputy Administrator Alvin Alm.

However, a recent internal EPA report found that many schools did not meet EPA's June 1983 deadline for asbestos detection, record keeping and notification.

No Federal Funds

Federal funds of $172 million authorized by the Asbestos School Hazard Detection and Control Act of 1980 were never appropriated. Grants were promised for schools to identify asbestos hazards and loans for mitigation of asbestos hazards. But funds were never requested by the Department of Education, reported John Bennett, aide to U.S. Rep. George Miller, D-California, who sponsored the act. In 1983, a $50 million recommendation by the House was omitted in a House-Senate conference.

The U.S. Department of Education had a task force which set standards for state grants in 1980, according to W. Stanley Kruger, deputy director for state and local education programs. However, when the program wasn't funded, the department "deferred to EPA," Kruger said.

Under pressure from Congress, the department reactivated its task force in October 1983 and is gathering information on asbestos to send to chief state school officials, Kruger said. The department also reactivated its requirement that states file plans for asbestos in the schools' programs and report on their progress every six months. All but two states have filed.

EPA's Program

The federal effort has largely been a requirement by the EPA that schools inspect for asbestos hazards, sample and analyze material to determine if asbestos is present, keep records of the inspection, post notices, and notify parents and employees if asbestos is found. Although schools were to comply with the rule by June 1983, the EPA doesn't know how many did. It does not require schools to report to it and must send federal inspectors to schools to check their records. EPA staff said when the EPA regulation was written that the administration opposed imposing a data reporting requirement. The EPA recently doubled its field force of inspectors by adding 16 people through a contract with the American Association of Retired Persons, Hunt said. These include retired architects and engineers. Primarily, EPA staff look at school records and physically inspect some schools. However, there's not enough inspectors to cover but a small portion of the nation's schools.

In providing technical advice, EPA can help schools determine the best strategy for evaluating the risk and responding to asbestos, Hunt said. He said that anything short of removal is considered a short-term solution.

Connie Derocco, environmental protection specialist with EPA, said that out of 1,527 schools inspected in 468 districts, some 60 percent did not comply with EPA rules. Most failed

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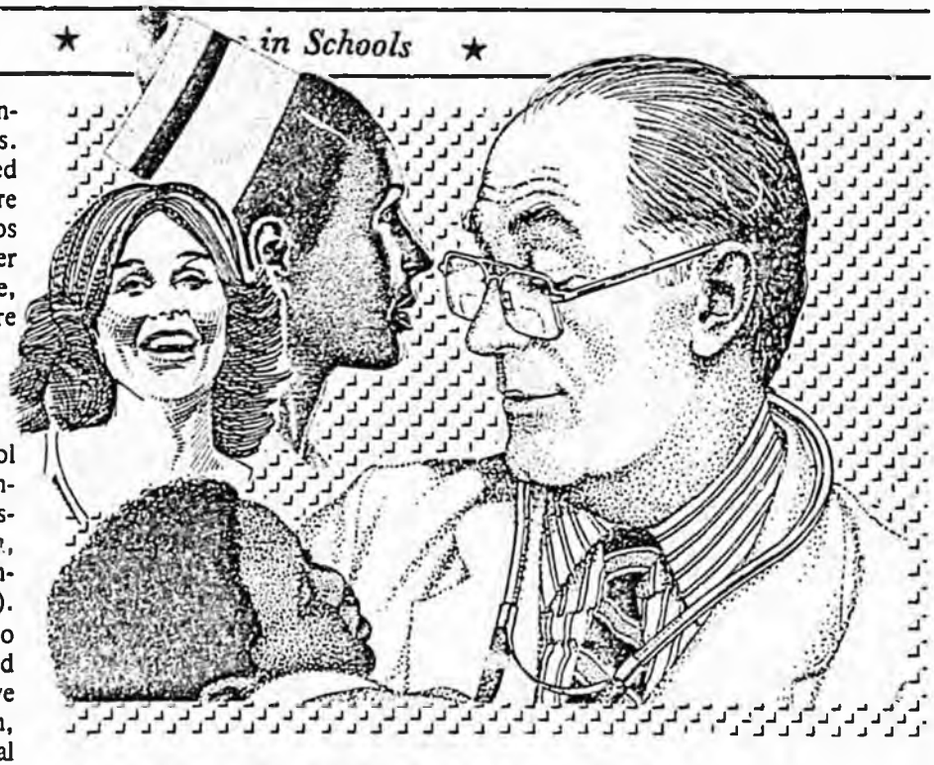


to notify and warn PTAs and employees of asbestos materials. Schools know they will be pressured once the word is out, and they are hesitant to deal with the asbestos problem, Derocco explained. After receiving a notice of noncompliance, schools have 30 days to act before the EPA files a civil complaint.

Labor Union Concern

An estimated 3.24 million school children and 648,000 school employees are potentially exposed to asbestos, according to Kitty Conlan, research analyst with the Service Employees International Union (SEIU).

The SEIU is lobbying Congress to fund the 1980 act for grants and loans to schools. Schools don't have the money to cleanup on their own, Conlan said. "It's definitely a federal responsibility," Conlan said. "It's a nationwide problem which affects the health of millions of people."

SEIU is suing the EPA to require schools to cleanup flaking asbestos. "Schools say if EPA thinks asbestos is so bad, then EPA would require them to get rid of it," Conlan commented.

EPA does give schools good technical advice on how to get rid of asbestos, Conlan noted. But some schools accept the lowest bid rather than follow EPA guidelines. If the cleanup is not done right, the asbestos danger can be worsened.

Conlan said SEIU doesn't think suing asbestos' manufacturers is worthwhile, citing lack of action on suits filed by asbestos workers. "We're hesitant to have our members litigate themselves to death," she said.

Conlan added that school districts can also be held responsible for asbestos. "They can face a big liability," she commented.

Lawsuits Filed

A number of lawsuits on behalf of school boards and building owners in Kentucky, Mississippi, New Hampshire, Florida, South Carolina, Alabama and Tennessee, have been filed by a South Carolina law firm.

Daniel Speights noted that legal theories available to school boards against manufacturers of asbestos include: contract (the products were not fit for the uses intended), negligence (the manufacturers were negligent in informing users of the risks associated with the products), strict liability (manufacturers should be strictly liable for failing to warn of asbestos hazards), and restitution (manufacturers have a duty to abate the hazard).

A civil action filed on behalf of the Barnwell, South Carolina, school district notes that school districts and public officials could be held liable for failing to abate a health hazard.

A September 1981 report by the U.S. attorney general to Congress recommended that school authorities seek to recover asbestos abatement expenses from asbestos manufacturers. The report said federal litigation would be inefficient unless Congress imposed liability on asbestos manufacturers.

Asbestos manufacturers are being sued by at least 20,000 people on the grounds that the companies knew of asbestos hazards and covered them up, according to a September article in the *National Journal*.

A 1983 report from the Rand Institute says that asbestos litigation and compensation has cost an estimated $1 billion over the past decade. Only 37 cents of every dollar went for actual compensation to plaintiffs. Estimates of the number of deaths due to asbestos over the next 30 years range from 74,000 to 265,000.

Future Problems

Generally, 15-40 years can elapse between asbestos exposure and manifestation of certain diseases. For instance, shipyard workers exposed during World War II may only now be filing claims, according to the Rand study. Despite this knowledge, no attempt is being made to monitor school children exposed to asbestos.

An internal EPA memo written in November 1978 called for long-term surveillance of children who are exposed. The memo noted that when they reach adulthood these children could then be informed and notified of their childhood exposure. They could be medically examined more frequently for respiratory diseases and cancer.

EPA Regions, States

Because no one tracks data on asbestos in the schools on a national basis, *State Government News* interviewed asbestos coordinators in five of the 10 EPA regions and several state asbestos coordinators.

Generally, the federal regional EPAs have switched their emphasis from providing technical assistance on identifying and dealing with asbestos in the schools to checking school records on asbestos inspections. Most found a high percentage of schools either had not inspected or had not notified parents and employees of asbestos in the schools as required by the EPA.

State programs differ widely in scope and authority. While a few states fund asbestos removal and cleanup, most simply help schools identify asbestos or provide other technical assistance.

Region I

"Compliance is terrible," said Paul Heffernan, asbestos coordinator for EPA Region I covering Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

Five full-time EPA inspectors have visited 160 districts covering 400 schools and issued 58 notices of noncompliance. Of the EPA violations, 37 percent had not even inspected and 53 percent had not notified parents or employees of asbestos found. Many school administrators didn't want to be "bothered," others had not read the regulation and others simply refused to post a warning in the building.

Oddly enough, schools in states which had asbestos programs in the late 1970s were most difficult to convince they needed to inspect for asbestos in ways not done in earlier years. For instance, the latest regulations require inspection of pipes and boiler rooms.

With 3,300 school districts in the region, there is no way EPA can inspect them all, Heffernan said. However, press releases announce schools found in violation, so the hope is that other schools will inspect rather than see themselves in the headlines.

Asbestos abatement efforts vary widely even in the same school district and among neighboring school districts, Heffernan said. He said West Haven, Connecticut, had an effective program while North Haven, next door, had none. While Hartford, Connecticut, spent $6 million on big problems in five schools, it had not tackled "mini-disasters" in 37 others. The same situation existed in Boston.

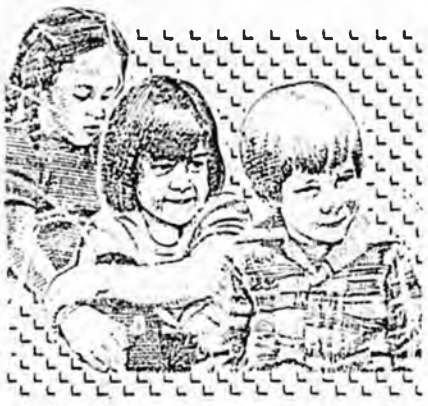
In the region, New Hampshire sent a checklist of EPA requirements plus abatement actions to help schools comply with the EPA.

Connecticut has granted $6.5 million since 1976 to localities for asbestos control in schools, reported Richard Krissinger, coordinator of school facilities, state Department of Education. State grants range from 40 to 80 percent of cost, depending on the aid formula the town qualifies for. If asbestos is found, the "chances are good it will be removed," Krissinger said. "We treat it as a health violation."

The state "accepts encapsulation" as an abatement measure, but doesn't encourage it. Krissinger said, "We believe removal is the only answer."

Al Siniscalchi, acting chief of the toxic hazard section of the Connecticut Department of Health Services and Education, noted that the state also provides technical assistance to schools. Schools were sent EPA guidelines and seminars were co-hosted by the state and EPA Region I.

A job freeze has reduced a former staff of nine to four and most inspec-



tions are now done by local health departments. Connecticut does follow-up inspections after asbestos removal to make sure the school is safe. Safe disposal of large amounts of asbestos is supervised by the state Department of Environmental Protection.

Maine is in good shape, according to Roy Nisbet, director of the Division of School Facilities. Most of the asbestos found was confined to pipe wrapping and boiler rooms. The state notified schools of the EPA rule and 90 percent complied with inspection requirements, Nisbet said. The Division of Industrial Safety trained school personnel to conduct asbestos inspections.

A proposed bill in Maine would authorize a bond issue to reimburse local schools for the cost of asbestos removal and repair.

In spite of the fiscal contraints caused by Proposition 2 1/2, public pressure has spurred asbestos abatement in Massachusetts, said Mike Malchik, assistant engineer, Division of Occupational Hygiene. "Parents and teachers are adamant about getting it (asbestos) down," Malchik said. The legislature allocated $2 million in 1983-84 to repay part of school removal costs if removal is recommended by the state.

Massachusetts inspects public buildings and schools, samples, analyzes samples and recommends abatement measures. There are at least five engineers and a project engineer available. The schools are being re-surveyed based on new guidelines, as inspections in 1978 only covered sprayed-on asbestos in public areas.

Region II

EPA Region II asbestos coordinator, Arnold Freiberger, has seven inspectors to check some 3,000 schools in New York and New Jersey. Out of 108 districts inspected, only 13 were in compliance with EPA rules, 32 had minor violations and 63 had either failed to inspect or identify asbestos or to post notices and notify parents and teachers.

New York has provided funds for asbestos control, reported Henry Binzer, associate in school business management, state Department of Education. In addition to state grants of $1.75 million annually for the past four years, school districts may tap state building aid for asbestos control.

An annual state survey of schools revealed 509,000 square feet of potentially hazardous asbestos.

The New York State School Asbestos Safety Act of 1979 required schools to identify asbestos and, if it is hazardous, take control measures. Encapsulation is most popular with schools. "The problem is that still has to be watched," Binzer noted. Removal is permanent, but expensive.

The state does not give advice on specific jobs, but provides an educational program for contractors and information to schools.

cont'd pg. 8

New Jersey doesn't provide specific aid for asbestos removal, but schools can get assistance through the foundation aid program, said Dr. Irving M. Peterson, manager, Facility Planning Services, state Department of Education.

In 1979, a governor's Task Force on Asbestos set minimum specifications for removal of friable asbestos. The specifications, which contractors must follow, require notification of state and federal agencies prior to the start of a project, require documentation of the contractor's qualifications, and require the contractor to follow stringent procedures for removal. The standards do not permit encapsulation (by coating the asbestos-containing layer) in New Jersey.

The state must approve all construction projects, plans, make field inspections to assure the work area is set up properly so contamination doesn't spread and check at the end of the project. Contractors, agents and workers must all attend a one-day state-EPA seminar and carry certification cards on the job.

Out of 2,400 public schools in New Jersey, asbestos removal projects have been approved in 350. Costs have totaled $46 million, for an average of $131,000 per school. It's up to local districts to remove the asbestos and as many as 100 more may not have acted yet.

Region IV

EPA doesn't have the resources to inspect school compliance with asbestos regulations, declared Dwight Brown, asbestos coordinator for Region IV covering Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee.

Most commonly, schools have either failed to inspect or to notify parents, Brown noted. He added that common law requires building owners to identify and notify occupants of hazards, and to provide medical surveillence if there is evidence of exposure.

Region IV also provides technical assistance and its intensive seminars on asbestos are attended by many from outside the region.

Most of the asbestos found in Georgia schools was in boiler rooms or pipe wrapping and has been corrected, said Lovett Fletcher, asbestos coordinator. State environmental, health and education departments worked with the U.S. EPA to provide information and hold seminars for superintendents. In addition, 70 environmental health specialists were trained to assist local systems. Schools with acute problems could get matching state aid through the state capital outlay, Fletcher said.

Kentucky helps schools comply with EPA inspection requirements, but has no money to aid them, said Jim Judge, unit director of property insurance, Department of Education. Asbestos cleanup was estimated to cost $26 million last year, but a survey now underway could change that estimate. Judge noted that the EPA doesn't require removal and many schools "are hesitant to post a warning." Asbestos problems in the state's 180 districts range from major ones with ceilings to boiler rooms.

Affected schools mostly include those built from World War II to the early 1970s. Judge said certain architects used lots of asbestos while others didn't.

South Carolina selected the critical points of EPA's regulations in requiring public and private schools to inspect, sample and analyze for asbestos, said Lee Bacot, asbestos coordinator, Department of Health and Environment. Results of the school surveys and health hazard assessments were required to be publicized in meetings and by notifying parents.

Out of 1,200 public schools, 1,080 or 90 percent complied with EPA's rule and 270 found friable asbestos. Only about 30 percent of the 450 private schools complied.

Asbestos inspectors must be certified by the state and must send survey results to the state. A one-day course is offered by the state to consultants and state and local staff. Schools are provided information, but the state does not provide specific advice or any funds.

Tennessee had a governor's task force on asbestos in 1978, according to Robert Foster, chief, technical services, Division of Air Pollution Control, Bureau of the Environment.

Out of 1,773 schools, 150 reported potentially hazardous asbestos.

The state provides free analysis of suspected asbestos materials, provides information to schools, and conducts training sessions. Because there is a shortage of EPA inspectors, Tennessee Gov. Lamar Alexander wrote the EPA offering to help enforce the inspections. However, EPA has not responded. The state plans to proceed to develop the data anyway, Foster said.

"We're convinced asbestos in the schools is one of the more important health problems," Foster declared. "It's an absolute human carcinogen. It causes serious irreversible health effects. Even brief exposure can cause painful disease. Children are

EPA's new rule requiring parental notice "triggered a lot of work," Peterson said. As many projects were approved last year as in the previous four years.

even at more risk."

The goal should be to eliminate the hazard, Foster continued, while the EPA only requires inspections and warnings which can lead to panic and make schools vulnerable to unscrupulous contractors. People need to be educated on how to abate the hazard, he said. He added that although "most want to do the best, it's hard to convince them that a little dust out of the ceiling will kill them."

"I've gone in schools where the material (asbestos) was hanging off chairs," Foster said. In that case the superintendent closed the schools upon the state's recommendation. More troublesome are marginal situations, Foster noted, where schools don't understand the potential hazard. "They look to the state or federal government," he said. "But hope for federal or state aid is a loser."

Region V

"There's quite a few violations of EPA's rule," said Anthony Restaino, asbestos coordinator for Region V covering Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

Many school officials thought asbestos "was a low priority, didn't take time to inspect, didn't touch asbestos-materials to see if it crumbled or didn't notify parents or employees," Restaino said. Out of 43 school districts inspected, 29 were in violation. The Region V inspection staff was recently doubled to eight.

Illinois treats asbestos as a health and public safety issue, said Ralph Morrisette, architect, school facilities and organization section, State Board of Education.

Under Illinois law, school boards can hire an architect to determine if school building conditions endanger lives. After a survey of the cost to remove the asbestos, the local district can levy a tax for the amount without a referendum. Because schools are able to raise the funds, most of those with asbestos are having it removed, Morrisette said.

Most Wisconsin schools have inspected for asbestos, reported Nori Roden, school asbestos program coordinator, Department of Health and Social Services.

Out of 3,027 schools, 3,006 inspected and 1,089 found friable asbestos. Corrective action was taken by 583: 395 rewrapped pipes, 94 removed asbestos, 33 enclosed it and 61 encapsulated it.

Wisconsin has had an asbestos program since 1980. The Department of Industrial Labor and Human Relations conducted asbestos inspections when it conducted fire and other safety inspections. Samples were analyzed by the state lab. The Department of Public Institutions targeted schools for the free inspections, helped with record keeping, and provided technical assistance and consultation services. The health department computerized and coordinated the data and consults on health effects of asbestos.

A position paper being developed by the health department will most likely recommend removal of all friable asbestos, Roden said. "We're cautious of encapsulation and enclosure," she said. Advantages of the temporary measures include less cost and time, but the disadvantage is the "asbestos is still in the building," Roden said.

Minnesota in 1983 authorized a $25 per pupil unit capital expenditure levy and aid for asbestos removal or encapsulation and PCB cleanup with Department of Education approval.

Region VIII

The major violation found in Region VIII is that schools "aren't willing to put up notices," said Steve Farrow, EPA asbestos coordinator for Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming. Instead, schools are trying to remove or encapsulate the asbestos first, he said.

Of the states, Farrow said that Utah's problems were with pipes and boiler rooms, North Dakota was making progress and Wyoming had few major problems.

Chuck Johanningmeier, technical advisor for the region, said, "Many people hoped it would go away. Medically, it is just getting worse." A Fargo teacher had contacted the EPA after discovering asbestos debris left in a school storeroom. Not long afterwards, the lawyer for the teacher's estate reported the man had died of mesothelioma (a rare cancer associated with asbestos exposure).

Unqualified contractors can do more damage than if the asbestos was left alone, Johanningmeier said. A proposed measure before the Colorado Legislature will require contractors to be certified to work on asbestos.

In another case, a contractor left asbestos which students and teachers dusted up. As a result the EPA is helping write specifications in a contract for cleanup which will be available to others as well.

There are some bright spots as well. Johanningmeier praised the work of Gill Johnson, the asbestos coordinator for a Jefferson County, Colorado, district. Johnson overcame school resistance and succeeded in cleaning up the asbestos in the district's schools.

No Cavalry in Sight

Although asbestos was recognized as a nationwide health problem by the Congress in 1980, there's no real federal effort to protect the health of exposed school children. Even though most states have asbestos coordinators, few states mandate cleanup or provide funds for removal. Essentially, asbestos removal or cleanup is left up to local school districts. Local school officials may not be willing or understand how to inspect for asbestos. Some may not understand the health dangers or legal liability they incur by allowing asbestos to remain. Apparently, many refuse to adequately notify parents or teachers if asbestos is found. Even then, students have no choice but to attend the school and teachers may be fearful of retribution if they take action. Many schools don't have or don't want to spend the money it takes to remove or cleanup asbestos.

Alvin L. Alm, deputy administrator of the EPA, recently acknowledged that the agency was reconsidering its approach to asbestos in the schools.

* * *

Leonard P. Stavisky

State Responsibility for the Control of Asbestos in the Schools

Asbestos, widely used in construction, is hazardous to human health. Schools represent the most pressing concern for public policymakers who are faced with the asbestos issue. With few exceptions, compulsory attendance laws exist throughout the United States. Typically, state statutes prescribe that minors from six to 16 years old attend school for approximately 180 days a year. Parents and guardians have no discretion in this matter and those who refuse may be charged with neglect. As a result of these laws, government's legal and ethical responsibilities may be greater in this area than in others where one's presence is voluntary or where minors are not involved.[1]

On the school asbestos issue, the educational and public health mandates of existing state constitutions come into conflict. In the language of one state constitution: "The legislature shall provide for the maintenance and support of a system of free common schools, wherein all of the children of the state may be educated." The same constitution further stipulates that "the protection and promotion of the health of the inhabitants of the state are matters of public concern and provision therefore shall be made by the state and by such of its subdivisions (including school districts) and in such manner, and by such means as the legislature shall from time to time determine." Obviously, though teaching and learning cannot be suspended, the public deserves ironclad guarantees that the instruction will be offered in a safe environment.[2]

Such guarantees come in implied warranties of quality — the presumption that a product is free from substantial, latent defects which are not obvious through inspection; these appeared in Roman edicts as early as 150 B.C. In modern commercial practice, the term warranty has always meant that the conditions are exactly as they have been stated, that standards of quality exist, and that those in positions of responsibility recognize their obligation to repair or replace defective parts. Implied warranty of quality exist even in cases in which there is no sale. Thus, nonprofit institutions have been named as defendants under breach of warranty.[3]

Statutory law has extended the boundaries. In real property law, states have enacted warranties of habitability which presume that a dwelling is suitable for human habitation and that the occupants will not be subjected to conditions which are "dangerous, hazardous or detrimental to their life, health or safety." Similar language appears in occupational safety codes, public health laws and environmental protection legislation.[4] In recent decades, government has become a landlord — involved in the ownership and management of public housing. Formerly private buildings have been acquired through "in rem" proceedings resulting from nonpayment of taxes. Does the warranty of habitability therefore apply to the public sector?[5] Does it extend to other physical settings such as schools? Presumably, when a child is enrolled in a public school, for which

taxes are paid in lieu of tuition, there is an implied warranty that professional services will be rendered in a building that is free from conditions and substances which are hazardous to health.[6]

Asbestos, a hydrated mineral silicate which was widely used for fireproofing, soundproofing and decorating during the post-World War II construction boom, was introduced in Great Britain in 1932 and in the United States three years later. Between 1946 and 1972, sprayed-on asbestos was used in school auditoriums, gymnasiums, classrooms, hallways and libraries. Of the one million tons consumed in the United States in a single year, the material was applied to insulation, ceilings, floor tiles, cement, roofing and shingles. Homes, offices, factories, government buildings, private institutions and places of public accommodation were laden with this ubiquitous substance. More than 3,000 known asbestos products came into use.[7]

Concern over the impact on human health arose as a result of the inordinately high rates of disease discovered among employees handling asbestos in mining, manufacturing and construction. During the 1950's and 1960's, clinicians and researchers reviewed the medical records of asbestos workers and established positive correlations between persons who had been exposed to extraordinarily high asbestos air concentrations and specific diseases such as: 1) asbestiosis, a non-malignant scarring of the lungs; 2) bronchogenic carcinoma, a malignancy of the lungs; 3) mesothelioma, a malignancy of the lining of the abdomen or chest cavity, and 4) cancer of the gastrointestinal tract (esophagus, stomach, colon or rectum). By the early 1970's, medical researchers at the National Cancer Institute demonstrated in laboratory experimentation that malignancies "comparable to those resulting from asbestos exposure in man, can be induced rapidly in the rat and hamster by direct intrapleural application of asbestos. Such experiments attest to the carcinogenity of asbestos and offer an excellent means of investigating those carcinogenic mechanisms involved," these studies concluded.[8]

Government has responded in various ways. Since 1970, the Occupational Safety and Health Administration (OSHA) has regulated working conditions in the asbestos industry. In 1973, the United States Environmental Protection Agency prohibited the spraying of asbestos materials for fireproofing and insulation. Five years later, the ban was extended to all forms of sprayed asbestos, including decorative applications. Agencies of government promulgated regulations to control the industrial discharge of asbestos materials into the air and water. The sale of spackling compounds containing asbestos and the use of asbestos in insulation fireplaces was halted. Placing asbestos on the list of hazardous materials is under consideration. In all sections of the country, monitoring and informational programs have been initiated by federal, state and local authorities.[9]

Efforts have also been made to verify the effects of asbestos in non-occupational settings, but here the information has been imprecise. Abnormally-high disease rates have been linked to people who live near asbestos mines and factories. Among the families of asbestos workers, diseases have been traced to the minute particles brought into homes of the workers' clothing, Nevertheless, attempts to define standards that would be applicable outside of industrial settings have been opposed by an unexpected source. Scientists who have worked in this field appear unwilling or unable to provide definitive answers to the question of what represents a "safe" level of exposure to asbestos over a given period of time. Researchers are currently unprepared to support publicly or privately an accepted standard such as nanograms of asbestos per cubic meter of air nor are they willing to risk their reputations or the health of the public by categorically stating that the presence of asbestos below certain levels is tolerable. In the opinion of many reputable scientists, there is no way to compromise with a carcinogenic substance.[10]

Asbestos fibers, which are neither chemically nor biologically degradable, are virtually indestructable. Once the particles have been released into the environment, the slightest turbulence disturbs those that have already settled. People are constantly exposed to asbestos in the air they breathe, in the water they drink and in the food they eat. Processed asbestos fibers are more hazardous than the natural mineral. The thin strands which are by-products of the manufacturing process are easily inhaled or ingested. Asbestos fills the urban environment as a result of incessant braking of motor vehicles, building construction and demolition projects, and the incineration of certain plastic products. In suburban and rural areas, asbestos exposure is most likely to stem from mines, mills, manufacturing plants and waste disposal sites.[11]

Although asbestos permeates the environment in various settings, outdoors the moving air currents disperse the particles to reduce the levels of concentration. Indoors, the presence of asbestos poses a special hazard. Architects have designed many structures with inoperable windows. At one time, planners even specified windowless schools for blighted urban neighborhoods. Within such enclosed ventilation systems, asbestos particles are continually recycled throughout these buildings.[12]

Most educational officials have not kept adequate records to deal with asbestos in their schools. State and local authorities never examined the building specifica-

tions to check for the presence of asbestos. Even when plans were reviewed by state agencies in order to determine eligibility for building aid, officials simply looked at the adequacy of the space in relation to the educational program. After a few years, those plans that had been filed with the school districts were routinely discarded in some states in order to "save space." As a result of a new wave of concern about asbestos in the schools, state and local educational authorities may be compelled to reassemble information which was once available to them when the schools were originally constructed or remodeled.[13]

Progress in this field has been painfully slow. By the late 1970's, only 27 states and the District of Columbia were known to have conducted any asbestos inspections. Approximately 15 states had looked at more than a few schools. Of these, New Jersey, Massachusetts and New York had each inspected more than 1,000 school facilities, while Indiana, Rhode Island, Michigan and Vermont had each examined more than 100 buildings. California and New Mexico had simply reported "many" inspections. Rhode Island, the only state which had presumably inspected all of its buildings identified asbestos in 19 locations. Seventeen states, primarily in the South, the Middle West and the Far West, had not reported any school asbestos inspections. In other states, the extent of the testing remained uncertain. Individual school districts undertook limited inquiries, but approximately forty per cent of the states in the nation had no asbestos programs at all. Nationally, no agency of the United States Government could provide reliable information as to how many schools had asbestos problems.[14]

Two principal methods exist for determining whether asbestos is present in a school — visual inspection and laboratory testing. The most common method of detecting asbestos in a friable or crumbling condition involves direct observation. Unfortunately, visual inspections can be quite subjective and deceptive. What appears to be asbestos to the naked eye may prove under a microscope to be some other material. On the other hand, asbestos may be concealed in unconventional forms. Laboratory analysis of air samples offers more reliable identification. However, the levels of asbestos may fluctuate dramatically from place to place within the same facility and vary from day to day, depending on how much activity preceded the collection of the sample.[15]

Funding poses another problem. Optical laboratory tests may cost $30 to $50 per air sample. To be accurate, multiple tests may be necessary; different locations within a building may have to be sampled at different times. Electron microscopic analysis may cost ten times as much as optical testing and finding competent laboratories is sometimes difficult. A Connecticut laboratory incorrectly labelled cellulose as asbestos. The error was not detected until the ceiling had been removed, at considerable cost to the local school district.[16]

Policymakers, the educational community and the public are caught in a cruel dilemma. There should be no danger to the life, health or safety of any child or adult in any school. On the other hand, the educational process cannot grind to a halt. Creating a sense of public panic or uncertainty is not the answer. Neither is indifference to the problem. What is needed is an immediate, responsible nationwide plan for school asbestos indentification and control. The commitment to act must involve lawmakers, boards of education and school administrators throughout the United States.

First, those entrusted with responsibility for the schools must become familiar with the fact that asbestos materials appear in various forms under different names such as chrysotile, amosite, crocidolite, tremolite, anthrophyllite and actinolite. Often, more than one form of asbestos is present and the fibers are frequently combined with other products.

While it would be desirable to deal with all types of asbestos at once, fiscal constraints dictate a strategy that focuses on those forms and conditions which knowledgeable scientists agree are hazardous to human health. Accordingly, many authorities have suggested that school officials concentrate on asbestos which has been sprayed on structures or applied in the form of plaster or textured paints. In addition, the physical condition of the asbestos should be considered. As a general guideline, an imminent hazard is likely to exist where the asbestos material is flaking, dusting, or shows similar evidence of damage, deterioration or disturbance because of abuse, abrasion, water leakage or forced air circulation which results in dispersing asbestos fibers and particles in the school.[17]

School-by-school surveys can be mandated by state statute or by the rules and regulations promulgated by the chief state school officer or the state board of education. With scientific and technical information provided by the state, preferably the superintendent of public instruction or commissioner of education after consultation with the department of health or the environmental protection agency, the school districts can proceed with the inspections. In most instances, the custodian who works in the school building daily is in a position to know where asbestos may be present. Regional training programs may be desirable to enhance the skills of those who conduct the preliminary surveys. Materials suspected of containing asbestos can be sent to approved

public or private laboratories for analysis."

Once the asbestos has been identified and corrective action is required, there are three methods of dealing with the problem: 1) encapsulation, involving the use of a sealant which covers the original asbestos material and prevents further flaking; 2) structural containment, in which a permanent partition is installed between the asbestos area and the public and 3) removal of the asbestos."

Each control method poses certain problems. A chemical sealant may be the easiest to apply and the least expensive technique, but it may not hold up for a long period of time. The very act of applying a chemical covering may damage some of the asbestos. Furthermore, in these days of mercurial changes in scientific data, there is no guarantee that a particular sealant itself may not subsequently stand accused as a hazard to health.

Structural containment is predicated upon the assumption that the area will not have to be accessible at a later date. Many school buildings have been designed to utilize the space between a ceiling and the floor above for electrical, plumbing, heating and ventilation installations. If a permanent partition is installed rather than a suspended ceiling made up of removable tiles, workmen may not be able to check faulty wiring, water leakage or a breakdown in the air circulation system. Also, although the asbestos will no longer be visible to the pupils and staff, asbestos particles may continue to be recycled through ventilation ducts after a new structural separation has been built.

Total removal is obviously the most comprehensive method. Nevertheless, substantial skill is required. The act of extricating the asbestos may pose a hazard for the occupants of the building and the workmen. Consequently, removal may have to take place during vacation periods. In most cases, work areas have to be sealed off from other sections of the building and care exercised to guarantee that asbestos particles do not become lodged in the air circulation system. Removal is also the most expensive program."

Although not as dramatic, asbestos poses the same type of public health menace as the Three Mile Island nuclear reactor accident in Pennsylvania, the radiation near the desert testing sites of Utah and Nevada or seepage of toxic wastes from the Hooker Chemical Company in the Love Canal area of western New York. Public policymakers cannot risk having a whole generation of young adults discover 20 or 30 years from now that they have contracted lung cancer and other malignancies as a result of prolonged exposure to asbestos in the schools.

The United States Environmental Protection Agency is considering a plan for long-term surveillance of children exposed to asbestos in seriously contaminated schools. Unfortunately, the effort is fraught with complications. In an unpublished, in-house report, EPA acknowledges that the effects of asbestos exposure will not be evident for many years to come. "Medical examination of children now, whether to document exposure or to detect clinical disease, would be fruitless," the staff report concludes. "The psychological and monetary costs would be considerable. If a means were available to identify exposed school children so that they could be located years later, positive steps could be taken. As adults these persons could be informed of their childhood exposure and advised of the proper measures they personally could take." In the next breath, however, the agency has acknowledged the superficial, conscience-soothing nature of this recommendation, by admitting that "although no cures are currently known for asbestos-induced diseases, therapeutic research continues; it may be possible by then to apply *palliative* (emphasis added) measures. Without a means of identifying these children now almost nothing can be done to help them in the future." As a temporary expediency, some EPA officials have suggested issuing Social Security numbers to these children so that at a later date someone could open the sealed files and advise these people of their fates."

The federal government, the states and local school districts should obviously pursue immediate programs of prevention and abatement instead of waiting to notify potential cancer victims that they have been needlessly exposed to an incurable disease. In the absence of an adequately-funded federal policy which would require appropriate corrective action throughout the country, the most promising approach seems to fall within the realm of the states. State legislation could establish goals and procedures which would:

1. Develop precise, scientific definitions of asbestos materials.

2. Identify the circumstances under which certain forms of asbestos pose hazards to human health.

3. Require the state commissioner of education — in consultation with state health or environmental officials — to: a) inform school authorities of the asbestos hazards; b) advise school districts of the methods of identifying, sampling and testing materials suspected of containing asbestos and constituting a health hazard; c) direct the school districts to undertake surveys of school buildings throughout the state; d) maintain current records regarding the condition of asbestos in the schools based upon periodic surveys by local school officials or inspections by the state education agency; e) provide scientific and technical assistance to the

school districts; f) require the districts to prepare and submit abatement plans; g) promulgate standards under which the containment or removal of asbestos shall proceed; h) establish regional training programs for contractors and supervisors engaged in eliminating asbestos hazards and i) monitor the implementation of these programs.

4. Establish timetables for abatement programs within state school asbestos legislation and create advisory councils of representatives from state education agencies; local school districts; medical, public health, architectural and engineering professionals; employers and employees in the construction industry; parents and the general public.[22]

Implementing such a state plan will inevitably be influenced by considerations of cost. New York City school officials estimated that the price of containing or removing all of the asbestos found in nearly 300 schools could easily range between $35 and $50 million. While construction costs are not uniform throughout the nation, an effective program in any state is certain to be expensive. In several New Jersey schools, expenditures for sealing ranged from $1 to $2 per square foot, while removal and replacement of asbestos ceilings varied between $2 and $5 per square foot. Without additional funding from federal or state government, real danger that school districts facing fiscal constraints, taxpayer revolt and declining enrollment may delay the implementation of asbestos identification and abatement.[23]

Asbestos control is not an ordinary building need. Surely in a health emergency, an overriding state or national obligation might be invoked. However, certain guarantees are required. A building treated for asbestos should not be one which is likely to be closed within the foreseeable future because of age or declining enrollment. The state must expect, and receive, adequate assurances that there are no other facilities available to accommodate the students and that the building utilization rate is above a minimum percentage. The anticipated life of the structure should also be considered before asbestos funding is provided. School officials must be prepared to justify the continued occupancy of any building for which major asbestos abatement is ordered.

What is the federal role in the detection, containment or removal of asbestos? In 1980, a year after the enactment of the New York State Asbestos Safety Control Act, parallel legislation was approved by Congress and signed into law by President Carter. However, there is no certainty that the United States Asbestos School Hazard Detection and Control Act will provide immediate and adequate relief for school systems that are concerned with asbestos problems. Although the legislation set up a fund for testing and evaluating potential hazards and ostensibly created a loan program to assist in the containment or removal of asbestos, the program is presently unfunded. The future of this program is further complicated by the results of the 1980 presidential election and the apparent unwillingness of the Reagan administration to implement new federal regulations for school asbestos control.[24]

There are public policy lessons to be derived from the school asbestos experience. Initially, lay decision makers feel unqualified to judge public health issues. Eventually, they may recognize that there is uncertainty even within the scientific community, that potential victims have not been warned of imminent life-threatening hazards and that a chasm exists between research and public policy. Practitioners in medicine and public health, producers and distributors of asbestos as well as the construction industry neglected to subject the mineral to ample, long-range testing before using it. Tragic and unforeseen mistakes were made by architects and engineers who specified the incorporation of asbestos in building plans and by the educational authorities who approved and then destroyed the working drawings which would have illuminated its use and the extent of the present predicament. Finally, state and local governments nationwide incorporated the use of asbestos in building codes and issued certificates of occupancy attesting to the safety of the structures.

Nevertheless, the search for villains is pointless. Decisions do not wait for convenient time or circumstances, nor pause for optimum technical nor fiscal resources. Policy makers who are presently confronted with urgent crises may not have created the original conditions which they are called upon to correct. Furthermore, some problems defy government's best available solutions.

The decision making process has been compared to a multiple choice examination. In approaching the school asbestos issue, public officials could adopt a wait and see attitude or appoint a study commission. In this situation, such a choice would be deadly, for it would endanger the lives of a whole generation of students and educators who would be needlessly exposed to a known carcinogenic substance.

A second alternative would be to raise the level of public consciousness, to alert the teachers and parents of school-age children that asbestos, in various forms, pervades the educational system. In so doing, the alarmists would create a climate of fear, making it impossible for instructional programs to continue until all questions have been answered. However, a third more realistic option is to undertake an immediate

investigation of the scope and nature of the problem and use every available federal, state and local resource to finance corrective action.

Sensing the complexity of the total picture, reviewing the available scientific data, assessing the impact of each option, accepting responsibility and, ultimately, deciding upon the most propitious policy are essential ingredients for dealing intelligently with the school asbestos issue. However, any course of action may establish new conditions for which the ramifications are unknown or unanticipated. Beyond the schools, there are libraries and museums, community centers and civic auditoriums, as well as other public buildings and quasi-public facilities which contain asbestos. The legal and ethical principles inherent in the doctrine of implied warranty will not stop at the schoolhouse door. Future legislation and litigation will expand the boundaries.[23]

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4. *McKinney's Consolidated Laws of New York*, Book 49, *Real Property Law*, §235-b, notes 2, 11. Tenants' reliance upon implied warranties of habitability is discussed in John M. Strikor and Andrew D. Shapiro, *New York City Tenant Handbook* (New York, 1978); *McKinney's Consolidated Laws of New York*, Book 30, *Labor Law*, §470, Book 17½, *Environmental Conservation Law*, §19-0107; Book 44, *Public Health Law*, §225.

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6. Existing provisions of state education laws contain broad safety requirements in relation to school building construction. Thus, the plans must "provide for heating, ventilation, lighting, sanitation and health, fire and accident protection adequate to maintain healthful, safe and comfortable conditions therein." *McKinney's Laws, Education Law*, §408, 408-a, 409. Responsibility is generally vested in the state education commissioner and in municipal building officials.

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9. Environmental Protection Agency, Office of Toxic Substances, "Draft Phase I Report," pp. 1, 9, 22-26; *Environ Defense Fund Newsletter*, November/December 1978.

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12. Nicholson, "Ibid.," pp. 12, 54; Architectural Research Laboratory University of Michigan, *The Effect of Windowless Classrooms on Elementary School Children* (Ann Arbor, Michigan, 1965).

13. New York State Assembly Education Committee, Asbestos Conference, Albany, New York, February 6, 1979.

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15. State of New Jersey, Department of Environmental Protection, "Guidance Document for Eliminating Health Risks from Sprayed-on Asbestos Containing Materials in Buildings," May 1977; Levin, "Asbestos in Schools," p. 31-32; Anthony R. Smith. "Asbestos in School Buildings," Memorandum #1 to Dr. Frank Macchiarola, Chancellor, New York City School System, November 6, 1978, and Memorandum #2, November 15, 1978; Nicholson, "Control," p. 19.

16. Levin, "Asbestos in Schools," p. 31; New York City, Board of Education, "Investigation and Testing of Various Methods," passim; Nicholson, "Control," pp. 18-22; New Jersey, "Guidance Document," pp. 6-7.

17. New York State Assembly Education Committee Conference, February 6, 1979, Albany; Nicholson, "Control," pp. 15-17; New Jersey, "Revised Guidance Document," October 20, 1978. United States Environmental Protection Agency, *Asbestos-Containing Materials in School Buildings: A Guidance Document* (Washington, 1979), Part 1, pp. 2-4. For a precise definition in statute law, consult the "New York State School Asbestos Safety Act." Chapter 501 of the Laws of 1979.

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23. New York City, Board of Education, "News Release on School Asbestos Inspections," December 12, 1978; Environmental Defense Fund, "Petition," p. 37.

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ASBESTOS

The clock is ticking in your schools, and inaction could prove to be devastating

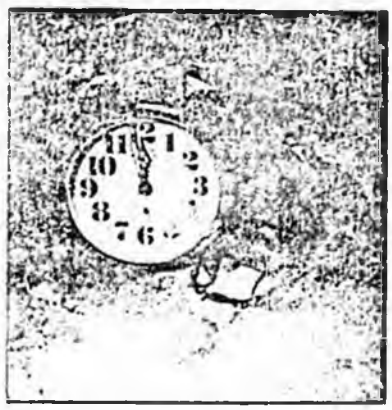
By Kathleen McCormick

ALL TALK AND no action: That's the way the asbestos-in-schools game has been played in the past several years by the federal government and thousands of U.S. school systems. It's time—past time—to respond to the potentially fatal hazards of asbestos in our schools. The ante has been raised in recent months, and from the look of things, school boards that haven't complied yet with federal regulations concerning inspection, notification, and record keeping could be in for a rough time. And even if you *have* made the inspections, posted the required notices, and notified parents and staff of potential health risks in your schools, you still might be the target of a lawsuit should a student or staff member become ill or die because of an asbestos-related disease.

That's not exactly reassuring news, but you can take some steps to meet federal regulations and protect your students and staff. Prudent school leaders would do well to consider carefully some of the recent developments in medical research, federal enforcement, and legal actions. Read on:

The medical risks

As far back as the 1930s, manufacturers of asbestos knew the substance was a killer. But the American public first became aware of the hazard when the Environmental Protection Agency (E.P.A.) banned some uses of sprayed-on asbestos in 1973, after research concluded that thousands of shipyard workers who had handled the substance during World War II were dying (or had died) of asbestos-related diseases. Five years later, an award-winning article in this magazine broke the disconcerting news to school leaders that U.S. schoolchildren faced imminent danger from asbestos: In schools built between 1946 and 1973, tens of thousands of tons of asbestos products were used for fireproofing, soundproofing, and insulating ceilings, walls, pipes, and boilers. As friable (loose or flaking) asbestos materials age, they release tiny particles into the air; if enough particles are inhaled, they can cause cancer and a variety of respiratory ailments. And if these materials get wet (say, from a roof that leaks) or are disturbed (perhaps by maintenance workers who fix electrical wiring in the ceiling), countless particles are dispersed, presenting an even greater health hazard.



The asbestos ante has been raised in recent months, and boards that don't respond could be in for trouble

What are the risks? Cancer, for starters: The most common form of asbestos-related cancer is lung cancer. Next is mesothelioma, a rare and fatal tumor of the membrane linings in the chest or abdominal cavities; its only known cause is asbestos. Exposure to the deadly mineral filaments released by asbestos also has been proved to cause cancers of the colon, rectum, stomach, esophagus, kidney, larynx, and pharynx. An associated disease is asbestosis, a scarring of the lungs that progressively robs the victim of breath and sometimes of life. The effects of asbestos are pervasive even among people who don't work directly with the stuff: Research has shown that among the immediate families of asbestos workers, 1 percent of the family members died from an asbestos-related cancer, and one-third were afflicted with asbestosis.

The number of airborne asbestos particles in your schools, of course, is considerably smaller than what asbestos workers once were exposed to on a daily basis. But that doesn't reduce the overall risk—nor does it absolve you from the responsibility of dealing with the problem. Dr. Edwin C. Holstein, clinical assistant professor at the Environmental Science Laboratories of Mount Sinai School of Medicine in New York, explains: "All scientific evidence suggests there is no safe dose of asbestos. Any exposure, no matter how small, will increase the risk of cancer." Dr. Holstein and his colleagues at Mt. Sinai, the preeminent U.S. institution for medical research on asbestos, have concluded the substance is a public health problem that must be remedied as soon as possible.

"For any one person, the risk is low," says Dr. Holstein. "But for a school system, sheer numbers tell you that you have a problem. It's like the half-full/half-empty glass of water," he notes. "The optimists say the health risks of asbestos are tiny; the pessimists—including public health authorities—know some people are going to die from exposure to asbestos."

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And they'd like to see schools help prevent those deaths—no matter how few—by removing the risk.

It could be many years before we're able to draw conclusions on the effects of asbestos exposure in schools. The risks vary, of course, depending on individual people, the condition and location of asbestos materials in school buildings, and the amount and duration of exposure. The appalling truth, according to Dr. Holstein: "It's false reassurance if no one is sick [now], because they might be sick by 1990 and dead by 1992." But despite the tendency for people to personalize this kind of highly emotional, life-and-death issue, he says, school board members and administrators should assure concerned parents that "there's no need to get hysterical; it's a problem that can be remedied."

The remedy

At the very least, you already should have complied with all federal regulations pertaining to asbestos in schools. Three sets of regulations have been issued. First, Department of Education (ED) regulations specify *how* states must distribute information on asbestos to schools, according to the Asbestos School Hazard Detection and Control Act of 1980. Second, Occupational Safety and Health Administration regulations detail procedures for the protection and decontamination of asbestos abatement workers and for measuring airborne asbestos. Schools engaged in containing and removing the friable fibers must comply with these procedures. Third—and more to the point—are the E.P.A. regulations: As of June 1983, you're responsible for having met the requirements of Section 6(a) of the Toxic Substances Control Act (T.S.C.A.), which were specified in "Friable Asbestos-Containing Materials in Schools; Identification and Notification Rule" (47 *Federal Register* 23360, May 27, 1982).

E.P.A. issued this rule because its Technical Assistance Program (TAP), launched in 1978, had limited success in getting schools to comply voluntarily with previous E.P.A. inspection and record-keeping guidelines. The T.S.C.A. rule applies to all elementary and secondary schools, except those built after December 31, 1978, and those that can document they already have checked buildings and either found no friable asbestos or satisfactorily dealt with the material. Schools were given one year to comply with the requirements.

(1) *Inspection.* You must inspect each building for friable materials.

(2) *Sampling.* If you find friable materials, you must take samples, following E.P.A. instructions.

(3) *Analysis.* A qualified laboratory must perform an analysis using polarized light microscopy, a sophisticated (and expensive) technique for measuring the amount of asbestos fibers in asbestos-containing materials.

(4) *Warnings and notifications.* You must post warning signs wherever you find friable asbestos-containing materials in schools—and send written notification to the staff and the P.T.O. of each school involved, specifying where the hazardous materials are located.

Note that the T.S.C.A. rule does *not* require you to remove, cover, or encapsulate the asbestos; it's up to individual school systems to decide how to dispense with the offending material. The rule also doesn't require you to report your findings to E.P.A., although you *do* need to keep complete and detailed records documenting your compliance with the T.S.C.A. rule.

Once you've found asbestos in your schools, you have a choice of four acceptable ways to resolve the problem: (1) removing the material altogether; (2) enclosing the areas containing asbestos to prevent fibers from escaping; (3) encapsulating completely the area that contains or is coated with asbestos; and (4) observing and maintaining the affected surfaces to avoid any damage that could cause the release of more fibers. Experts say removal is the only surefire way to rid your schools finally and completely of asbestos hazards. But the removal process itself is an extremely dangerous undertaking; a faulty or incomplete removal job could present even greater health hazards to your students and staff, as well as to asbestos abatement workers. So before you contract for any asbestos containment or removal work, refer to the technical advice presented in the E.P.A. document, "Guidance for Controlling Friable Asbestos-Containing Materials in Buildings," published in March 1983. And even though other measures might work in some schools, many school systems have found that public pressure is brought to bear on the school board to remove asbestos completely—regardless of expense.

The cost

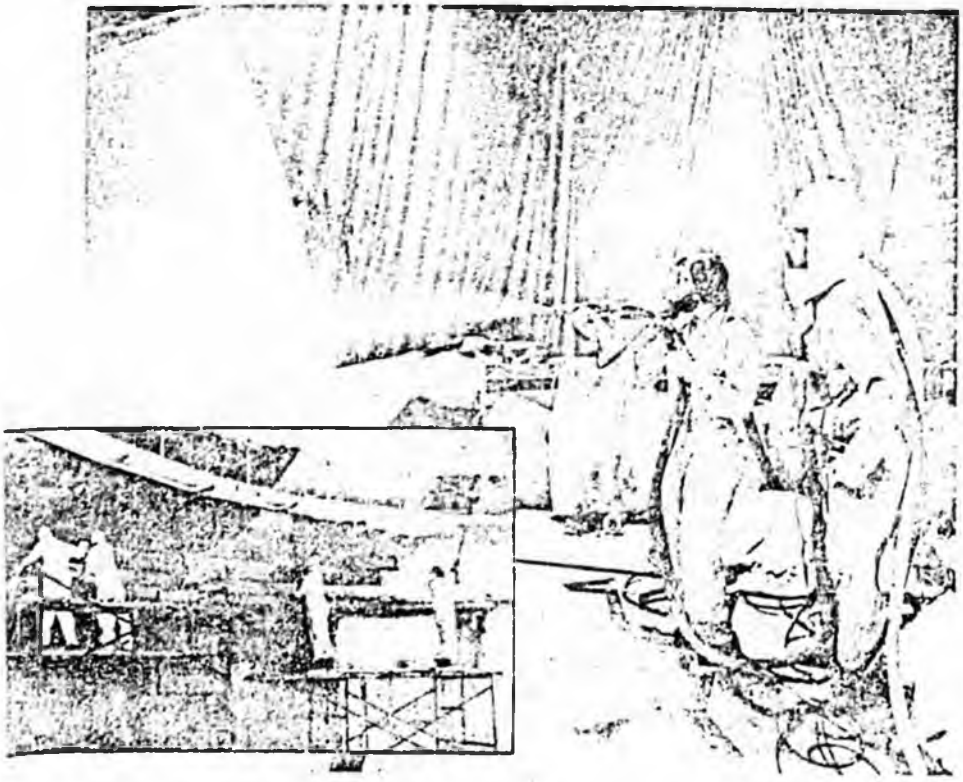
E.P.A. estimates that as many as 14,000 U.S. schools might contain dangerous friable material composed of more than 1 percent asbestos—which means more than 3 million students and 250,000 staff members are at risk right now. The agency estimates the total cost of asbestos abatement at $1.4 billion nationwide, or $100,000 per school building. Some school systems already have spent millions. According to Dwight Brown, formerly asbestos coordinator for E.P.A. Region IV in Atlanta, schools can expect to pay between $3 and $10 per square foot for asbestos removal—and the price can go as high as $28 per square foot. What drives the cost so high is the need for sophisticated analysis equipment and clothing to protect workers, Brown explains. Analysis of asbestos samples using an electron microscope goes for between $200 and $500 per sample—and you might need scores of samples to determine the hazard level in only one school.

Without a doubt, asbestos is a financial burden for school systems. At President Reagan's behest, Congress repeatedly has refused to provide funds to accompany the federal regulations it requires schools to obey. Part of the Asbestos School Hazard Detection and Control Act of 1980, for example, called for $700 million in grants and interest-free loans to help state and local education agencies identify and correct asbestos hazards in schools; no appropriations were made. Don't count on E.P.A. for changes in the funding situation, either: Officials there say they have no plans to request or provide money for school systems to deal with asbestos problems.

School systems in several states are fortunate to be reimbursed for expenses they incur in removing asbestos. In the past four years, for example, New York has given more than $12 million in grants and state building aid to help local asbestos removal programs. And in the same period, Florida has appropriated $10.5 million for asbestos removal. These are notable exceptions, however. Most school leaders have to dig into general operating budgets to come up with the funds. Such cost considerations, along with federal regulations that are at once technical and vague, have caused many school leaders to avoid the issue of asbestos altogether. But ducking the issue can only bring harm to your schools.

The consequences

Forewarned is forearmed: E.P.A. is stepping up its monitoring of schools' compliance. Although the agency has no conclusive statistics, E.P.A. officials say the rate of noncompliance by schools is high. Proferred proof: An E.P.A. staff



Space-age procedures are needed to eliminate asbestos from schools. Here, abatement workers wet down and remove the substance from a school gymnasium.

memorandum in August 1983 indicated that 80 percent of a sample of 167 schools were in violation of the E.P.A. inspection rule. And, according to E.P.A.'s compliance monitoring office, inspections conducted in 275 school systems since June 1983 show that 190—nearly 70 percent—had not complied with E.P.A. regulations on obtaining asbestos samples, notifying parents, keeping records, and so forth. The 275 school systems inspected include approximately 80 of the 100 largest school systems in the U.S.

Now something is being done about that kind of slackness: In fact, E.P.A. inspectors could come knocking on your door any day, asking to see your records. You could be cited for violations of T.S.C.A. on these grounds: failure to inspect schools; failure to sample friable materials; failure to analyze asbestos samples; failure to notify parents and staff; and failure to keep records.

Depending on the number and type of violations, your schools could be fined as much as *$25,000 per day per violation*—an amount that quickly could snowball into an outrageous sum. Here's how the fine system works: If E.P.A. finds you haven't complied with T.S.C.A., your central office will be given 30 days to certify compliance in writing. If certification isn't received within 30 days, E.P.A. files a civil complaint against your schools. Agency officials then will ask to see a compliance schedule as a demonstration of your good intentions. If these negotiations fail—if you don't cooperate—E.P.A. will attempt to collect the fines it has levied against your schools.

If you think the E.P.A. is making idle threats, think again: Under the direction of old/new Director William Ruckleshaus, E.P.A. has become more vigilant and is going after asbestos in schools as one of its Top Ten priority items. E.P.A.'s design in these aggressive actions is to force schools into compliance through pressure from the community, according to Connie DeRocco, a specialist in E.P.A.'s asbestos enforcement program. It stands to reason that school board members and administrators would tend to choose compliance over the chance that a concerned parent might blow the whistle on the schools' negligence.

Other signs that E.P.A. means business: The agency is doubling its monitoring staff for fiscal year 1985. And then there's the Philadelphia case: E.P.A. has threatened to set a precedent by filing a civil complaint for noncompliance against the Philadelphia schools, to the tune of $378,000 in fines ($5,000 for each of 63 nursery and day care centers housed in buildings leased by the school system that weren't inspected for asbestos). School officials are trying to head off the complaint by inspecting the buildings; E.P.A. officials say they are willing to negotiate as long as the Philadelphia schools can show they mean to comply fully with E.P.A. regulations.

But public pressure also is mounting on E.P.A. itself to issue more stringent and specific regulations on asbestos in schools. In response to a petition filed last November by the Service Employees International Union—prompted by the asbestos-related death of a school custodian—E.P.A.'s Ruckleshaus announced in late February that the agency will set formal standards for schools to remove or seal crumbling asbestos materials.

The legal ramifications

Before you make any decisions about asbestos in your schools, consult your school attorney. Advice from Dwight Brown, who has conducted seminars on asbestos in schools for the past five years: Devise a three-part legal action plan with your attorney concerning cost recovery, tort claim defense, and the process of administering contracts for removing and disposing of asbestos.

One legal question on everyone's mind: Can you recover costs of removing asbestos from the manufacturers of the material? "The Attorney General's Asbestos Liability Report to the Congress," published in September 1981, says schools should have a good chance of recovery in court. The bankruptcy last year of a major asbestos producer, Johns Manville Co., cast a pallor over what some school attorneys had held were excellent chances to recover costs. But in February, Lexington County School District No. 5 in South Carolina brought suit against U.S. Gypsum Co. to recover approximately $300,000—the cost of removing asbestos from Irmo High School. (The potentially precedent-setting case was about to come to trial as the JOURNAL went to press.) The school system is being represented by Daniel A. Speights of Hampton, S.C. Speights anticipates having filed as many as 30 asbestos-related lawsuits against U.S. Gypsum Co., National Gypsum Co., and W.R. Grace & Co. by July on behalf of school systems in Florida, Alabama, Mississippi, New Hampshire, and other states. He says these cases stand a "good chance" of winning. The Lexington suit, then, could open the floodgates for thousands of lawsuits against asbestos manufacturers.

Other legal issues you should be aware

Asbestos-control funds sought from legislatures

The Environmental Protection Agency is threatening to require schools to eliminate asbestos or face closure.

In autumn 1982, the U.S. House of Representatives voted to appropriate $50 million to provide school districts with interest-free loans to help defray the cost of removing or controlling asbestos in school buildings. But the measure, authorized under the Asbestos School Hazard Detection and Control Act that was passed in 1980 but never funded, failed to win the support of the Senate. When a conference committee also decided against asbestos-control funds, the chances that Washington would provide money for removal became remote.

The defeat of the funding measure is likely to mean that state legislatures will feel increased pressure from school officials to come up with asbestos-control funds. Some states — New York and Alabama, for example — already have provided such funds. Alabama uses a $75-million fund drawn from oil and gas revenues. In Mississippi, state education officials planned to go to the Legislature to ask for funds to offset the estimated $20 million it will cost to remove asbestos from schools. schools.

The continued absence of federal funding comes at a time when public pressure to deal with asbestos in the schools is increasing in many areas, in part because the Environmental Protection Agency may now issue a press release announcing which schools have not met the requirements of its regulation. Under the EPA regulation, all public and private schools were required to inspect for friable (crumbling) asbestos by June 28, 1983. If they found asbestos but took no action, the schools were required to notify parents and staff members. Although there is no federal requirement that asbestos be removed from the schools, the belief was that knowledge of its presence would generate enough public pressure to force action.

What this strategy of the EPA did not take into account, however, is that many school districts lack the money to pay for the often costly abatement procedures, and would instead simply fail to notify anyone of the presence of crumbling asbestos. As of last fall, an EPA survey outlined in an internal memorandum found that about 66 percent of all schools had not complied with some component of the regulation. The most common violation, the survey found, was failure to notify.

Although more school districts are belatedly complying with the regulation, according to EPA officials, the problem of funding remains serious for some. A report prepared for the Senate Appropriations Committee by the U.S. Department of Education estimated the cost of removing asbestos from schools nationwide at $1.4 billion. Under the loan program authorized in the 1980 legislation, the federal share of this would be $700 million. Acknowledging that there are no firm data to support this estimate, the report places the number of schools with an asbestos problem at 14,000. The estimated cost of removal is $100,000 per school, according to the draft report. That figure is dramatically higher in some areas: Jackson, Miss., faces a $6-million bill, and in Philadelphia school officials estimated the cost at $17 million. Others, of course, will require much less money because their asbestos situation is less dire.

A growing concern that they will be held liable for any asbestos-related illness — cancer, for example — contracted by students or staff is also prompting some school officials to step up the removal process and accelerate their quest for outside funding. Lawyers who handle asbestos litigation argue that, although no school suit of this type has been filed, school officials who do not remove a substance known to be hazardous will indeed be legally liable.

Some school districts — about 35 as of last fall — have filed suits of their own against asbestos manufacturers. Should one of these cases be decided in favor of a school district, more suits may follow, and favorable rulings would allow districts to recoup the cost of removal. Until then — barring the possibility of federal funding — districts have few places to turn and state legislators may find themselves the recipients of pleas from school officials.

— Susan Walton

States help employees buy out failing firms

Since the mid-1970s, more than 6,000 businesses across the nation have become, wholly or in part, owned by their employees. In most cases, employees have simply purchased stock through Employee Stock Ownership Plans (ESOPs), and there has been little state involvement.

When the number of plant shutdowns and relocations rose during the recent recession, however, legislators in several states sought ways to encourage "buyouts" of ailing firms by employees to save their jobs.

At least 12 states — California, Delaware, Illinois, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Oregon, and West Virginia — have laws concerning worker ownership. Although some of these laws simply direct that state agencies study the issue, others, such as in California, Illinois, Michigan, and New York, have broader provisions that provide venture capital, technical assistance, and other help to workers attempting a buyout.

Maryland and Wisconsin also have strong legislation pending, while an attempt to add to New Jersey's law was vetoed last year by Governor Thomas H. Kean.

Essentially, there are two types of employee buyouts. The first is the most widely publicized — but least frequent — when, in a last-ditch attempt, employees try to save their jobs by buying a failing or unprofitable plant in danger of being closed. Weirton Steel in West Virginia is a recent example. This kind of buyout, however, constitutes "only about 1 percent of the total," according to Corey Rosen, director of the Center for Employee Ownership in Washington, D.C.

Far more common are ESOPs. In a typical plan, workers are simply offered company stock at market value rates.

Workers of firms that offer ESOPs typically own from 15 to 30 percent of the stock, although often the stock offered is nonvoting. ESOPs are encouraged by various federal tax incentives, and little state legislation has been enacted.

Instead, some state lawmakers have designed their efforts specifically to help employees purchase failing firms, particularly in already hard-hit urban areas. For example, in Illinois, Democratic state Representative Wyvetter H. Younge, hoping to "subsidize employment rather than unemployment," sponsored a bill that passed and was sign-

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Asbestos: Still a danger in schools

by Elaine S. Knapp

For Phyllis Adams and Ann Gibbs the last year has been a frustrating one—trying to get their local school board to remove asbestos from the school their children attend.

"It's frustrating, our children are being poisoned and there's not anything we can do," Mrs. Gibbs declared. What the Lexington, Kentucky, housewife has done is work through the PTA, form a group of concerned parents, go door-to-door telling parents of the danger, gather hundreds of signatures on petitions, read volumes on asbestos, call and write federal agencies and confront the school administrator and board.

After a year of parental pressure being applied and at least a decade after school authorities knew of the asbestos hazard, Mrs. Gibbs said, "We don't think anything will be done until the government makes them (the school board)." School authorities maintain the asbestos will be cleaned up if money is available for renovation next year.

Ironically, the major government effort to control asbestos lies in Mrs. Gibbs and others like her. Telling parents and teachers that their school has asbestos and relying on them to pressure local action is the heart of the U.S. Environmental Protection Agency's (EPA) strategy to rectify the nationwide problem of asbestos in schools.

No effective federal program exists to protect schoolchildren from asbestos, state efforts vary widely and local schools often ignore the danger due to the cost of cleanup.

Asbestos dangers

Any exposure to asbestos involves some health risk, according to the Congress, the EPA and the scientific community. Children are especially vulnerable, according to the EPA guidance document on asbestos sent to schools. Their remaining life expectancy provides the 20 to 40 years it takes for disabling and fatal asbestos-related diseases to develop. Large numbers of children may be exposed in a contaminated school and exposure is continuous during the school year. Children are active and breathe more frequently than adults, possibly inhaling more asbestos fibers. Smoking can increase the cancer risk due to asbestos exposure.

Most hazardous is friable asbestos that can be crumbled. It sends deadly fibers into the air which may lodge in the lungs indefinitely, according to EPA's guidance document. Asbestos workers often develop a chronic and debilitating lung disease called asbestosis. Lower and shorter exposure can result in death many years later.

Asbestos diseases include: 1) asbestosis, a disease in which asbestos clogs the lungs, 2) pleural calcification, a deposit of calcium salts in the lung lining, 3) malignant tumors of the lung, 4) mesothelioma, a rapid and fatal cancer of the lung and 5) intestinal and uterine cancers.

Hot potato

Asbestos in the schools has been a "hot potato" tossed among various levels of government and federal agencies. One reason is that removal of asbestos can be quite expensive, especially if large areas of buildings are affected. Funding is basically up to local schools as is asbestos detection and control. No federal funds are available and state aid varies.

The U.S. EPA requires schools to inspect for asbestos and notify parents and [school] employees of asbestos hazards. The EPA doesn't require removal or abatement. "The theory is that PTAs and employees would pressure local districts to take remedial action," said Terrell Hunt, assistant to EPA Deputy Administrator Alvin Alm.

However, a recent internal EPA report found that many schools did not meet EPA's June 1983 deadline for asbestos detection, record keeping and notification.

No federal funds

Federal funds of $172 million authorized by the Asbestos School Hazard Detection and Control Act of 1980 were never appropriated. Grants were promised for schools to identify asbestos hazards and loans for mitigation of asbestos hazards. But funds were never requested by the Department of Education, reported John Bennett, aide to U.S. Representative George Miller, D-Calif., who sponsored the act. In 1983, a $50 million recommendation by the House was omitted in a House-Senate conference.

The U.S. Department of Education had a task force which set standards for state grants in 1980, according to W. Stanley Kruger, deputy director for state and local programs. However, when the program wasn't funded, the department "deferred to EPA," Kruger said.

Under pressure from Congress, the department reactivated its task force in October 1983 and is gathering information on asbestos to send to chief state school officials, Kruger said. The department also reactivated its requirement that states file plans for asbestos in the schools' programs and report on their progress every six months. All but two states have filed.

EPA's program

The federal effort has largely been a requirement by the EPA that schools inspect for asbestos hazards, sample and analyze material to determine if asbestos is present, keep records of the inspection, post notices, and notify parents and employees if asbestos is found. Although schools were to comply with the rule by June 1983, the EPA doesn't know how many did. It does not require schools to report to it and must send federal inspectors to schools to check their records. EPA staff said when the EPA regulation was written that the administration op-

This is a reprint of a portion of an article appearing in State Government News, *March 1984. It is authored by and printed with permission of Elaine S. Knapp, its editor.*

posed imposing a data reporting requirement. The EPA recently doubled its field force of inspectors by adding 16 people through a contract with the American Association of Retired Persons, Hunt said. These include retired architects and engineers. Primarily, EPA staff look at school records and physically inspect some schools. However, there are not enough inspectors to cover but a small portion of the nation's schools.

In providing technical advice, EPA can help schools determine the best strategy for evaluating the risk and responding to asbestos, Hunt said. He said that anything short of removal is considered a short-term solution.

Connie Derocco, environmental protection specialist with EPA, said that out of 1,527 schools inspected in 468 districts, some 60 percent did not comply with EPA rules. Most failed to notify and warn PTAs and employees of asbestos materials [manufacturers]. Schools know they will be pressured once the word is out, and they are hesitant to deal with the asbestos problem, Derocco explained. After receiving a notice of noncompliance, schools have 30 days to act before the EPA files a civil complaint.

Labor union concern

An estimated 3.24 million schoolchildren and 648,000 school employees are potentially exposed to asbestos, according to Kitty Conlan, research analyst with the Service Employees International Union (SEIU).

The SEIU is lobbying Congress to fund the 1980 act for grants and loans to schools. Schools don't have the money to clean up on their own, Conlan said. "It's a nationwide problem which affects the health of millions of people."

SEIU is suing the EPA to require schools to clean up flaking asbestos. "Schools say if EPA thinks asbestos is so bad, then EPA would require them to get rid of it," Conlan commented.

EPA does give schools good technical advice on how to get rid of asbestos, Conlan noted. But some schools accept the lowest bid rather than follow EPA guidelines. If the cleanup is not done right, the asbestos danger can be worsened.

Conlan said SEIU doesn't think suing asbestos' manufacturers is worthwhile, citing lack of action on suits filed by asbestos workers. "We're hesitant to have our members litigate themselves to death," she said.

Conlan added that school districts can also be held responsible for asbestos. "They can face a big liability," she commented.

Lawsuits filed

A number of lawsuits on behalf of school boards and building owners in Kentucky, Mississippi, New Hampshire, Florida, South Carolina, Alabama and Tennessee have been filed by a South Carolina law firm.

Daniel Speights (a school board attorney) noted that legal theories available to school boards against manufacturers of asbestos include: contract (the products were not fit for the use intended), negligence (the manufacturers were negligent in informing users of the risks associated with the products), strict liability (manufacturers should be strictly liable for failing to warn of asbestos hazards), and restitution (manufacturers have a duty to abate the hazard).

A civil action filed on behalf of the Barnwell, South Carolina, school district notes that school district and public officials could be held liable for failing to abate a health hazard.

A September 1981 report by the U.S. attorney general to Congress recommended that school authorities seek to recover asbestos abatement expenses from asbestos manufacturers. The report said federal litigation would be ineffective unless Congress imposed liability on asbestos manufacturers.

Asbestos manufacturers are being sued by at least 20,000 people on the grounds that the companies knew of asbestos hazards and covered them up, according to a September article in the *National Journal*.

A 1983 report from the Rand Institute says that asbestos litigation and compensation has cost an estimated $1 billion over the past decade. Only 37 cents of every dollar went for actual compensation to plaintiffs. Estimates of the number of deaths due to asbestos over the next 30 years range from 74,000 to 265,000.

What you should do about asbestos in your school

Given current asbestos rules and regulations, PTAs should check on the following:

1. Was each school in your district inspected for friable asbestos? If not, request this action immediately.
2. Was an analysis of asbestos samples, using polarized light microscopy, conducted?
3. Are records of the asbestos inspection on file in the school district?
4. Does the PTA have a copy of the report in its records?

In schools where asbestos was found, has the school complied with the following:

1. Did the school district notify the children's parents, either directly or through the PTA?
2. Were school employees notified of the location of the materials?
3. Did the school post a standard form in administrative and custodial areas?
4. Are measures being taken, if not already completed, to remove asbestos in the school?
5. Did the school district provide maintenance and custodial employees with instructions for reducing exposure to asbestos?

If asbestos was found in your school, but corrective measures are not being taken, the following steps should be pursued:

1. The PTA should work with the school to affect removal or abatement. Invite parents, teachers, employees of the building, the school principal, and the superintendent to a PTA meeting. Request information about the degree of the asbestos problem and what plans are being developed for cleanup.

2. If plans are not under way or seem unsatisfactory, contact the school board to inform it of your concern. If informal discussions do not produce results, get the issue on the agenda of the next school board meeting. Be prepared to provide the facts, including the inspection reports and the cost of abatement, to school board members.

3. Meanwhile, inform your state legislature and the U.S. Congress about the problems and the degree of difficulty there is in terms of cleanup.

4. If the school board is unable or unwilling to ameliorate the problem, one resort would be a lawsuit. Be sure that you have tried every alternative before taking this step.

35 U.S. School Boards Sue to Force Manufacturers to Remove Asbestos

By JAMES BARRON

With the Environmental Protection Agency stepping up its campaign against asbestos in schools, more than 35 school boards around the nation have filed lawsuits to get asbestos manufacturers to pay for removing the potentially hazardous material from their buildings.

The agency says 62 percent of the school districts it has inspected violate some of the Federal regulations that require local school officials to inspect and report on asbestos. Alvin Alm, Deputy Administrator of the E.P.A., said the figure dropped as low as 50 percent earlier in the year but climbed recently as the inspections continued.

To improve the compliance rate, the environmental agency has proposed fines of more than $300,000 against 16 school districts where Federal inspectors found problems.

Four of the school districts fined were in New Jersey: Brick Township, South Orange, Springfield Township and Dunellen. The largest fine was $102,000 against the Waterbury public schools in Connecticut. There, the agency said it had found that 16 of 26 schools contained asbestos that could become airborne.

Some Call E.P.A. Rules Vague

Some local school officials say the agency's rules are vague and subjective and its inspectors interpret them arbitrarily. But others have turned to the courts because of the high cost of removing asbestos, more than $100,000 a school by some estimates.

One case in South Carolina was settled last month when U.S. Gypsum agreed to pay $675,000 to the school district in Lexington County. One in Pennsylvania may be used as the basis for a suit that would consolidate all the claims against manufacturers by school boards around the country.

Asbestos was widely used as fireproofing insulation between World War II and the late 1970's. It has since been found to pose a threat of a variety of serious diseases, including mesothelioma, a cancer of the lining of the lungs that is often fatal.

The E.P.A. says it cannot estimate how many children face possible future health problems from attending classes in schools containing asbestos or how much exposure causes a health hazard. The National Education Association, which maintains that children are more susceptible to asbestos-related diseases than adults, says there are asbestos problems in 14,000 schools. The teachers' union has threatened to make asbestos removal a bargaining issue this year.

Under the Federal rules, more than 121,000 public and private schools with more than 50 million pupils are required to notify parents and school employees if asbestos is found by inspectors. In most cases, there are two types of asbestos in schools: asbestos in ceiling insulation and asbestos wrapping on plumbing and heating equipment.

The environmental agency's inspectors are supposed to check for asbestos that crumbles or can be pulverized at a touch, but they may also cite school districts for failing to keep detailed records on their own inspections.

"The unsettling thing is I'm afraid that is sidetracking the E.P.A.'s attention from the real issue, which is what's hazardous," said William Anderson, a lawyer who represents the National Association of School Boards. "It's also creating an adversarial situation. The E.P.A. is making enemies of many school districts as a result of what the schools see as nit-picking and unfair enforcement."

The Syracuse public schools complied with New York state regulations before the Federal environmental inspectors arrived. Ernest Rookie, the system's facilities supervisor, said the Federal inspectors questioned whether there was asbestos in an auditorium ceiling at Fowler High School.

"We had already taken samples in nine different spots," he said. "They were proved to be not asbestos. The E.P.A. came through and demanded a lab analysis. It cost $450, and we were sure that stuff wasn't asbestos."

Fine Is Called 'Unreasonable'

In Waterbury, Thomas G. Parisot, an assistant corporation counsel, called the proposed fine "unreasonable" and questioned how the agency had determined it. Long before the Federal inspectors showed up, he said, Waterbury made plans to have the asbestos removed.

"The E.P.A. inspected only four schools before it lowered the boom," he said. "They were not really familiar with the makeup of our school system when they issued their complaint. We say any asbestos-containing material is limited in comparison to other districts. We don't have any spray-on beam insulation, wall insulation, or the kinds of materials that are a great deal more friable."

He said samples taken before the E.P.A. inspection "indicated there was no exposure problem for airborne concentrations."

Many school boards are divided on how to proceed with the suits, stalled since Federal District Judge James M. Kelly ruled in Philadelphia that all the cases should be combined and tried there.

After lawyers representing many of the other districts with pending cases protested, he scheduled a hearing on whether to go ahead with the merged legal actions. The case before him originally concerned only the schools in Lancaster, Pa., which had sued the Lake Asbestos Company, a Canadian company, among others.

"To require thousands of lawsuits to be tried in one forum means that each individual school district will be lost in the mass," said Daniel Speights, a Hampton, S.C., lawyer handling more than a dozen cases. "Historically, parties in a class action do not get the amount in damages that they would get if they tried their cases separately. Many of them could file locally and try the case in a year or less."

David Berger, one of the lawyers who represented the Lancaster districts when the case began, said individual trials would prove "costly, repetitive and duplicative."

"If everyone operates independently," he said, "that might make it impossible for anyone to recover. There is no way this industry could withstand $4 billion or $5 billion in judgments relating to school claims, which is what would happen if we used the tremendously ineffective case-by-case basis."

Ruckelshaus En:

By PHILIP SHABECOFF

Special to The New York Times

WASHINGTON, May 19 — One year after his return as Administrator of the Environmental Protection Agency, William D. Ruckelshaus is widely credited with restoring morale, stability, purpose and credibility to an agency he found in a state of chaos.

But his critics, including members of Congress and environmentalists, charge that he has failed in leadership on such important environmental issues as emissions into the air of sulfur and nitrogen oxides that fall in particles called acid rain, killing aquatic life and threatening forests; that he is seeking to weaken environmental regulation by weighing risks to health against other social values: that he is serving as a benign front for what the critics call the anti-environmental policies of the Reagan Administration.

In an interview in his office overlooking the Potomac, Mr. Ruckelshaus denied that the Administration was anti-environment.

"It is a fair criticism of this Administration that the environment is not one of its high priorities — it has not been a high priority of the President in his career," he said. But he added that "this Administration has much more sympathy for the environment than the Nixon Administration," though many major environmental laws were passed in that Administration's tenure. IN the

Bartlett calendar approved

By ANDREW PERALA
Daily News reporter

The Anchorage School Board unanimously approved an extended summer vacation for students at Bartlett High School next year to give contractors time to remove asbestos from campus buildings.

Representatives of the school's students, teachers, parents and staff had supported the new school calendar, which will also extend the school day by 90 minutes beginning Jan. 21, 1985.

Under the plan, students at Bartlett will be out of school from April 26 to Oct. 15, 1985. The long summer break will allow contractors to remove asbestos insulation from inside the school building.

In a separate action, the board approved a $14.8 million contract to Vertecs Corporation for removal of the asbestos.

Of that amount, $13.4 million will be for the base contract and $1.3 million will be reserved as a contingency fund.

The contingency fund, said district superintendant Gene Davis, will cover unforeseen problems encountered during the 150-day asbestos removal project.

"It has not even been determined how many lights will have to be removed" from the school's ceilings, Davis said.

Removal of the asbestos has been classified as an emergency and the state Department of Education ruled

See Page C-3, BARTLETT

Bartlett

Continued from Page C-1

recently that the district can alter the school calendar.

Any new asbestos-removal expenses over $20,000 will require approval of the board. Amounts under $20,000 will be approved at the discretion of the superintendant, Davis said.

The 5½-month Bartlett summer vacation won't come without a price, however. In order for students to get the equivalent of 162 days of classroom instruction, the class day will be lengthened by an hour and a half. Students will start school at 7:30 a.m. as usual, but will not be released from classes until 3:30 p.m.

The extra-long summer break aroused the most concern from the speakers before the School Board.

"Our one concern is that students remain active" during the long break, said Karla Josephson, who spoke on behalf of the high school's staff. "Most students do like the idea of a five-and-a-half month summer," said student representative Brian Schmidt. The calendar plan represents a better solution than attending school on Saturdays or double-shifting with another school, he said.

In conjunction with approving the new calendar, the board also approved spending an additional $231,432 in the spring semester of this school year to accommodate the extra costs of changing the school calendar.

About $98,000 will go toward the expected added costs of school buses the district will have to pay a bus contractor. And $78,000 will be allotted to local moving companies to move the hundreds of student desks and other furniture into the school's gymnasium.

News Miner
2/1/84

EPA: schools ignore law about asbestos warnings

WASHINGTON (AP)—Local school officials, worried about their budgets or about "panic and hysteria," are widely ignoring a federal law requiring parents to be notified about dangerous asbestos in their school buildings, a government study says.

The study by the Environmental Protection Agency said that study said.

In many cases, the study said, school officials did not want to notify parents because of the money the school district would have to spend if forced to clean up the asbestos hazard.

School officials "are reluctant to notify parents because they believe this will result in a redirection of limited operating funds and-or create unnecessary panic and hysteria," the study said.

But whatever the reason, the EPA study added, it is undermining the program to get rid of hazards from asbestos that face millions of schoolchildren.

"The success or failure of the asbestos in schools rule, which relies heavily upon public involvement, is the degree to which information is communicated to the public," the study said. "Poor public awareness has resulted in only slight activity on the part of the parent groups in schools."

The finding are included in an internal program review requested by EPA Deputy Administrator Al Alm and completed in December. A copy was obtained by The Associated Press.

The study involves asbestos insulation that once was widely used in schools and other public buildings. Health officials now say that some types of asbestos can flake into microscopic particles that can be inhaled, causing lung cancer or other lung diseases. There is no known safe exposure level.

Under federal law, school officials are required to inspect their buildings for hazardous asbestos and to notify parents and school employees if it is found. It is then up to the local officials to decide what to do.

The law covers more than 37,000 public, private and parochial school systems with more than 50 million students.

The EPA study was intended to find out how well the program was working. Some of its findings, including the conclusion that two-thirds of the nation's schools are in violation of some part of the law, have been reported earlier.

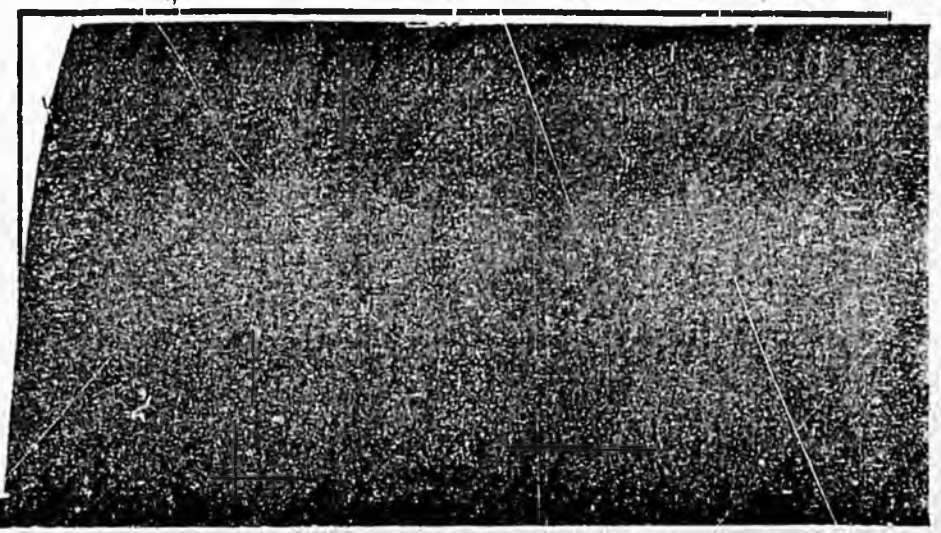
The EPA study did not blame school officials alone. It also found that the agency itself needed to devote more money and people to the program, including more than doubling the EPA inspection program.

"The agency has not issued a high-level statement detailing the risks of exposure to asbestos and the importance of considering various abatement options," the study said. "The regions and the public have not been made fully aware and have received mixed signals on the seriousness of asbestos health hazards."

The congressional author of the asbestos in schools law, Rep. George Miller, D-Calif., focused on those shortcomings in his analysis of the report.

"This document, drafted by EPA's own experts, again confirms the shocking inadequacy of this administration's approach to a threat that endangers the health of millions of school children," Miller said. "It is apparent that at least some officials within EPA are trying to warn their agency about the consequences of the current policies."

Whatever the failings of the agency, however, the study indicated that school officials have not endorsed the program wholeheartedly.



Funding limits asbestos removal

Associated Press

Washington — Local school officials, worried about their budgets or about "panic and hysteria," are widely ignoring a federal law requiring parents to be notified about dangerous asbestos in their school buildings, a government study says.

The study by the Environmental Protection Agency said that of 275 schools inspected by EPA, 190 were found to be violating the federal law on asbestos insulation. Of those 190, the EPA said, 134 had violated the requirement that parents be notified of the excess levels.

"Consequently, we can conclude that the parents of students exposed are in many cases unaware of the existence of such a hazard," the study said.

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Federal funds to help remove asbestos

by Stephen J. Downes 2/9/87
Times Writer

The federal government has offered at least $2.1 million to help remove asbestos at Bartlett High School, a school district official said Wednesday.

And federal dollars will also pay for removing asbestos at Mount Spurr Elementary School, said assistant superintendent Tom Freeman.

Freeman said the federal Department of Education made the offer in a letter received by the district Tuesday, after three months of lobbying by the school district and members of the school board.

The district wanted the federal government to pay a portion of the bill for the schools because they are both on federal land.

About 35 acres of Bartlett is on federal land and technically belongs to the federal government, Freeman said. The other 118 acres have been deeded to the municipality, he said. The district operates the whole school.

Mount Spurr is on Elmendorf Air Force Base. The school district estimates it will cost $80,000 to remove asbestos at the school.

Negotiations between the district and the DOE that might result in even more money being obtained are still continuing. The district is seeking additional funds because cost estimates for Bartlett are increasing, Freeman said.

The $2.1 million represents 39 percent — the federal government's share — of what the district originally believed the Bartlett project would cost: $5.5 million.

"We've informed them that it may be more," Freeman said.

Howard Games, a DOE project engineer in Seattle, said a request for the money would go to DOE offices in Washington as soon as the school district provides a revised estimate of the cost. The estimate could come as early as next week.

Construction firms will be asked to come up with estimated costs of removing asbestos at Bartlett. The firms will also seek a way to complete the work without disrupting the school year, which could mean higher costs.

The federal Environmental Protection Agency has linked exposure to asbestos with lung cancer and other diseases. The Anchorage School Board last year ordered asbestos removed from all district buildings.

The state legislature is now considering a district request for $10 million to remove asbestos from six schools, among them Bartlett and Mount Spurr. Bartlett is the top priority and has by far the most asbestos.

Anchorage lawmakers have already proposed $8.7 million for Anchorage asbestos removal.

DOE representatives will come to Anchorage in the next couple of weeks to advertise for bids on the Mount Spurr project, Freeman said.

The bid specifications will be drawn up by Gobbell, Hays and Pickering, the firm evaluating the asbestos problem for the school district.

Another DOE official, Jim Ishihara, said the federal government is also paying for asbestos removal on other Alaska schools: a $2.2 million project at Reeve Junior and Senior High School in Adak, and a $250,000 project at nine schools in Fairbanks.

5/8/84

Parents, scientists tell EPA to ban asbestos in schools

By BETTY ANNE WILLIAMS
The Associated Press

WASHINGTON — Scientists, union officials and parents urged the Environmental Protection Agency on Monday to require the removal of the carcinogen asbestos from schools and other public buildings.

"Ultimately, what you will do is decide who will live and who will die," said Irving Selikoff, director of the environmental sciences laboratory at Mount Sinai School of Medicine and an authority on the health effects of asbestos.

"We're gazing at children being exposed to asbestos. We're seeing teachers, personnel being exposed. We don't really need any additional research about what can happen. What we need now is controls."

Selikoff and other witnesses testified as the EPA held the first of four hearings on what to do about the asbestos which was used in public building construction and insulation until it was pinpointed as a cancer-causing agent in humans in the late 1970s. Other hearings will be held in Boston, San Francisco and Chicago in June.

The hearings series was planned after the Service Employees International Union petitioned the EPA to issue an asbestos abatement rule which would assure the removal of the substance from schools and other types of public buildings.

William Borwegan, director of occupational safety and health for the union, said the EPA should be prepared to come up with more money and staff to implement a tougher standard and monitor its enforcement.

"At a minimum, the agency should immediately train at least 100 individuals that can act as technical advisers to advise building owners and local school districts on how to evaluate and control asbestos in building hazards," he said.

National Education Association Vice President Keith Geiger estimated that as many as 650,000 teachers and other workers and three million children are exposed to asbestos every school day in 14,000 institutions.

"An emergency exists in our schools. Each day that the asbestos hazard goes unabated, the likelihood increases that there will be more victims," he said.

The EPA believes only 250,000 teachers and other school personnel are at risk but does not quarrel with the other estimates cited by the NEA.

Geiger also called the asbestos problem "a national disaster" and said the federal government must take the lead in arranging for the cleanup.

White House rejects suggestion to cut Social Security benefits

The Associated Press

WASHINGTON — Democrats in Congress criticized Treasury Secretary Donald

Nevertheless, Senate Minority Leader Robert Byrd, D-W.Va., said the Regan com-

untary item," said House Speaker Thomas O'Neill

Del to

alaska women's run 1984

"I made it all the way

On June 12, there wi very special runners amor hundreds of participants ir Alaska Women's Run 1984 months of training with vo coaches, these ten women giving their personal best t money for The Association Retarded Citizens of Anchc They know how much ARC help people with mental ret

Soon, volunteers will be asking you to pledge an amount

School asbestos program failing

By Carol Stevens
USA TODAY

Mary Banscombe hopes to find out today if her sixth-grade son is being exposed to cancer-causing asbestos at his Goffstown, N.H., school.

The suburban Manchester district will get results of an inspection ordered after it was fined 11 days ago for failing to tell parents about possible asbestos dangers.

Meanwhile Banscombe, like many USA parents, is worried: "At this point we don't know what we're dealing with."

Says executive director James Fite of the White Lung Association: "Conditions in the nation's schools are absolutely horrible . . . and getting worse."

The federal Environmental Protection Agency's $24,000 fine against Goffstown was its first at any school.

It's been a decade since EPA outlawed asbestos as a fireproofing agent because of studies linking it to cancer. Yet EPA estimates asbestos is still present in as many as half the USA's 121,000 schools.

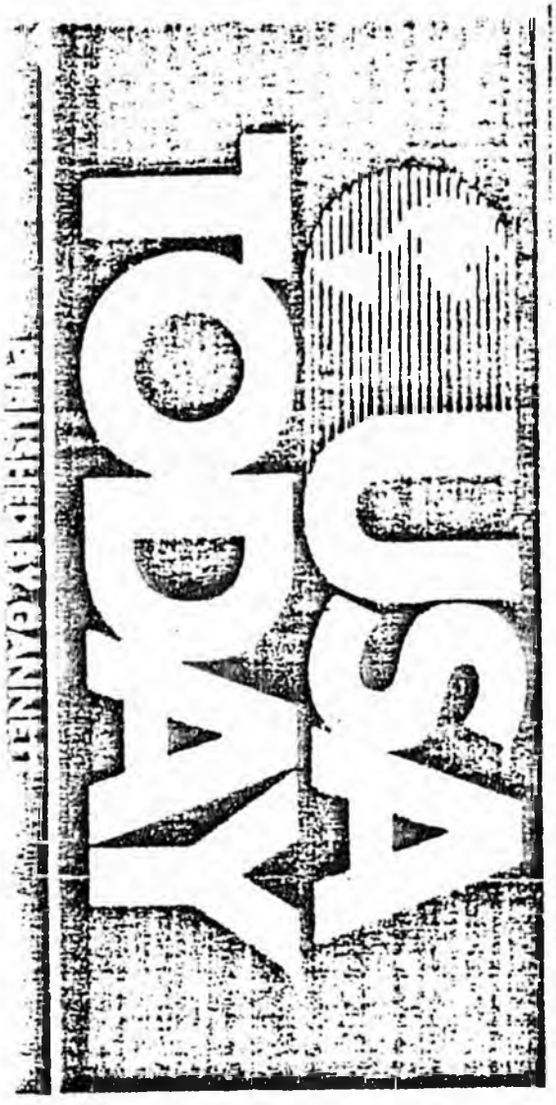
As a result, 3 million to 5 million children in schools built in 1940-60 risk asbestos exposure, says Arnold Fege of the National Congress of Parents and Teachers.

EPA's voluntary cleanup program is partly to blame. Schools had until June 1983 to inspect buildings and tell parents of the asbestos dangers.

Nine months after the federal deadline, EPA says the regulations have failed. Spot checks of 275 school districts found more than 69 percent violating asbestos standards.

Administrators say they can't afford cleanup at $100,000 per school.

FRI./SAT./SUN. MARCH 23-25, 1984



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ASBESTOS TIME-LINE INFO FROM D.E.C.

DRAFT

1. EPA published rules 27 May, 1982 telling school districts (local education agencies) it is their responsibility to inspect, sample and have analyzed for asbestos, their school buildings; requiring that results be posted etc. by 27 May, 1983 (28 June, 1983?) Under TSCA this activity was required <u>once</u>.

2. EPA provided a 2-volume guidance document dated March 1979, to all schools in 1979 and again with the regulations in June 1982 to all school districts and private schools.

   a) These documents are available in the DEC library, and are mailed on request by EPA (10[illegible] more copies on order)

3. EPA provided two films/videos on and . These are available in the Juneau and Anchorage State Libraries. The EPA film can be copied (at least 25 copies have been mailed from Juneau and from Anchorage.)

4. EPA Region X has a staff of 3 and 1 asbestos co-ordinator, the Alaska Operations Office is also used as a resource for providing information etc.

   a) Jim Tozier, Department of Education is working with EPA on this
   b) ADEC does provide information - 2 weeks/year/office <u>no</u> technical knowledge via school sanitation or hazardous waste staff
   c) ADEC issued "Asbestos in Alaska" information sheet April 1983

5. EPA regulations do not require report of findings be submitted, only kept on file and posted if asbestos is present. No reinspection/sampling is required.

   a) EPA prepared inventory forms for use by the school and the district, and mailed them in August 1982 along with a reminder of the availablity of the guidance documents -- sent to districts <u>and</u> private schools.

   b) A number of school districts have "voluntarily" notified EPA of the results of their sampling program.

6. In September of 1982, EPA held workshops in Juneau, Anchorage and Fairbanks for school district representatives on the regulations.

7. In early June 1983, via Department of Education, EPA reminded school districts of the impending "deadline" and requested copies of the inspection/testing reports. (see 5b)

8. EPA plans to inspect (sample ?) representative schools in Juneau/Fairbanks/Anchorage (probably) for compliance.

9. Removal/Encapsulation/Elimination is not required nor was it funded via EPA -- US Department of Education did issue rules related to a grant/loan program -- 34 CFR 230 in 1981.

DRAFT

Points to be made

1. a) DEC has limited staffing the 1-2 weeks/year/office is about all we can tolerate in the information available mode.

   b) No staff is, or can afford to be, trained to provide technical advice about -

      sampling
      health risks] -- 1/2 year
      control

   c) No staff is available to do -

      training] -- 1/2 year
      sampling]

      Q/A] -- 1/2 year
      analyse]

      regulate] -- 1/2 year
      establish guidelines]

2. a) EPA's program and regulations under TSCA can not be delegated to the state, so the part related to schools would result in a double program.

   b) Perhaps Department of Labor and Department of Transportation/Public Facilities could regulate state/local buildings by reference to EPA's rules.

   c) Seems inappropriate for DEC to get involved in what is really an OSHA "world."

3. a) It is important to determine how the $17.0mm will be spent.

   b) It is necessary to evaluate results of testing, recommended "elimination" technique(s) set up and follow priority-setting standards, approve cost-effective projects, before awarding monies. Thus statutes should set up a regulatory scheme; if DEC writes regulations for C&RA to follow in evaluating project, prioritizing it and awarding funds etc., it puts us in an awkward position.

DRAFT

Recommendations:

a) Let EPA finish (and enforce) their inspection sampling of schools.

b) Have Department of Education require and obtain results required by EPA.

c) Instruct Department of Education to award (a single?) contract to evaluate and recommend appropriate "elimination" projects for each school (district) in which asbestos is found.

d) Establish regulations for applying/awarding grants.

e) Instruct DOT/PF (for state buildings) D of L (for local government buildings) to enforce EPA's regulations (inspect/sample) and prepare recommendations for correction.

f) Have Department of Education contract for programs to use (on Learn Alaska) to

1. instruct school principals and local governments in their responsibilities
2. give teachers/students facts about asbestos and health hazards

g) Have one agency responsible for evaluating all projects, awarding grants. Individual contract managers should be:

1. School district supervisors
2. DOT/PF
3. Municipal offical

i) Department of Labor would be most appropriate since the affected buildings are all "work places"
ii) DOT/PF might be appropriate since they are experienced in construction projects
iii) DEC might be appropriate since we already have a system for awarding grants to health-related projects (VSW & water/sewer)

h) Provide personnel to operate the program

One - technical/health person
One - construction techniques person
One - grant auditor
One - public information/field investigator

i) Make grant money "2-year." The program can not be started up and all these funds responsibly awarded in 12 months.

j) Institute a continuous monitoring program for facilities which do not elect to remove asbestos -- posting warnings on "solid asbestos" so future maintenance/renovation does not create health hazards.

Sent to all school districts and private schools

Note: under TAP, in 1979 all schools were supposed to receive

Document 1 of 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 10 1982

THE ADMINISTRATOR

Dear School Administrator:

On May 27, 1982, the Environmental Protection Agency (EPA) published a rule in the Federal Register (47 FR 23360-23389) requiring all public and private elementary and secondary schools in the United States to identify friable asbestos-containing materials, maintain records, and notify employees of the location of the friable materials which contain asbestos. When friable asbestos-containing materials are found, schools must provide the employees with instructions on reducing exposure to asbestos, and notify the school's parent-teacher association.

Since 1979, EPA has operated a Technical Assistance Program (TAP) to help schools identify and correct potential hazards due to asbestos in schools. However, many schools did not respond to EPA's effort under the TAP. EPA is now requiring all schools to identify friable asbestos-containing materials and notify employees and parent-teacher organizations of their presence. These actions must be completed by June 28, 1983.

To assist schools in complying with the rule, we are enclosing a copy of the rule along with copies of "Asbestos-Containing Materials in School Buildings: A Guidance Document, Parts 1 and 2." Should you need a copy of any forms for this rule or other general information, please contact the Industry Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-511, 401 M Streets, S.W., Washington, D.C. 20460. Phone: Toll free, 800-424-9065. In Washington, D.C., call 544-1404. Outside the Continental U.S., call Operator-202-554-1404. If you need technical assistance, please contact the appropriate Regional Asbestos Coordinator listed in the rule on page 23361.

Sincerely,

Douglas G. Bannerman
Acting Director,
Industry Assistance Office

Date

ROUTING AND TRANSMITTAL SLIP

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. ~~[illegible]~~		
2. Andy Christensen		
3.		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

~~Attached~~ are schools in Alaska which were sent the schools Rule package

Also, attached is an address change.

RECEIVED
SEP 13 1982

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Dave Mayer EPA	Phone No.

5041-102

Dave Mayer, EPA, WASH. D.C.
Acting Team Leader for Asbestos

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206