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Past Mortality Based on Asbestosis Incidence

The number of deaths due to asbestosis reported in the Vital Statistics of the United States (vol. II - Mortality, U.S. Dept. of Health and Human Services, National Center for Health Statistics) for the whole nation for the 11 year period 1967-1977 is: 1967(36 deaths), 1968(29), 1969(34), 1970(26), 1971(33), 1972(58), 1973(42), 1974(35), 1975(45), 1976 (54), and 1977 (55). The average number of asbestosis deaths per year for the period 1967-1977 is 41 with a high of 53 in 1972 and a low of 26 in 1970.

If it is known how many die from asbestosis each year then the total yearly asbestos-related deaths can be estimated from major epidemiological studies of asbestos workers. One of the largest such studies is of the 17,800 North American insulation workers (Selikoff et al., 1979a). This group, of which 2271 are now dead is one of the most severely effected by asbestos dusts. The mortality data and estimates of "excess" death due to asbestos is given in Table 11 (see also Table 3b, Study XVII).

Table 11. Mortality Among 17,800 Insulation Workers (Selikoff et al., 1979a)

Cause of death	Expected	Observed(BE)*	Excess
all causes	1659	2271	612
all cancer	320	995	675
mesothelioma	-	175	175
lung cancer	106	486	380
G.I. cancer	59	99	40
other cancer	155	235	80
Asbestosis	-	168	168
Non-infectious Respiratory disease	59	212	153

*BE-Best Estimate

If the asbestosis deaths given in the Vital Statistics are underreported by the same amount as observed by Selikoff et al. (1979, p. 103, Best Estimate (168)/Death Certificate (78) = 2.15), the average number of asbestosis deaths each year during the period 1967 to 1977 is 41x2.15 or 88. Using disease ratios taken from Table 11 (asbestosis/excess cancer, asbestosis/excess respiratory disease), the average annual asbestos-related mortality in the United States for the period 1967 to 1977 is estimated to be 522 deaths, including 354 cancer deaths (Table 12).

Table 12. Average Yearly Mortality due to Asbestos (1967-1977) Based on U.S. Recorded Asbestosis Deaths

Mesothelioma	92
Lung cancer	199
G.I. cancer	21
Other cancer	42
Asbestosis	88
Non-infectious resp. disease	80
Total asbestos-related deaths per year	522

Past Mortality Based on the 1972 Mesothelioma Incidence

It is not possible to obtain accurate mortality data for mesothelioma from the Vital Statistics of the United States for this disease is coded (ICD.8) with a number of other neoplasms under the headings: malignant neoplasms of peritoneum and retroperitoneal tissue (158.0, 158.9) and malignant neoplasms of other and unspecified respiratory organs; pleura (163.0), mediastinum (163.1), and site unspecified (163.9). Also, as pointed out previously, mesothelioma is a difficult disease to diagnose. These difficulties in coding and diagnosis make it necessary that national mortality estimates be made on decisions of mesothelioma review panels such as those described by McDonald (1979), Kannerstein et al. (1979), McDonald and McDonald (1980), and Jones et al. (1980b).

The mesothelioma study of McDonald and McDonald (1980) can be used to estimate the excess asbestos-related mortality. Their data, as described above, indicates that approximately 103 mesothelioma deaths in the United States in 1972 can be attributed to exposure to asbestos. Again, using the mortality data of Selikoff et al. (1979a) listed in Table 11 to calculate disease ratios (mesothelioma/excess other cancers, mesothelioma/asbestosis, mesothelioma/excess respiratory disease), the number of asbestos-related deaths in the United States in 1972 is estimated to be 587 of which 398 are due to cancer (Table 13).

Table 13. Mortality due to Asbestos in 1972 Based on Estimated Mesothelioma Deaths of McDonald and McDonald, 1980

Mesothelioma	103
Lung cancer	224
G.I. cancer	24
Other cancer	47
Asbestosis	99
Non-infectious resp. disease	90
Total asbestos-related deaths in 1972	587

In order to obtain a sense of perspective, it is useful to compare the death estimates obtained above for asbestos-related disease (522 and 587 deaths per year) to mortality from other types of industrial dusts, such as those of silica and coal. The Vital Statistics of the U.S. report that there were 215 silicosis deaths (ICD.8, 515.0) and 92 silicotuberculosis deaths (ICD.8, 010) in 1976. If it is assumed that mortality due to silicosis and asbestosis are equally underreported by a factor of 2.15 (Selikoff et al., 1979a, p. 193) and that the ratio of silicosis to excess non-infectious respiratory disease mortality is the same as the ratio of asbestosis to excess non-infectious respiratory disease, then the silica-related mortality for the United States in 1976 is estimated to total 975 deaths (Table 14).

Table 14. Estimated Mortality in 1976 due to Silica Dust

Silicosis	462
Silicotuberculosis	92
Non-infectious resp. disease	421
Total silica-related deaths in 1976	975

In 1976, there were 879 reported deaths due to anthracosilicosis (ICD.8, 515.1, Vital Statistics of the U.S.). Underreporting and other excess respiratory disease may have also occurred in coal miners who have suffered the "black lung" diseases.

These estimates of past asbestos-related mortality indicate that there will be nowhere near 10,000 deaths per year in the future. Asbestos-related mortality should peak between 1980 and 1985, 35 to 40 years after the large World War II shipyard employment. Linear regression analysis of past mortality (Vital Statistics of the U.S.) due to asbestosis (515.2, males and females, 1967-1977) and "pleural neoplasms" (163.0, males[1], 1968-1977) suggests that there has been an increase in the number of deaths with time. Calculated mortality for various years is given in Table 15. The variance (r^2) of the regression line is 0.49 for asbestosis and 0.31 for "pleural neoplasms." If this apparent increase in mortality is real and continues, then the calculated mortality for asbestosis given in Table 15 predicts that a total of 1337 asbestos-related deaths will occur in the year 2000 (calculation by the method given previously). Hopefully, asbestos-related mortality is now peaking and will soon decline.

[1]/ A significant number of male mesothelioma cases will probably be reported under this code (163.0) thus a trend in this mortality may reflect a trend in total asbestos-related mortality.

Table 15. Calculated mortality based on linear regression analysis of past reported mortality - asbestosis (males + females, 1967-1977) and "pleural neoplasms" (males, 1968-1977) - Vital Statistics of the U.S., 1967-1977.

Year	Asbestosis (males & females)	"Pleural Neoplasms"(males)
1967	27 deaths	184 deaths
1977	52	222
1982	64	241
2000	105	308

In regard to mesothelioma incidence, it is pertinent to note the number of deaths from this disease in the four hospitals of the New York University Medical Center. The reported deaths for the period 1967 to 1976 are (Demopoulos, 1980a): 1967(3 deaths), 1968(2), 1969(3), 1970(4), 1971(1), 1972(2), 1973(1), 1974(3), 1975(4), and 1976(3). No significant trend with time is noted (r^2 = 0.01). Sprayed-on chrysotile asbestos was extensively used in building construction in New York City until recently. Also, chrysotile asbestos emissions from brake linings give measurable fiber counts in the ambient air of the New York City streets. For example, Nicholson et al. (1980) report that 43 of the 89 air samples collected in New York City exceeded 50 ng of chrysotile asbestos per m^3. Samples taken in New York City public schools ranged from 9 to 1950 ng/m^3 with 15 out of 27 samples exceeding 100 ng of chrysotile per m^3. Despite the long presence of chrysotile asbestos in the New York City air, Demopoulos (1980b) found no evidence of an increase in the number of mesotheliona deaths in this city over the past 12 years (1967-1978). Vianna et al. (1981) in a study of malignant mesothelioma in New York State (excluding New York City) found that there was no increase in the incidence of disease from 1973 through 1978.

Asbestos Production

Of the six forms of asbestos, only four have been used to any significant extent in commerce. These are amosite, crocidolite, anthophyllite, and chrysotile. Although asbestos was used by Stone Age man it was not until the latter part of the 19th century that it came into widespread use in the industrialized world. The modern industry began in Italy and England after 1860, with Quebec being the main supplier of the crude fiber. By 1980, more than 100 million tonnes of asbestos had been mined worldwide of which more than 90 million tonnes was the chrysotile variety, about 2.7 million tonnes the crocidolite variety, about 2.2 million tonnes the amosite variety, and about 0.4 million tonnes the anthophyllite variety. Approximately 75 percent of all asbestos ever mined has come from just three chrysotile mining localities, Quebec, Canada and the central and southern Urals of the Soviet Union. The chrysotile-producing countries in order of importance are: the Soviet Union (46.1 percent of the world's total asbestos production in 1978), Canada (28.9%), Zimbabwe (3.8%), China (3.8%), Italy (2.9%), South Africa (2.1%), Brazil (1.8%), U.S.A. (1.7%), and Australia (1.0%).

Comparative Epidemiology

The three principal diseases which are related to asbestos exposure are: (1) lung cancer, (2) cancer of the pleural and peritoneal membranes (mesothelioma), and (3) asbestosis, a condition in which the lung tissue becomes fibrous and thus loses its ability to function. These diseases, however, are not equally prevalent in the various groups of asbestos workers that have been studied; the amount and type of disease depends on the duration of exposure, on the intensity of exposure, and particularly on the type or types of asbestos to which the individual was in contact.

Chrysotile or "white" asbestos. Chrysotile asbestos, sometimes referred to in the trade as "white" asbestos, is the form that is usually used in the United States - as wall coatings, in brake linings, as pipe insulation, etc. About 95 percent of the asbestos in place in the U.S. is the chrysotile variety and a large percentage of this was mined and milled in Quebec. Epidemiological studies of the chrysotile asbestos miners and millers of Quebec undertaken by medical researchers in Canada show that for men exposed for more than 20 years to chrysotile dust averaging 20 fibers/cm^3 the total mortality was less than expected (620 observed deaths, 659 expected deaths). Risk to lung cancer was slightly increased; 48 deaths observed, 42 deaths expected (Table 17, column A). Exposures to 20 fibers/cm^3 are an order of magnitude greater than those experienced now (generally less than 2 fibers/cm^3); thus chrysotile miners working a lifetime under these present dust levels should not be expected to suffer any measurable excess cancer. A similar mortality picture is reported for Italian chrysotile miners and millers (Study G, Table 4).

The results of only one epidemiological study of a cohort of trades workers known to be exposed only to chrysotile asbestos been published (Study VI, Table 3a). This study reports 2 deaths due to asbestosis but no excess of any cancer was detected.

Mesothelioma incidence among those working only with chrysotile asbestos is very low. Thus far, about 16 deaths due to this disease have been reported among chrysotile asbestos miners and millers and none among chrysotile trades workers.8/ In addition, 6 deaths among sons and daughters of chrysotile miners and millers and two among others living in chrysotile asbestos mining localities have been reported as being due to mesothelioma.

Four epidemiological studies of the female residents of the Quebec chrysotile mining localities show no statistically significant evidence that their life-long exposure to asbestos dust from the nearby mines and mills has caused excess disease.

Crocidolite or "blue" asbestos. Crocidolite, usually referred to in the trade as "blue" asbestos, was first imported into the United States in 1911 or 1912. By 1930, 35,000 short tons of crude blue fiber had entered the country and by 1946 an additional 21,000 tons were imported. In addition to these imports, much crocidolite came into the United States as manufactured products such as yarns, tapes, and pipe coverings. Almost all of the imported crocidolite came from South Africa.

Epidemiological studies of groups who worked only with crocidolite asbestos show that rather short periods of exposure, or even relatively light exposure, causes a large excess of mortality due to lung cancer, mesothelioma, and asbestosis. This is evident not only in those exposed to crocidolite during gas mask fabrication and building construction but in those employed in the crocidolite mines.

There are only two mining regions in the world where mesothelioma is a statistically significant cause of death. These are the crocidolite mining districts of the Cape Province, South Africa and at Wittenoom, Western Australia. Prevalence studies in the Cape Province report that at least 278 people have died of mesothelioma as a result of exposure to crocidolite; 161 of these people worked in the mines and mills and 117 others lived in the vicinity of the mines.

Thirty-one men who worked in the crocidolite industry at Wittenoom, Western Australia have died of mesothelioma. Of these, 13 had worked for less than 12 months and 9 had light to medium exposure to blue asbestos. Sixty miners and millers at Wittenoom have died of lung cancer; 34 of these men had worked in the industry for less than 12 months and 19 had light to medium exposure to the crocidolite dust. In addition to this occupationally related mortality, 6 others who lived near but did not work in the mines or mills have died of mesothelioma.

Amosite or "brown" asbestos. All amosite asbestos comes from the Transvaal Province of South Africa where between 1917 and 1979 approximately

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8/Acheson et al. (1981, p. 1405) cite two new studies (in press) of asbestos trades workers thought to have been exposed to only chrysotile which confirm the rarity of mesothelioma associated with chrysotile.

2.2 million tonnes have been mined. Importation of amosite into the U.S. started in the 1930's.

One complete epidemiological study of trades workers exposed mainly to amosite asbestos has been published. The incidence of asbestos-associated disease in this group of men formerly employed at a factory in Patterson, N.J. was excessive; there being a 19.7% lung cancer mortality (60 cases), a 4.6% mesothelioma mortality (14 cases), and a 5.9% asbestosis mortality (18 cases). An additional study, only partially published, reports on a group of workers exposed mostly to amosite in a London insulation board factory. Here 5 men have thus far died of mesothelioma (Acheson et al., 1981). Only prevalence studies have been made of amosite miners and millers. Two have died of mesothelioma. One resident of an amosite mining district has been reported as having died of this disease.

The rock-forming amphibole minerals grunerite and cummingtonite, which are isostructural and chemically similar to amosite, are considered (incorrectly) by some to be forms of asbestos. Health studies of miners working ores which contain these minerals as gangue do not show any indication of asbestos-related mortality (studies B,E, Table 4).

Anthophyllite asbestos. This form of asbestos has been mined sporadically in many localities but the only major production was at Paakkila, Finland where approximately 350,000 tonnes was mined between 1918 and 1975. The only health study of individuals exposed predominantly to anthophyllite asbestos is that of the Paakkila miners (Study A, Table 4). This group showed a 67% excess of lung cancer and a large mortality due to tuberculosis and asbestosis. None died of mesothelioma. Because anthophyllite was and is used so little in commerce no additional health studies appear possible except for follow-up of the Paakkila miners.

Comparison of health effects of white, blue, and brown asbestos. There is a large contrast in the incidence of mesothelioma among those who were exposed to only one form of the three commonly used asbestos minerals-chrysotile, crocidolite, and amosite. This is demonstrated by comparing the total asbestos production to the number of mesothelioma deaths reported in the literature for miners, millers, and residents of four major asbestos mining localities. The pertinent data are given in Table 16. The difference between mesothelioma mortality reported in the chrysotile mining district and that reported in the crocidolite and amosite mining districts may be even greater than indicated in Table 16. This is because asbestos-related mortality is probably much underreported in Western Australia and South Africa due to the transient nature of the mining populations where many are lost from view. Quebec, on the other hand, has a very stable mining and residential population, the medical surveillance of which has been excellent.

Table 16. Mesothelioma Mortality[1] in Four Asbestos Mining Districts Relative to Asbestos Production

	Quebec Canada	Western Australia	Cape Province South Africa	Transvaal Prov. South Africa
Asbestos type	chrysotile	crocidolite	crocidolite	amosite
Tonnes mined	40,000,000	155,000	2,700,000	2,200,000
Years mined	1878-Pres.	1938-1966	1893-Pres.	1917-Pres.
No. deaths (mesothelioma)	22[2]	37	278	3[3]
deaths/100,000 tonnes mined	0.06	23.9	10.3	0.14

[1] Reported in the scientific literature up to 1979 for miners, millers and other residents of the mining districts
[2] Excludes 7 mesothelioma cases that were exposed to crocidolite.
[3] Excludes 4 mesothelioma cases that were exposed to crocidolite.

Several studies (Jones et al., 1980a, 1980b; McDonald, 1980b; McDonald, 1980c) have been made on the types and amounts of asbestos fiber in the lung tissue of asbestos workers who died of mesothelioma and in "controls" who died of other diseases and who were not occupationally exposed to asbestos. For example, Jones et al. (1980b) found that chrysotile was present no more frequently nor in greater amounts, in the mesothelioma cases than in the control cases. They further state (p. 197) that "this study therefore provides no evidence to indict chrysotile in the etiology of mesothelioma." Similar findings are reported by McDonald (1980b) and McDonald (1980c). The above cited studies also show that amphibole fibers (crocidolite and amosite) were more prevalent in the lung tissues of the mesothelioma cases than in the controls.

The constrast in mortality holds also for lung cancer and asbestosis. All three forms cause significant excess of these two diseases in those exposed for long periods of time to high dust levels. However, short term exposure to moderate levels of crocidolite dust appears to be more dangerous than long term exposure to high levels of chrysotile dust. This can be seen by comparing the mortality data for the Quebec chrysotile asbestos miners and millers who were exposed to high to very high dust levels for 20 or more years (Table 17, column B) to the data for the Canadian gas mask assemblers who were exposed to moderate levels of crocidolite dust for no more than 2.5 years (Table 17, column C). For further comparison, mortality data is given for Quebec miners and millers who were exposed to low to medium dust levels (column A).

Table 17. Mortality Data for Quebec Chrysot[illegible]. Miners and Millers (columns A,B) with 20 or more years service and for Canadian Gas Mask Assemblers (column C).

	A[1]			B[1]			C[2]	
Exposure	Low-medium(10-21 f./cm^3)			High-V.high(95-194 f./cm^3)			Moderate	
Cause of death	Obs.	Exp.	%[3]	Obs.	Exp.	%[3]	Obs.	%[3]
All causes	620	658.8	100	478	367.7	100	56	100
All cancer	147	150.6	23.7	132	92.8	27.6	23	41.1
Lung cancer	48	41.6	7.7	56	23	11.7	8	14.3
G.I. cancer	47	58.7	7.6	45	32.6	9.4	3	5.4
Asbestosis	11	0.7	1.8	25	0.4	5.2	2	3.6
Other Resp.	28	34.3	4.5	31	18.4	6.5	4	7.1
Mesothelioma	-			-			9	16.1

[1] Data from McDonald et al. (1980, Table 7d).
[2] Exposed to moderate levels of crocidolite dust for no more than 2.5 years (McDonald and McDonald, 1978). See also Study X, Table 3a.
[3] Percent of all observed deaths.

The contrast between cancer mortality in the mining-milling cohorts (Table 4) and the trades cohorts (Table 3a,b) is clearly seen in Figure 1 where the proportional mortality due to lung cancer is plotted with respect to mesothelioma proportional mortality. The average mortality for the 8 mining-milling cohorts (excluding the crocidolite miners, Study F, Table 4) is: mesothelioma (0.2%), lung cancer (5.7%). For the 21 trades cohorts, the average mortality is: mesothelioma (5.6%), lung cancer (16.7%). The cancer mortality pattern of the crocidolite mining cohort is very similar to that of the trades cohorts; 3.3% of this group having died of mesothelioma and 11.6% of lung cancer.

Many of the men in the trades cohorts were probably exposed to crocidolite asbestos at some time during their working career. They also were probably often exposed to very high concentrations of asbestos dust, particularly during installation or removal of asbestos in closed spaces such as heating conduits, ship compartments, etc.

Peto (1978, 1980) and Peto et al. (1982) suggest that chrysotile asbestos contributes significantly to mesothelioma mortality. Peto bases his conclusions on a study of workers in an asbestos textile factory in the UK (Peto et al., 1977; Peto 1978, Peto 1980). Exposure was mainly to chrysotile asbestos but crocidolite fiber was processed in this factory at various times since 1933 (Peto, 1978, p. 487). Peto does not cite the work of Jones et al. (1980a) and McDonald and McDonald (1978) on the gas mask assemblers, nor the work of Hilt et al. (1981) on construction workers; studies which clearly show the extreme hazard of crocidolite. Only brief exposure to crocidolite can set up a disease pattern very similar to that

found in trades workers heavily exposed to asbestos for many years. From this we can conclude that mortality studies of asbestos workers who are exposed to crocidolite, even for short periods of time, are not valid in predicting the health effects of other forms of asbestos.

Estimates of Asbestos-related Mortality in the United States

In various press releases and scientific publications, it has been suggested that asbestos exposure in the United States will cause from 10,000 to 67,000 deaths per year for the next 20 to 30 years. These estimates do not appear to be valid when compared to estimates of past mortality that are based on reported asbestos-related death due to mesothelioma or asbestosis. For example: (1) utilizing the mortality pattern of excess disease in 17,800 North American asbestos insulation workers and the incidence of mesothelioma in 1972 given by a pathology review panel, it is estimated that 587 individuals died in that year because of exposure to asbestos; or (2) taking the reported number of asbestosis deaths as given in the Vital Statistics of the United States and again utilizing the mortality data of the North American insulation workers, it is estimated that the average yearly asbestos-related mortality in the United States during the period 1967-1977 was 522 deaths. There is some suggestion from the mortality data given in the Vital Statistics that the incidence of asbestos-related disease has increased somewhat during this same period.

COMMENTARY

The Relative Hazards of the Asbestos Minerals

It is pertinent to repeat one of the questions asked in the introduction of this review: Must the use of all commercial asbestos be stopped? The answer is an emphatic no - but with qualifications presented below.

Non-occupational exposure to chrysotile asbestos, despite its wide dissemination in urban environments throughout the world, has been shown by epidemiological studies to be of no health significance whatsoever. If it were, the women of Thetford Mines, Quebec, where over 20 million tonnes of chrysotile asbestos has been mined, would be dying of asbestos-related diseases. They are not. The health studies accomplished in Canada show that populations can safely breath air and drink water that contain significant amounts of chrysotile fiber. These studies also show that there is a "threshold" value for chrysotile asbestos exposure below which no measurable health effect will occur.

The same fiber dose-disease response relationships observed for chyrsotile asbestos do not hold for crocidolite asbestos. Health studies of those exposed to only crocidolite show it to be much more hazardous than chrysotile; with respect to mesothelioma perhaps 100 to 200 times more hazardous. No study has been reported comparable to that made for chrysotile which indicate what a safe level of exposure to crocidolite would be. The danger of crocidolite dust is particularly emphasized by the many mesothelioma deaths occurring among the residents of the crocidolite mining districts of the Cape Province, South Africa whose only exposure was in a non-occupational setting. Such mortality is practically unknown among residents of the chrysotile mining localities of Quebec. Control of crocidolite dust, particularly in the mines and mills, presents a considerable engineering problem in that dust levels at or below the 1969 British Standard of 0.2 fibers/cm^3 can be achieved hardly anywhere (Simpson, 1979, p. 74).

The hazards of amosite asbestos are more difficult to access. The amosite factory employees of Patterson N.J., who worked under very dusty conditions during World War II, have experienced a great deal excess mortality due to lung cancer, asbestosis, and mesothelioma. In contrast to these factory workers, amosite miners and millers, at least with regard to mesothelioma, do not appear to be at much risk. This suggests that dust controls are possible which can much reduce or prevent the occurrence of asbestos-related diseases in amosite workers.

The fear caused by heavy handed statements such as "one fiber can kill you" and by the much exaggerated predictions of the amount of asbestos-related mortality expected in the next 20 or 30 years has generated great political pressure to remove asbestos from our environment and to greatly reduce or even stop its use. An example of this is the concerted effort in several industrial nations including the United States to remove asbestos from schools, public buildings, homes, ships, appliances, etc. This is being done, even though most asbestos in the U.S. is of the chrysotile variety, and even though asbestos dust levels in schools, public

buildings and city streets is much lower than found in chrysotile asbestos mining communities where no asbestos-related disease appears in the non-occupationally exposed residents. The impetus for these costly removals and appliance recalls (hair dryers, for example) apparently comes from propagandizing the "one fiber can kill you" concept. Not only is this program costly - it could be dangerous if the removal of blue asbestos is not accomplished with great care. In most cases, asbestos coatings and insulation, where necessary, can be repaired at no risk and at a fraction of the cost of complete removal.

Substitutes for Asbestos

If all use of asbestos were to be discontinued, substitutes would have to be developed to meet many diverse requirements such as non-flammability, high strength, flexibility, reasonable cost, and safety. With respect to safety, the substitutes must not induce disease in those exposed to them and also must not endanger lives in other ways because of inferior strength and durability, increased flammability, etc. A high cost for a good substitute must not force instead the use of an inadequate replacement. Possible problems with substitutes may occur, for example, with the replacement of chrysotile asbestos in drum brake linings. The chance of increased automobile accidents due to a possibly inferior substitute material must be weighed against the probability of anyone being harmed by the small amounts of chrysotile asbestos that are emitted from drum brakes. Also, the health effects of emissions from substitute brake linings must be considered.

The requirements of strength and flexibility necessitate that asbestos substitutes be fibrous. Generally, the thinner and longer the fibers, the stronger, more flexible, and useful they are. However, fibers longer than 4 microns and less than 1.5 microns in diameter are capable of producing malignant neoplasms when implanted into the pleura of rats (Stanton et al., 1981). The test fibers in these studies included aluminum oxide, fiber glass, wollastonite ($CaSiO_3$), silicon carbide, dawsonite ($NaAlCO_3OH$), and potassium octatitanate.

Lee et al. (1981a, 1981b) studied the effects on rats, hamsters, and guinea pigs of inhalation of different concentrations of "Fybex", a commercially made potassium octatitanate fiber used to strengthen materials. They found that in addition to the development of pulmonary fibrosis in many animals, 3 hamsters developed pleural mesothelioma, a rare disease in the control animals.

In the report of the Advisory Committee on Asbestos, Health and Safety Commission of Great Britain, the following statement is made in regard to substitutes for asbestos (Simpson, 1979, vol. 1, p. 69).

> "As a general principle we take the view that control of any useful but hazardous material is preferable to the ultimate sanction of prohibition. It is very easy to say that a dangerous substance or process should be banned and to hope that that will solve the problem. In our view this is a gross

> over-simplification of a complex equation of interlinked factors. It ignores the possibility that prohibition of a particular substance may directly result in an increase in health or safety risks, for example from fire, which the use of that substance currently prevents or reduces. It also ignores the implications of statutorily enforcing substitution by materials or substances which at present appear to be suitable but may at a later date be found to constitute a risk to health. The social and economic consequences of the possible closure of factories using the original material or process need to be taken into account."

The recent animals experiments such as those cited above make the Advisory Committee's statement particularly meaningful.

The cost of asbestos substitutes is of particular importance to the "Third World" countries whose developing economies are very dependent upon making the maximum use of cheap, domestically produced materials whereever possible. Asbestos cement is such a material and large quantities of it are vital to the industrialization of these nations. Importation of possible substitutes, for example, plastic and metal water pipe and construction materials, is not an economic choice for many nations. It is significant that several countries are greatly expanding their chrysotile mining and milling operations; the U.S.S.R., Zimbabwe, Greece, Mexico, Yugoslavia (Asbestos, vol. 63, January 1982).

The Ubiquitous Fibrous Minerals and Future Health and Regulatory Policy

Those outside the mining and geoscience professions probably do not appreciate how common fibrous minerals are. Most hard rock mines contain some gangue minerals that are considered by some to be asbestos or asbestos-like. For example, the common rock-forming mineral cummingtonite found in the Reserve Mining Company's iron ore deposits near Lake Superior, Minnesota is considered to be asbestos by the U.S. Environmental Protection Agency and the Courts of Minnesota, although I know of no geologist who would call this mineral asbestos. However, be it as it may, if cummingtonite and other amphiboles are considered to be asbestos for regulatory purposes then a great many mining operations will also be considered asbestos mining operations. The mining and milling of gold and iron ore, talc, vermiculite, and crushed stone have already been effected by asbestos regulations.

In addition to the fibrous minerals found in numerous ore deposits, they are also found in many water supplies, in soils and sediments, in certain sand and gravel deposits, in drilling muds, in portland cement, in ceramic materials, and in large areas overlain by volcanic ash. Should the public be told that even low doses of these mineral fibers can possibly cause cancer? Should human exposure to these fibers be regulated to the lowest feasible limit? Should extreme measures be taken such as moving people out of regions where fibrous minerals are endemic? Such action

was proposed by P. C. Elmes, Director of the MRC Pneumoconiosis Unit, Llandough Hospital, Penarth, Wales. He writes (Elmes, 1980, p. 529),

> "Populations living on soils contaminated with the fibers under dry climatic conditions need to be moved."

In regard to his proposal, it is noted that fibrous zeolite minerals occur in many areas of the southwestern United States and that fibrous clay minerals are common in the coastal plane sediments of the eastern United States.

One does not have to consider the above questions very long before coming to realize that if answered in the affirmative they would present a regulatory, legal, and economic nightmare.

Instead of overreacting to every perceived health risk (this seems to occur particularly in regard to suspected carcinogens) we must allocate our scientific and economic resources to our environmental health problems in proportion to their seriousness. Billions of dollars have been spent directly and indirectly, in understanding and mitigating asbestos-related cancers. Many billions more may be awarded to those filing claims against asbestos companies. In contrast, relatively little has been spent on understanding and mitigating the more serious non-neoplastic lung diseases such as the pneumoconioses caused by inhalation of crystalline silica and coal dusts.

A great deal has been accomplished in understanding the relationships between the intensity of exposure to the several forms of commercial asbestos and the incidence of the asbestos-related diseases. Epidemiological studies have shown that modern dust control methods now in effect can prevent most morbidity and mortality related to exposure to chrysotile asbestos. Similar studies should be completed in order to set dust levels to protect the anthophyllite and amosite asbestos workers (in this regard see the Simpson Report, Simpson, 1979).

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Inlandboatmen's Union of the Pacific

MARINE DIVISION — INTERNATIONAL LONGSHOREMEN'S & WAREHOUSEMEN'S UNION

NATIONAL OFFICE • 2700 FIRST AVENUE, ROOM 211 • SEATTLE, WASHINGTON 98121 • 622-3738

January 31, 1984

Honorable Joe Josephson
Alaska State Legislature
Pouch V (MS 3100)
Juneau, AK 99811

Dear Senator:

The Inlandboatmen's Union of the Pacific, Alaska Region, would like to commend your sponsorship of SB 373, ASBESTOS HEALTH HAZARD PROGRAM, and are in total support of the bill.

I have spoken with Steve Kadish and he recommended that I write you with one concern we have with the legislation. Our organization represents all the unlicensed employees working aboard the vessels of the Division of Marine Highway Systems, Department of Transportation and Public Facilities. While it appears that the primary focus of ASBESTOS HEALTH HAZARD PROGRAM is toward schools in the State, public facilities will also be inspected. Our concern is that the nine vessels of the Division may not be included under the PROGRAM if not specifically addressed in the legislation as being a "public facility". Our position is that the nine vessels should fall under the jurisdiction of the PROGRAM by including the vessels, by definition, as being a public facility.

We would be happy to meet with you or your staff in a effort to clarify the bill to include the vessels of the Alaska Marine Highway System. If you have any questions, please contact my office in Juneau.

Sincerely,

INLANDBOATMEN'S UNION OF THE PACIFIC

RECEIVED

Michael Wilson
Patrolman, Juneau
586-2120

cc Steve Kadish
Senator Vic Fischer's staff

028A/mw

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MATANUSKA-SUSITNA BOROUGH SCHOOL DISTRICT
BOX AB • PALMER, ALASKA 99645-1646 • PHONE 745-4822

GORDON C. TOPE
SUPERINTENDENT OF SCHOOLS

March 1, 1984

Honorable Joe P. Josephson
Alaska State Senate
Pouch V
Juneau, Alaska 99811

Senator Josephson:

At the request of Superintendent Gordon Tope of the Matanuska-Susitna School District, I have reviewed Senate Bill No. 373 and 374 and found them to be very thorough and complete. I believe the Bills address a real need in the State regarding the health and safety of the public in our public facilities although the dollar amount may be far too low.

The major portion of the asbestos abatement program has been completed in our District. Any asbestos remaining that has been identified at this date has been declared as safe by the Borough Inspector. Your involvement and concern in the asbestos abatement issue is appreciated.

Respectfully,

Norm Palenske

Norm Palenske
Director of Planning & Facilities

fc

Yukon-Koyukuk School District

Administrative Offices
P.O. Box 08309
Nenana, Alaska 99760
(907) 832-5594

Joe B. Cooper, Ed.D.
Superintendent

February 22, 1984

Senator Joe P. Josephson
Pouch V
Juneau, Alaska 99811

Dear Senator Josephson:

In reference to the senate bills 373 and 374 regarding asbestos removal. In our district, we have not identifed any asbestos hazardous. We have examined all of our buildings that we are currently using and feel that we do not have any problems with these. As we were strongly impacted by the small high program, most of our facilities are new enough that they were built since asbestos was being used heavily. Therefore the bills you mentioned would have very little impact on our district.

Sincerely,

Joe B. Cooper, Ed.D.
District Superintendent

JBC/jm

Alaska Laborers Training School

13500 OLD SEWARD HIGHWAY • (907) 345-3853
ANCHORAGE, ALASKA 99515

ADMINISTERED BY
LABOR TRUST SERVICES

February 21, 1984

Senator Joe Josephson
Pouch V
Juneau, Alaska 99811

RE: Senate Bill #374
"An Act making special appropriations for an asbestos health hazard abatement program; and providing for an effective date."

Dear Senator:

I think the bill is written clearly and well. I think it is very important that anyone working in an asbestos abatement project should be aware of the dangers that asbestos presents as well as how to properly perform the work. The skill involved is knowing how to remove and dispose of asbestos safely! A certification program certainly is an important step in insuring that abatement work is done safely with minimum risk to the worker, their families, and the general public. It will help create a professional attitude in this area of work where asbestos abatement is concerned.

I think this bill should cover our schools and public facilities as is stated. However, I believe we need to extend it to cover all such work in this state. Asbestos is the same and presents the same hazards irregardless of schools or public facilities or any other building that contains it. I am concerned that we may not treat it the same if it is found in buildings that do not fall under the classifications of schools and public facilities. The hazards remain the same! I would like to see this bill cover all such work in the state.

I would like to see further studies undertaken that would identify any asbestos problems so people are aware of exactly what they are dealing with. As you know, only

through lab tests are we sure that what we are looking at is really asbestos. I would think and hope that money is available to study and test for asbestos. Only through an effective program along these lines can we minimize the risks to the public effectively.

Sincerely,

Leslie N. Lauinger

Leslie N. Lauinger
Training Director

LNL/cz

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
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ANCHORAGE INDUSTRIAL CENTER
5633 B Street

February 16, 1984

Senator Joe Josephson
Pouch V (MS-3100)
Juneau, Alaska 99811

Dear Senator Josephson:

I have a copy of Senate Bill Number 373 and 374. This type of bill is very necessary to eliminate the asbestos problems we presently have in our schools and government buildings. The part of bill #374 that could be improved upon is Section #1. There are highly trained individuals within the state that could perform the service of going into a facility doing on-site inspections and showing the potential danger areas to the proper school or government representatives. These professionals could point out the problems in the buildings and make recommendations on how to eliminate the dangers of potential health hazards for all concerned, including our children.

We are not against training personnel from the facility in asbestos recognition and proper handling for their own protection, but we feel that complete facility inspections should be performed by experts who are trained in this field and experienced in doing this type of work---people who know where to look and what to look for.

I think you will find these inspections are reasonable in costs and will provide for more reliability than utilizing someone from each building that attends a one-time training seminar.

Please consider in your final bill the above suggestion that facilities utilize professionals in their on-site inspections.

Thank you so much.

Sincerely,

Eugene T. Yonkin
Executive Vice President

ETY:ml
xc: Senator Vic Fischer
Senator Tim Kelly
Senator Rick Halford
Senator Arliss Sturgulewski

Alaska Health Project

417 West Eighth Avenue — P. O. Box 10-1037, Anchorage, Alaska 99510 — (907) 276-2864

February 17, 1984

Senator Joe Josephson
Pouch V
Juneau, Alaska 99811

Dear Senator Josephson:

Enclosed are Alaska Health Project's comments on SB 373 relating to the establishment of an asbestos health hazard abatement program.

We appreciate your continued interest in the asbestos issue. This legislation is an important first step in preventing and eliminating unnecessary exposure to this dangerous substance.

Our major concern with SB 373 centers around the Certification Program, Sec. 18.28.030. We feel that this section is extremely important, but that its scope is too limited as presently written in SB 373. Currently, the bill only requires that workers involved in asbestos abatement programs in schools or public facilities be certified. The Health Project feels that such a program should be a statewide requirement for all workers involved in asbestos abatement programs in all facilities, public, private, or otherwise.

We suggest the deletion of the phrase "in a school or public building" on page 3, lines 23 and 28; and on page 4, lines 11 and 15.

I am available to discuss these proposed deletions with you at any time.

Sincerely,

David Wigglesworth
Occupational/Environmental
Health Specialist

cc: Senator Vic Fischer
Nancy Lord
Steve Kadish
Nancy Dietrick

Alaska State Legislature

Senate Committee on State Affairs

Vic Fischer, Chairman • 1024 W. 6th Ave., Suite 204 C,
Anchorage, Alaska 99501
(907) 278-3654

Official Business

February 29, 1984

Dr. Ed Holstein
Department of Environmental Medicine
Mt. Sinai School of Medicine
1 Gustave Levy Place
New York, New York 10029

Dear Dr. Holstein,

Our office has been involved in the development of legislation to abate asbestos health hazards in public schools and to establish a program to certify the competency of those performing asbestos abatement.

We believe that this measure has a good chance of becoming law this legislative session, however there are those who are not convinced that non-occupational asbestos exposure is in fact a health hazard. This belief is based upon the findings of a 1982 paper prepared for the US Department of Interior Geological Survey (enclosed).

I would appreciate if you could review this report and comment on its accuracy and integrity. We continually refer to the research performed at Mt. Sinai on asbestos and acknowledge the role this research has played internationally. Your comments would be received with a great amount of respect and attention.

Please let me know if you have any questions. I have also enclosed a copy of the proposed legislation.

We do need a response as soon as possible. I can be reached at 907-465-4954 or 907-278-3654.

Thank you for your time and attention.

Sincerely,

Steven Kadish
Legislative Aide

cc; Nancy Dietrick, Senator Joe Josephson

Harborview Medical Center

OCCUPATIONAL MEDICINE PROGRAM
DEPARTMENT OF MEDICINE
UNIVERSITY OF WASHINGTON

Mailing Address:
325 NINTH AVENUE, ZA-66
SEATTLE, WASHINGTON 98104
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February 6, 1984

Al Sexton
Business Manager
United Association of the Plumbing &
Pipefitting Industry
Local 32
Seattle, Washington 98121

Dear Al,

It has now been about 15 months since we initiated the surveillance program for members of your local, and about one year since I reported to you the results of the evaluation of the first 100 persons. We have now seen about 600 plumbers and pipefitters, the majority from Local 32 and a smaller number from Local 82. We have had a chance to examine in detail the evaluation of the first 400 and have presented these results at a recent scientific meeting. The following summarizes these results. I will be happy to provide to you and any interested members further details as needed. I also welcome any suggestions you have about the best way to disseminate these results to your members, such as through a newsletter or through a union meeting. As always, our goal continues to be to have as many of your members participate in this program as is possible.

As over 97% of the plumbers and pipefitters evaluated to date have been male, and none of the women have been found to have any work-related abnormalities (owing in large part to their younger age and shorter length of time in the trade), the following results refer to the first 400 male participants. Aout 1/4 had their most recent employment in the shipyards and 3/4 in the building trades. Their trades of longest duration were broken down as follows:

Marine pipefitters	31%
Plumbers	27%
Steamfitters	19%
Refrigeration	11%
Welders	5%
other	7%

The mean age was 43 years.

Of those evaluated, 62 percent had fully normal xrays without any evidence of asbestos effects. Thirty-eight percent, however, did have some abnormalities on their xray that were likely to be related to asbestos exposure; these changes ranged from mild to severe.

As would be expected with asbestos exposure, there was an increased risk for asbestos-related lung changes as workers got older, or spent more time in the trade. Only 2% of those workers who had spent less than nine years in the trade had evidence of probable or definite asbestosis, compared to 12% for those in the trade from ten to nineteen years, 29% for those in the the trade from 20 to 29 years, and 47% for those in the trade from 30 to 39 years. Seventy-eight percent of those in the trade for 40 or more years showed evidence of probable or definite asbstos-related changes. Workers' compensation forms were initiated for 11% (44 workers). All claims to date have been accepted or are pending.

The second most common problem detected was that of work-related hearing loss. About 25% of the population had evidence of hearing loss consistent with noise exposure. As many of these people were seen by their own physicians or by our Ear, Nose and Throat Clinic in follow-up, we are uncertain as to the exact number who had workers compensation filed for this problem. We have initiated a number of claims for hearing loss through our clinic as well.

There have been a number of other medical problems detected for which patients received follow-up. These included common problems such as hypertension, diabetes and blood test abnormalities. There have been a number of significant conditions which we were able to detect on the screening program which called for prompt medical follow-up; thse included a potentially serious case of a vitamin deficiency as well as a couple of cases of a non-work-related related inflammatory lung disease.

On the basis of abnormal chest xray or lung function tests, 47% of this group have been asked to return for re-evaluation in one rather than two years. Although health problems may have been detected in the remainder, it was not felt that it was necessary for them to have the comprehensive physical examination repeated before the two-year interval.

We are beginning to see individuals for one-year follow-up exams now and are reporting directly to them whether or not there has been any change in their xray or lung function beyond that which would be expected. We will be giving you summaries of these results as the numer of patients coming through the program increases.

In summary, we have now seen a substantial number of workers in your local. Unfortunately, there is a relatively high rate of asbstos-related effects among the group. Although we have had some problems with individuals with billing, I hope that these have mostly been resolved by this time. We have made every effort to accomodate those who develop problems, including trying to cancel bills for those who did not understand that they would be responsible for certain follow-up tests.

Your cooperation and help in this program has been exceptional. I hope you will find this summary useful and that you will let me know if I can provide any further information to you about it.

Sincerly yours,

Linda Rosenstock, MD, MPH
Director

cc: William D. Bostwick
/ahp

(2) Requiring the owner or operator of a stationary source, other than a stationary source owned or operated by the United States, to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such source.

[Sec. 116, Clean Air Act as amended (42 U.S.C. 7416)]

[38 FR 8826, Apr. 6, 1973, as amended at 43 FR 8800, Mar. 3, 1978]

61.17 Circumvention.

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

[40 FR 48299, Oct. 14, 1975]

Subpart B—National Emission Standard for Asbestos

61.20 Applicability.

The provisions of this subpart are applicable to those sources specified in § 61.22.

61.21 Definitions.

Terms used in this subpart are defined in the act, in Subpart A of this part, or in this section as follows:

(a) "Asbestos" means actinolite, anthophyllite, chrysotile, crocidolite, tremolite.

(b) "Asbestos material" means asbestos or any material containing asbestos.

(c) "Particulate asbestos material" means finely divided particles of asbestos material.

(d) "Asbestos tailings" means any solid waste product of asbestos mining or milling operations which contains asbestos.

(e) "Outside air" means the air outside buildings or structures, including that air within ventilated areas of buildings.

(f) "Visible emissions" means any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material.

(g) "Asbestos mill" means any facility engaged in the conversion of any intermediate step in the conversion of asbestos or into commercial asbestos. Outside storage of asbestos materials is not considered a part of such facility.

(h) "Commercial asbestos" means any variety of asbestos which is produced by extracting asbestos from asbestos ore.

(i) "Manufacturing" means the combining of commercial asbestos, or in the case of woven friction products the combining of textiles containing commercial asbestos, with any other material(s), including commercial asbestos, and the processing of this combination into a product as specified in § 61.22(c).

(j) "Demolition" means the wrecking or taking out of any load-supporting structural member and any related removing or stripping of friable asbestos materials.

(k) "Friable asbestos material" means any material that contains more than 1 percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

(l) "Control device asbestos waste" means any asbestos-containing waste material that is collected in a pollution control device.

(m) "Renovation" means the removing or stripping of friable asbestos material used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member. Operations in which load-supporting structural members are wrecked or taken out are excluded.

(n) "Planned renovation" means a renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Operations that are individually non-scheduled are included, provided a number of such operations can be predicted to occur during a given period of time

(o) "Emergency renovation" means a renovation operation that results from a sudden, unexpected event, and is not a planned renovation. Operations necessitated by non-routine failures of equipment are included.

(p) "Adequately wetted" means sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.

(q) "Removing" means taking out friable asbestos materials used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member from any building, structure, facility, or installation.

(r) "Stripping" means taking off friable asbestos materials from any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member.

(s) "Fabricating" means any processing of a manufactured product containing commercial asbestos, with the exception of processing at temporary sites for the construction or restoration of buildings, structures, facilities or installations.

(t) "Inactive waste disposal site" means any disposal site or portion thereof where additional asbestos-containing waste material will not be deposited and where the surface is not disturbed by vehicular traffic.

(u) "Active waste disposal site" means any disposal site other than an inactive site.

(v) "Roadways" means surfaces on which motor vehicles travel including, but not limited to, highways, roads, streets, parking areas, and driveways.

(w) "Asbestos-containing waste material" means any waste which contains commercial asbestos and is generated by a source subject to the provisions of this subpart, including asbestos mill tailings, control device asbestos waste, friable asbestos waste material, and bags or containers that previously contained commercial asbestos.

(x) "Structural member" means any load-supporting member, such as beams and load-supporting walls; or any non-load-supporting member, such as ceilings and non-load-supporting walls.

[38 FR 8826, Apr. 6, 1973, as amended at 39 FR 15396, May 3, 1974; 40 FR 48299, Oct. 14, 1975; 42 FR [illegible]]

§ 61.22 Emission standard.

(a) Asbestos mills: There shall be no visible emissions to the outside air from any asbestos mill except as provided in paragraph (f) of this section.

(b) Roadways: The surfacing of roadways with asbestos tailings or with asbestos-containing waste that is generated by any source subject to paragraphs (c), (d), (e) or (h) of this section is prohibited, except for temporary roadways on an area of asbestos ore deposits. The deposition of asbestos tailings or asbestos-containing waste on roadways covered with snow or ice is considered "surfacing."

(c) Manufacturing: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any of the following operations if they use commercial asbestos or from any building or structure in which such operations are conducted.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine.

(10) The manufacture of shotgun shells.

(11) The manufacture of asphalt concrete.

(d) Demolition and renovation: The requirements of this paragraph shall apply to any owner or operator of a demolition or renovation operation who intends to demolish any institutional, commercial, or industrial building (including apartment buildings having more than four dwelling units), structure, facility, installation, or portion thereof, which contains any pipe,

...d or coated with friable asbestos ...aterial, except as provided in para... ...graph (d)(1) of this section; or who in... ...nds to renovate any institutional, ...mmercial, or industrial building, ...ructure, facility, installation, or por... ...on thereof where more than 80 ...ters (ca. 260 feet) of pipe covered or ...ated with friable asbestos material ...e stripped or removed, or more than ...5 square meters (ca. 160 square feet) ...f friable asbestos material used to ...er or coat any duct, boiler, tank, re... ...tor, turbine, furnace, or structural ...mber are stripped or removed.

...(c) The owner or operator of a ...molition operation is exempted from ...e requirements of this paragraph: ...rovided, (A) the amount of friable as... ...stos material in the building or por... ...on thereof to be demolished is less ...an 80 meters (ca. 260 feet) used to ...sulate pipes, and less than 15 square ...ters (ca. 160 square feet) used to in... ...late or fireproof any duct, boiler, ...k, reactor, turbine, furnace, or ...uctural member, and (B) the notifi... ...tion requirements of paragraph ...(c)(1)(ii) are met.

...(1) Written notification shall be ...stmarked or delivered to the Admin... ...rator at least 20 days prior to com... ...encement of demolition and shall in... ...de the information required by ...aragraph (d)(2) of this section, with ...e exception of the information re... ...ired by paragraphs (d)(2)(iii), (vi), ...(vii), (viii), and (ix), and shall state the ...easured or estimated amount of fri... ...able asbestos materials which is pres... ...t. Techniques of estimation shall be ...plained.

...(2) Written notice of intention to de... ...molish or renovate shall be provided ...the Administrator by the owner or ...erator of the demolition or renova... ...tion operation. Such notice shall be ...stmarked or delivered to the Admin... ...rator at least 10 days prior to com... ...encement of demolition, or as early ...s possible prior to commencement of ...mergency demolition subject to para... ...graph (d)(6) of this section, and as ...rly as possible prior to commence... ...ent of renovation. Such notice shall ...clude the following information:

...(i) Name of owner or operator;

(iii) Description of the building, structure, facility, or installation to be demolished or renovated, including the size, age, and prior use of the structure, and the approximate amount of friable asbestos materials present.

(iv) Address or location of the building, structure, facility, or installation.

(v) Scheduled starting and completion dates of demolition or renovation.

(vi) Nature of planned demolition or renovation and method(s) to be employed.

(vii) Procedures to be employed to meet the requirements of this paragraph and paragraph (j) of this section.

(viii) The name and address or location of the waste disposal site where the friable asbestos waste will be deposited.

(ix) Name, title, and authority of the State or local governmental representative who has ordered a demolition which is subject to paragraph (d)(6) of this section.

(3)(i) For purposes of determining whether a planned renovating operation constitutes a renovation within the meaning of this paragraph, the amount of friable asbestos material to be removed or stripped shall be:

(A) For planned renovating operations involving individually nonscheduled operations, the additive amount of friable asbestos material that can be predicted will be removed or stripped at a source over the maximum period of time for which a prediction can be made. The period shall be not less than 30 days and not longer than one year.

(B) For each planned renovating operation not covered by paragraph (d)(3)(i)(A), the total amount of friable asbestos material that can be predicted will be removed or stripped at a source.

(ii) For purposes of determining whether an emergency renovating operation constitutes a renovation within the meaning of this paragraph, the amount of friable asbestos material to be removed or stripped shall be the total amount of friable asbestos material that will be removed or stripped as

event that necessitated the renovation.

(4) The following procedures shall be used to prevent emissions of particulate asbestos material to outside air:

(i) Friable asbestos materials, used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member, shall be removed from any building, structure, facility or installation subject to this paragraph. Such removal shall occur before wrecking or dismantling of any portion of such building, structure, facility, or installation that would break up the friable asbestos materials and before wrecking or dismantling of any other portion of such building, structure, facility, or installation that would preclude access to such materials for subsequent removal. Removal of friable asbestos materials used on any pipe, duct, or structural member which are encased in concrete or other similar structural material is not required prior to demolition, but such material shall be adequately wetted whenever exposed during demolition.

(ii) Friable asbestos materials used on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall be adequately wetted during stripping, except as provided in paragraphs (d)(4)(iv), (d)(4)(vi) or (d)(4)(vii) of this section.

(iii) Pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members that are covered or coated with friable asbestos materials may be taken out of any building, structure, facility, or installation subject to this paragraph as units or in sections provided the friable asbestos materials exposed during cutting or disjointing are adequately wetted during the cutting or disjointing operation. Such units shall not be dropped or thrown to the ground, but shall be carefully lowered to ground level.

(iv) The stripping of friable asbestos materials used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member that has been removed as a unit or in sections as provided in paragraph (d)(4)(iii) of this section shall be performed in accordance with paragraph (d)(4)(ii) of this section. Rather than comply with the wetting [illegible]

ventilation and collection system may be used to prevent emissions to the outside air. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping of friable asbestos material. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems except as provided in paragraph (f) of this section.

(v) All friable asbestos materials that have been removed or stripped shall be adequately wetted to ensure that such materials remain wet during all remaining stages of demolition or renovation and related handling operations. Such materials shall not be dropped or thrown to the ground or a lower floor. Such materials that have been removed or stripped more than 50 feet above ground level, except those materials removed as units or in sections, shall be transported to the ground via dust-tight chutes or containers.

(vi) Except as specified below, the wetting requirements of this paragraph are suspended when the temperature at the point of wetting is below 0°C (32°F). When friable asbestos materials are not wetted due to freezing temperatures, such materials on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall, to the maximum extent possible, be removed as units or in sections prior to wrecking. In no case shall the requirements of paragraphs (d)(4)(iv) or (d)(4)(v) be suspended due to freezing temperatures.

(vii) For renovation operations, local exhaust ventilation and collection systems may be used, instead of wetting as specified in paragraph (d)(4)(ii), to prevent emissions of particulate asbestos material to outside air when damage to equipment resulting from the wetting would be unavoidable. Upon request and supply of adequate information, the Administrator will determine whether damage to equipment resulting from wetting to comply with the provisions of this paragraph would be unavoidable. Such local exhaust ventilation systems shall be designed and operated to capture the as-

e stripping and removal of friable bestos material. There shall be no sible emissions to the outside air om such local exhaust ventilation d collection systems, except as pro-ded in paragraph (f) of this section. (5) Sources subject to this paragraph e exempt from the requirements of 61.05(a), 61.07, and 61.09.

(6) The demolition of a building, ructure, facility, or installation, pur-ant to an order of an authorized rep-sentative of a State or local govern-ental agency, issued because that ilding is structurally unsound and in nger of imminent collapse is exempt om all but the following require-ents of paragraph (d) of this section: (i) The notification requirements ecified by paragraph (d)(2) of this ction;

(ii) The requirements on stripping of iable asbestos materials from previ-sly removed units or sections as ecified in paragraph (d)(4)(iv) of is section;

(iii) The wetting, as specified by aragraph (d)(4)(v) of this section, of iable asbestos materials that have en removed or stripped;

(iv) The portion of the structure ing demolished that contains friable bestos materials shall be adequately etted during the wrecking operation.

(e) Spraying: There shall be no visi-le emissions to the outside air from he spray-on application of materials ontaining more than 1 percent asbes-os, on a dry weight basis, used on quipment and machinery, except as rovided in paragraph (f) of this sec-on. Materials sprayed on buildings, ructures, pipes, and conduits shall ontain less than 1 percent asbestos on dry weight basis.

(1) Sources subject to this paragraph re exempt from the requirements of 61.05(a), § 61.07, and § 61.09.

(2) Any owner or operator who in-nds to spray asbestos materials hich contain more than 1 percent as-estos on a dry weight basis to insu-te or fireproof equipment and ma-hinery shall report such intention to he Administrator at least 20 days rior to the commencement of the praying operation. Such report shall nclude the following information:

(i) [illegible] of owner or operator.

(ii) Address of owner or operator.

(iii) Location of spraying operation.

(iv) Procedures to be followed to meet the requirements of this paragraph.

(3) The spray-on application of materials in which the asbestos fibers are encapsulated with a bituminous or resinous binder during spraying and which are not friable after drying is exempted from the requirements of paragraphs (e) and (e)(2) of this section.

(f) Rather than meet the no-visible-emission requirements as specified by paragraphs (a), (c), (d), (e), (h), (j), and (k) of this section, an owner or operator may elect to use the methods specified by § 61.23 to clean emissions containing particulate asbestos material before such emissions escape to, or are vented to, the outside air.

(g) Where the presence of uncombined water is the sole reason for failure to meet the no-visible-emission requirement of paragraphs (a), (c), (d), (e), (h), (j), or (k) of this section, such failure shall not be a violation of such emission requirements.

(h) Fabricating: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any of the following operations if they use commercial asbestos or from any building or structure in which such operations are conducted.

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture; bulkheads, partitions and ceilings for marine construction; and flow control devices for the molten metal industry.

(i) Insulating: Molded insulating materials which are friable and wet-applied insulating materials which are friable after drying, installed after the effective date of these regulations, shall contain no commercial asbestos. The provisions of this paragraph do not apply to [illegible] materials which are spray applied; such materials are regulated under § 61.22(e).

(j) Waste disposal for manufacturing, fabricating, demolition, renovation and spraying operations: The owner or operator of any source covered under the provisions of paragraphs (c), (d), (e), or (h) of this section shall meet the following standards:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (j)(3) of this section, during the collection; processing, including incineration; packaging; transporting; or deposition of any asbestos-containing waste material which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(3) Rather than meet the requirement of paragraph (j)(1) of this section, an owner or operator may elect to use either of the disposal methods specified under (j)(3) (i) and (ii) of this section, or an alternative disposal method which has received prior approval by the Administrator:

(i) Treatment of asbestos-containing waste material with water:

(A) Control device asbestos waste shall be thoroughly mixed with water into a slurry and other asbestos-containing waste material shall be adequately wetted. There shall be no visible emissions to the outside air from the collection, mixing and wetting operations, except as provided in paragraph (f) of this section.

(B) After wetting, all asbestos-containing waste material shall be sealed into leak-tight containers while wet, and such containers shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(C) The containers specified under paragraph (j)(3)(i)(B) of this section shall be labeled with a warning label that states:

CAUTION

Contains Asbestos

Avoid Opening or

Breaking Container

Breathing Asbestos Is Hazardous

to Your Health

Alternatively, warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.93a(g)(2)(ii) may be used.

(ii) Processing of asbestos-containing waste material into non-friable forms:

(A) All asbestos-containing waste material shall be formed into non-friable pellets or other shapes and deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(B) There shall be no visible emissions to the outside air from the collection and processing of asbestos-containing waste material, except as specified in paragraph (f) of this section.

(4) For the purposes of this paragraph (j), the term all asbestos-containing waste material as applied to demolition and renovation operations covered by paragraph (d) of this section includes only friable asbestos waste and control device asbestos waste.

(k) Waste disposal for asbestos mills: The owner or operator of any source covered under the provisions of paragraph (a) of this section shall meet the following standard:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (k)(3) of this section, during the collection, processing, packaging, transporting or deposition of any asbestos-containing waste material which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(3) Rather than meet the requirement of paragraph (k)(1) of this section, an owner or operator may elect to meet the following requirements in paragraphs [illegible]

ceived prior approval by the Administrator:

(i) There shall be no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, except as provided in paragraph (f) of this section. Such waste shall be subsequently processed either as specified in paragraph (k)(3)(ii) of this section or as specified in paragraph (j)(3) of this section.

(ii) All asbestos-containing waste material shall be adequately mixed, with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, prior to disposition at a waste disposal site. Such agent shall be used as recommended for the particular dust by the manufacturer of the agent. There shall be no discharge of visible emissions to the outside air from the wetting operation except as specified in paragraph (f) of this section. Wetting may be suspended when the ambient temperature at the waste disposal site is less than −9.5° C (ca. 15° F). The ambient air temperature shall be determined by an appropriate measurement method with an accuracy of ±1° C (±2° F) and recorded at least at hourly intervals during the period that the operation of the wetting system is suspended. Records of such temperature measurements shall be retained at the source for a minimum of 2 years and made available for inspection by the Administrator.

(l) The owner of any inactive waste disposal site, which was operated by sources covered under § 61.22(a), (c) or (e) and where asbestos-containing waste material produced by such sources was deposited, shall meet the following standards:

(1) There shall be no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph, except as provided in paragraph (l)(5) of this section.

(2) Warning signs shall be displayed at all entrances, and along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited, at intervals of 100 m (ca. 330 ft) or less, except as specified in shall be posted in such a manner and location that a person may easily read the legend. The warning signs required by this paragraph shall conform to the requirements of 20" x 14" upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND

ASBESTOS WASTE DISPOSAL SITE

DO NOT CREATE DUST

Breathing Asbestos is Hazardous to Your Health

Notation

1" Sans Serif, Gothic or Block

¾" Sans Serif, Gothic or Block

14 Point Gothic

Spacing between lines shall be at least equal to the height of the upper of the two lines.

(3) The perimeter of the site shall be fenced in a manner adequate to deter access by the general public, except as specified in paragraph (l)(4) of this section.

(4) Warning signs and fencing are not required where the requirements of paragraphs (l)(5) (i) or (ii) of this section are met, or where a natural barrier adequately deters access by the general public. Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access to the general public.

(5) Rather than meet the requirement of paragraph (l)(1) of this section, an owner may elect to meet the requirements of this paragraph or may use an alternative control method for emissions from inactive waste disposal sites which has received prior approval by the Administrator.

(i) The asbestos-containing waste material shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material, and a cover of vegetation shall be

adequate to prevent exposure of the asbestos-containing waste material; or

(ii) The asbestos-containing waste material shall be covered with at least 60 centimeters (ca. 2 feet) of compacted non-asbestos-containing material and maintained to prevent exposure of the asbestos-containing waste; or

(iii) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion shall be applied. Such agent shall be used as recommended for the particular asbestos tailings by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

[38 FR 8826, Apr. 6, 1973, as amended at 39 FR 15398, May 3, 1974; 40 FR 48299, Oct. 14, 1975; 43 FR 26374, June 19, 1978]

§ 61.23 Air-cleaning.

If air-cleaning is elected, as permitted by §§ 61.22(f) and 61.22(d)(4)(iv), the requirements of this section must be met.

(a) Fabric filter collection devices must be used, except as noted in paragraphs (b) and (c) of this section. Such devices must be operated at a pressure drop of no more than 4 inches water gage, as measured across the filter fabric. The airflow permeability, as determined by ASTM method D737-69, must not exceed 30 $ft^3/min/ft^2$ for woven fabrics or 35 $ft^3/min/ft^2$ for felted fabrics, except that 40 $ft^3/min/ft^2$ for woven and 45 $ft^3/min/ft^2$ for felted fabrics is allowed for filtering air from asbestos ore dryers. Each square yard of felted fabric must weigh at least 14 ounces and be at least one-sixteenth inch thick throughout. Synthetic fabrics must not contain fill yarn other than that which is spun.

(b) If the use of fabric filters creates a fire or explosion hazard, the administrator may authorize the use of wet collectors designed to operate with a unit contacting energy of at least 40 inches water gage pressure.

(c) The administrator may authorize than that described in paragraphs (a) and (b) of this section if the owner or operator demonstrates to the satisfaction of the administrator that the filtering of particulate asbestos material is equivalent to that of the described equipment.

(d) All air-cleaning equipment authorized by this section must be properly installed, used, operated, and maintained. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975]

§ 61.24 Reporting.

The owner or operator of any existing source to which this subpart is applicable shall, within 90 days after the effective date, provide the following information to the administrator:

(a) A description of the emission control equipment used for each process;

(b) If a fabric filter device is used to control emissions, the pressure drop across the fabric filter in inches water gage.

(1) If the fabric filter device utilizes a woven fabric, the airflow permeability in $ft^3/min/ft^2$ and, if the fabric is synthetic, indicate whether the fill yarn is spun or not spun.

(2) If the fabric filter device utilizes a felted fabric, the density in oz/yd^2, the minimum thickness in inches, and the airflow permeability in $ft^3/min/ft^2$.

(c) For sources subject to §§ 61.22(j) and 61.22(k):

(1) A brief description of each process that generates asbestos-containing waste material.

(2) The average weight of asbestos-containing waste material disposed of, measured in kg/day.

(3) The emission control methods used in all stages of waste disposal.

(4) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(d) For sources subject to § 61.22(l)

(2) The method or methods used to comply with the standard, or alternative procedures to be used.

(e) Such information shall accompany the information required by § 61.10. The information described in this section shall be reported using the format of Appendix A of this part.

(Sec. 114, Clean Air Act as amended (42 U.S.C. 7414))

[38 FR 8826, Apr. 6, 1973, as amended at 40 FR 48302, Oct. 14, 1975; 43 FR 8800, Mar. 3, 1978]

§ 61.25 Waste disposal sites.

In order to be an acceptable site for disposal of asbestos-containing waste material under § 61.22(j) and (k), an active waste disposal site shall meet the requirements of this section.

(a) There shall be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, except as provided in paragraph (e) of this section.

(b) Warning signs shall be displayed at all entrances, and along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited, at intervals of 100 m (ca. 330 ft) or less except as specified in paragraph (d) of this section. Signs shall be posted in such a manner and location that a person may easily read the legend. The warning signs required by this paragraph shall conform to the requirements of 20" × 14" upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND

ASBESTOS WASTE DISPOSAL SITE

Do Not Create Dust

Breathing Asbestos is Hazardous to Your Health

Notation

1" Sans Serif, Gothic or Block

¾" Sans Serif, Gothic or Block

14 Point Gothic

Spacing between lines shall be at least equal to the height of the upper of the two lines.

(c) The perimeter of the disposal site shall be fenced in order to adequately deter access to the general public except as specified in paragraph (d) of this section.

(d) Warning signs and fencing are not required where the requirements of paragraph (e)(1) of this section are met, or where a natural barrier adequately deters access to the general public. Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access to the general public.

(e) Rather than meet the requirement of paragraph (a) of this section, an owner or operator may elect to meet the requirements of paragraph (e)(1) or (e)(2) of this section, or may use an alternative control method for emissions from active waste disposal sites which has received prior approval by the Administrator.

(1) At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material.

(2) At the end of each operating day, or at least once every 24-hour period while the disposal site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material, or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion. Such agent shall be used as recommended for the particular dust by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

[40 FR 48302, Oct. 14, 1975]

Subpart C—National Emission Standard for Beryllium

§ 61.30 Applicability.

The provisions of this subpart are applicable to the following stationary sources:

(a) Extraction plans, ceramic plants, foundries, incinerators, and propellant plants which process beryllium ore, beryllium, beryllium oxide, beryllium alloys, or beryllium-containing waste.

(b) Machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight.

§ 61.31 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) "Beryllium" means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(b) "Extraction plant" means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(c) "Beryllium ore" means any naturally occurring material mined or gathered for its beryllium content.

(d) "Machine shop" means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(e) "Ceramic plant" means a manufacturing plant producing ceramic items.

(f) "Foundry" means a facility engaged in the melting or casting of beryllium metal or alloy.

(g) "Beryllium-containing waste" means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this subpart.

(h) "Incinerator" means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(i) "Propellant" means a fuel or fuel/oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.

(j) "Beryllium alloy" means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(k) "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant.

§ 61.32 Emission standard.

(a) Emissions to the atmosphere from stationary sources subject to the provisions of this subpart shall not exceed 10 grams of beryllium over a 24-hour period, except as provided in paragraph (b) of this section.

(b) Rather than meet the requirement of paragraph (a) of this section, an owner or operator may request approval from the Administrator to meet an ambient concentration limit on beryllium in the vicinity of the stationary source of 0.01 $\mu g/m^3$, averaged over a 30-day period.

(1) Approval of such requests may be granted by the Administrator provided that:

(i) At least 3 years of data is available which in the judgment of the Administrator demonstrates that the future ambient concentrations of beryllium in the vicinity of the stationary source will not exceed 0.01 $\mu g/m^3$, averaged over a 30-day period. Such 3-year period shall be the 3 years ending 30 days before the effective date of this standard.

(ii) The owner or operator requests

date.

ASSOCIATION OF ALASKA SCHOOL BOARDS
326 Fourth St., Suite 510 • Juneau, Alaska 99801 • (907) 586-1083

ASBESTOS SURVEY

School District	Information Gathered
Adak	Removal project will be under way this summer through H.H.S. at a total cost of $120,000 which included capsulating the pipes earlier this school year.
Alaska Gateway	No asbestos problem
Aleutian Region	No asbestos problem
Anchorage	Approximately $10 million dollars. Asbestos expert, Wayne Tenzel, will be available for testimony January 24 and 25 as well as the first part of February. (Written report will be mailed to AASB.)
Chatham	No asbestos problem
Copper River	No asbestos problem
Cordova	Cost estimates range from $34,000-$38,000 bid (direct contact with contractors) to $80,000 estimates from engineers who will set up removal plans. Usual engineering costs 10-15% of the contract price. Additional factor replacement of material removed - $20,000-$40,000.
Fairbanks	Total cost for all 21 schools in the Fairbanks area is $1,568,045.00. (Written report will follow via mail.)
Galena	No asbestos problem
Haines	No asbestos problem
Kenai	No asbestos problem
King Cove	No asbestos problem
Lake and Peninsula	No asbestos problem
Nenana	No dollar amount has been determined to date.
Nome	No asbestos problem
North Slope	No asbestos problem

School District	Information Gathered
Pribilof Islands	Entire outer skin of school is made of asbestos, but no cost estimates yet. In process of building new school, so hopefully it won't be a problem anyway.
Railbelt	No asbestos problem
Sitka	Only in boiler room of Etolin High School. (Sitka did not report cost estimates)
Skagway	No asbestos problem
Southeast Islands	No asbestos problem
Valdez	No asbestos problem
Yukon Koyukuk	No asbestos problem

NO RESPONSE TO DATE FROM:

Annette Island
Bering Strait
Bristol Bay
Chugach
Craig
Delta/Greely
Dillingham
Hoonah
Hydaburg
Iditarod
Juneau
Kake
Ketchikan
Klawock
Kodiak
Kuspuk
Lower Kuskokwim
Lower Yukon
Mat Su
Northwest Arctic
Pelican
Petersburg
St. Marys
Sand Point
Southwest Region
Tanana
Unalaska
Wrangell
Yakutat
Yukon Flats

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
ALASKA OPERATIONS OFFICE
3200 HOSPITAL DRIVE
SUITE 101
JUNEAU, ALASKA 99801

REPLY TO
ATTN OF:

February 1, 1984

RECEIVED

Joe Cladouhos, Director
Division of Environmental Quality Management
Alaska Department of Environmental Conservation
Pouch O
Juneau, Alaska 99811

RE: Senate Bill No.'s 373 and 374 introduced on 1/25/84

Dear Mr. Cladouhos:

As a result of a request by your staff, we have provided a review of the current asbestos regulations and our comments on Senate Bills 373 and 374. We strongly support the concept of both these Bills. The EPA Alaska Operations Office (AOO) has been actively involved in 1) providing guidance to schools on school regulation 40 CFR Part 763, 2) providing information to contractors conducting demolition/renovation of friable asbestos, 3) inspecting asbestos demolition/renovation projects and 4) responding to all complaints in this area. The AOO also notifies the State Department of Labor (SDoL) on each demolition/renovation asbestos project for which we receive a notification.

Our staff in Alaska is limited to .1 of a person year for asbestos activities; therefore, we strongly support efforts from state agencies which supplement our efforts. We feel that Senate Bill 373 in conjunction with the present EPA, U. S. Department of Labor (DoL), and SDoL regulation would provide for a more complete asbestos program for Alaska; however, appropriations in Bill 374 may not be adequate to fulfill all the designated tasks for the asbestos program.

Background:

At the present time the U. S. Environmental Protection Agency (EPA) requires the identification of friable asbestos in schools in accordance with regulations (40 CFR Part 763) promulgated under the Toxic Substance Control Act (TSCA). In addition, all projects involving the demolition and/or renovation of friable asbestos in buildings are regulated by EPA in accordance with 40 CFR Part 61, Subpart B. These regulations were promulgated under the authority provided to EPA in the Clean Air Act (CAA). The U. S. Department of Labor and the SDoL also have regulations addressing removal and demolition of asbestos from structures (29 CFR 1910.1001 and OH&EC 04.0102 respectively).

Unlike regulations promulgated under the CAA, the school regulations promulgated in accordance with TSCA cannot be delegated to state or local governing agencies. This does not prevent a state or local governing agency from developing its own asbestos program for schools. For the most part Senate Bill 373 would supplement the present EPA school regulations; however, some overlap occurs in the requirement to establish guidelines for schools to identify asbestos health hazards [18.28.050 (5)]

Detailed Comments:

According to Section (1) (b) of Senate Bill 373 there are three main purposes for the Act. Our comments on each of these is discussed in the following text:

1) We support the testing and analysis of friable materials for asbestos content. According to the Bill, the Alaska Department of Environmental Conservation (ADEC) would provide this service. In accordance with EPA regulations (40 CFR Part 763) all local education agencies were to complete the following tasks by June 28, 1983:

-conduct inspections of schools for friable materials

-collect samples of all materials identified as friable.

-have each sample analyzed by Polarized Light Microscopy (PLM) for asbestos content.

During 1984 the EPA will be conducting inspections of three major school districts in Alaska; however, there have been no inspections of Alaska schools conducted to date. As a result it is not known which schools in Alaska are in compliance with the EPA regulation and therefore some schools may require sampling.

There are approximately 550 schools in Alaska. Each specific friable material type is required to be sampled in three separate areas. Assuming only one type of asbestos is present in each school, 1,650 samples would be representative of the total schools. The information that schools have voluntarily supplied to EPA on their compliance status indicates that schools have more than one type of friable material. Depending on the laboratory, sample analysis costs range from $25.00 to $45.00 per sample. Based on this information the appropriation of $75,000.00 to ADEC may not be adequate to accomplish the analysis of samples from schools and public facilities in Alaska if commercial laboratories are utilized.

2) We support the dissemination of information pertaining to friable asbestos material. Both U. S. Department of Labor and EPA have information and videotapes available that pertain to identification and removal of friable asbestos. The U. S. Department of Health and Human Services has information available on the health effects resulting from asbestos exposure. There is a need for coordinating the distribution of the current and newly generated asbestos publications to the public. Again, the present Bill assigns this responsility to ADEC but the $75,000.00 allocation may be inadequate.

3) Section 18.28.050 (5) of Senate Bill 373 requires ADEC to establish quidelines for determining asbestos health hazards. These quidelines would be used by school officials to establish a sampling plan for friable asbestos. This overlaps with EPA requlations 40 CFR 763.105 and 763.107 on the inspection and sampling of friable material.

We support the correction of identified asbestos health hazards in schools and public facilities. Senate Bill 373 goes one step beyond the EPA school regulations by requiring schools that have the potential to release asbestos fibers, to eliminate friable asbestos material . (It is our understanding that elimination includes an action which would correct the asbestos hazard, but does not necessarily require removal).

We strongly support the appropriations to the Department of Community and Regional Affairs (CRA) for correcting identified asbestos hazards in schools and public facilities. The EPA has not been successful in acquiring an appropriation from Congress for schools requesting financial support for abatement of friable astestos.

If you should have any questions on our comments please contact Kathryn Pazera of my staff.

Sincerely,

Ronald A. Kreizenbeck, Director
Alaska Operations Office

cc: S. Hungerford ✓

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 once.

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 (100 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 no 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 and 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
      sampling -- 1/2 year

      Q/A
      analyse -- 1/2 year

      regulate
      establish guidelines -- 1/2 year

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 <u>one</u> 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.

Fairbanks North Star Borough - Program for Progress

Project Title

Fairbanks Schools Asbestos
Identification and Removal Project

- [X] Equipment
- [ ] Road
- [X] Structure
- [ ] Utility
- [ ] Service

Capital Request $1,385,000

Estimated Annual M & O Cost No Increase in Annual M & O Costs.

Description, Objectives and Public Benefit

During November 1983, sixteen school facilities of the Fairbanks North Star Borough were surveyed by a professional consultant for the presence and extent of asbestos. Asbestos was found in thirteen of the sixteen schools surveyed. This asbestos is "friable" or in a condition to release small fibers into the air. Non-friable asbestos was also found in these schools, usually in a cement-like compound on pipe elbows and fittings.

Friable asbestos is associated with a number of serious illnesses; consequently, the Federal government has issued strict regulations governing the use of asbestos and occupational exposure to airborne asbestos fibers.

The objective of this project is to protect the health of all Borough school building users by the removal or encapsulization of the asbestos materials.

The asbestos hazards were assessed and prioritized in order of the most serious potential risks of exposure. These priorities are:

URGENT:	Requires immediate attention to eliminate or reduce the risk of severe exposure to asbestos fibers.
PRIORITY ONE:	The facility contains friable asbestos which is accessible to all building occupants.
PRIORITY TWO:	The facility contains asbestos which is accessible to maintenance and custodial personnel.

A summary of asbestos findings and cost estimates for removal are given in Table I.

Project Schedule

Encapsulization began December 1983 with local fund appropriation. Removal scheduled for summer 1984.

Project Contact

Larry Crouder, FNSB, Department of Public Works
Borough Engineer

TABLE I

SUMMARY OF ASBESTOS FINDINGS AND COST ESTIMATES

SCHOOL	EXPOSURE	CONDITION	PRIORITY	REMOVAL COST
Barnette Elementary	Maintenance	Friable	P-TWO	$134,390
Denali Elementary	Public	Friable	URGENT	118,512
Hunter Elementary	Maintenance	Friable	P-TWO	137,455
Hutchison Career Center	Public	Friable	URGENT	21,474
Joy Elementary	Public	Friable	URGENT	35,264
Lathrop High School	Public	Friable	URGENT	309,954
Nordale Elementary	Public	Friable	P-ONE	158,502
North Pole Elementary	Public	Friable	URGENT	37,245
North Pole Jr/Sr High	None	NO ASBESTOS FOUND		-0-
Ryan Jr. High	Maintenance	Friable	P-TWO	86,704
Salcha Elementary	Maintenance	Friable	P-TWO	2,741
Tanana Jr. High	None	NO ASBESTOS FOUND		-0-
University Park Elementary	Maintenance	Friable	P-TWO	22,531
West Valley High School	Public	Friable	P-ONE	4,675
Woodriver Elementary	NONE	NO ASBESTOS FOUND		-0-
		SUBTOTAL		1,069,447
		CONTINGENCY		128,333
		DESIGN		117,637
		ADMINISTRATION,DP,ACCOUNTING		69,514
		TOTAL		$1,384,931

ANCHORAGE SCHOOL DISTRICT

PRELIMINARY CAPITAL IMPROVEMENT SUMMARY SHEET

CATEGORY 1

ESSENTIAL FOR THE HOUSING OF STUDENTS

PRIORITY	PROJECT	ESTIMATED COST
1	Asbestos removal.	10,000,000
2	Eagle River - Four-room addition, site improvements, lands purchase.	4,918,020
3	Fire Lake Elementary School.	10,114,700
4	Section 16 Elementary School.	10,402,600
5	Chugiak High - 22-classroom and library addition.	13,304,600
6	School Site Acquisition Program - Phase II.	6,200,000
7	Maintenance Requests - Roofing repairs.	7,901,801
8	Microcomputer Project.	1,500,000
9	Food Education and Service Center.	3,641,800
10	Emergency communication system.	385,000
11	Denali Fundamental - Heating system renovation.	550,000
	SUBTOTAL (CATEGORY 1)	$ 68,918,521

SCHOOL OR DEPARTMENT	PRIORITY	PROJECT TITLE	PROJECT DESCRIPTION	ESTIMATED COSTS
ANCHORAGE SCHOOL DISTRICT S-E,F,G,H/H-9,11,13,15	1	Asbestos removal. (Preliminary estimate. Final estimates are pending the completion of studies on asbestos removal wh h are currently i progress.)	Federal health and safety guidelines specify that friable asbestos should be identified where it exists in public school buildings. While not termed to be immediately dangerous, the presence of this substance may be, in the long term, potentially hazardous. Schools currently designated as being included within the priority one grouping for immediate removal are: Bartlett, Dimond, East, and West High Schools, Clark Junior High, and Mt. Spurr Elementary.	
			Project Estimate:	10,000,000

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.

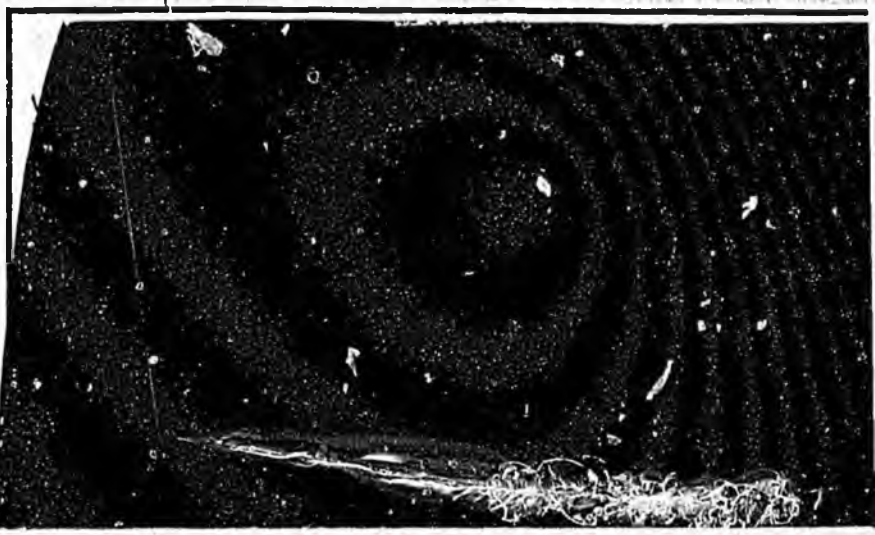
The EPA study did not blame school officials alone. It also found that the agency itself needed to devote more money and people to the program, including more than doubling the EPA inspection program.

"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.

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.

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

Federal funds to help remove asbestos

by Stephen J. Downes 2/9/84
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 30 percent — the federal government's share — of what the district originally believed the Bartlett project would cost: $6.5 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.

ADEC NEWS

PRESS RELEASE FROM THE PUBLIC INFORMATION OFFICE
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
JUNEAU, ALASKA 99811 (907) 465-2606

Bill Sheffield, Governor Richard A. Nevé, Commissioner
Joe Ferguson, Information Officer

FOR IMMEDIATE RELEASE April 20, 1983

ASBESTOS IN ALASKA

by Jana Baumann, Information Officer
Department of Environmental Conservation

JUNEAU--Twenty years ago the word "asbestos" meant progress, indestructibility; a nearly perfect component for building materials to insulate and to fireproof.

Today the mention of asbestos may bring a grim response and thoughts of cancer and lung diseases. What was once thought of as a miracle material is now known to be extremely harmful, especially when it is dispersed into the air and inhaled.

What is asbestos?

Asbestos is a naturally occurring mineral that can be separated into fibers. It is very lightweight and nearly industructible. Before the early 1970s, asbestos was widely used as a component in thermal, electrical, and acoustical insulation, fireproofing, ceiling tiles, and decoration. These applications were most cost effective in large buildings like schools, factories and office buildings.

What are the harmful effects of asbestos?

The danger to human health from asbestos occurs when minute fibers are breathed and become lodged in the lungs. Asbestos containing materials are often friable which means the fibers can be readily separated from the material in which it is

-MORE-

used and become airborne. Fireproofing or insulation which is damaged and crumbling can release invisible asbestos fibers into the air.

Cancers of the chest and lungs and other organs have been positively associated with asbestos exposure. There is no known "safe" exposure. Even brief contact could result in irreversible damage that may not be detected until many years after exposure.

When the health effects of asbestos exposure were documented, many corrective programs were initiated for workers who handle it and for the public who may be unknowingly exposed at their school or workplace. In Alaska, several state and federal agencies regulate asbestos exposure, handling and disposal. Following is a brief summary of agency responsibilities.

Schools and Public Buildings

The U.S. Environmental Protection Agency regulates inspection of schools for identifying asbestos containing materials. The superintendent of each school district in Alaska has been instructed to inspect all school buildings in the district for friable asbestos by June 23, 1983. Each type of friable material located in the school buildings must be tested for asbestos content. Samples must be tested using Polarized Light Microscopy.

School districts are required to keep a record of all the inspections and results from each school building. If asbestos containing material is found in a school, additional information on the location and quantity of this material must be kept on file at the administrative office of the school and at the school district office. The school district must notify employees and the parent-teacher association about the presence of asbestos containing materials.

Asbestos Disposal

The U.S. EPA has regulations which regulate handling and disposal of asbestos. Materials containing friable asbestos must be specially contained and wetted. Landfills or disposal sites must meet certain specifications in order to accept the material. Operators of the disposal site must cover it and post warning signs.

Following is a list of agencies which regulate some aspect of asbestos in Alaska, the situations for which they are responsible, and the person to contact.

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-MORE-

Instruction is available on how to inspect public buildings and schools which may contain friable asbestos. Booklets and video tapes may be borrowed from the Alaska Operations Office of the U.S. Environmental Protection Agency in Juneau or from the Alaska State Library.

Asbestos emissions to the air inside the work place

The Alaska Department of Labor, Division of Occupational Safety and Health, regulates exposure of workers to airborne asbestos fibers inside the work place. The regulations also govern asbestos exposure during demolition and renovation work.

The regulations set standards for exposure levels of asbestos fibers in the air, and specify work practices such as ventilation and clothing and engineering controls for most workers in the state. Exposure criteria for federal employees and workers on offshore oil rigs or seafood processors are regulated by the U.S. Department of Labor, Occupational Safety and Health.

Questions regarding asbestos exposure or work practices in the work place should be directed to Alaska Department of Labor, Division of Occupation Safety and Health. Sampling of our materials in the work place is also done by this agency.

Asbestos emissions to the outside air

The U.S. EPA has established standards to limit emissions of asbestos to the outside air. These rules govern manufacturing plants which produce cement, fireproofing materials, insulation, and other materials which include asbestos as a component. The rules also govern materials used in roadway surfacing and emissions from asbestos milling operations. These regulations also limit release of asbestos to the air during renovation and demolition activity and fabricating operations that utilize commercial asbestos.

-MORE-

Asbestos Disposal

The U.S. EPA has regulations which regulate handling and disposal of asbestos. Materials containing friable asbestos must be specially contained and wetted. Landfills or disposal sites must meet certain specifications in order to accept the material. Operators of the disposal site must cover it and post warning signs.

Following is a list of agencies which regulate some aspect of asbestos in Alaska, the situations for which they are responsible, and the person to contact.

Responsible Agency	Asbestos Situation
U.S. Environmental Protection Agency Alaska Operatoins Office 3200 Hospital Drive, Suite 101 Juneau, Alaska 99801 Phone: 586-7619 Contact: Kathy Pazera or Steve Torok	Emission to the outside air Disposal of materials containing friable asbestos Rules for landfill or disposal site handling Exposure in public buildings and schools
U.S. Department of Labor Occupational Safety and Health Administration Federal Building and U.S. Courthouse 701 C Street Box 29 Anchorage, Alaska 99513 Phone: 271-5125 Contact: Leonardo Limitiaco	Federal employees Offshore oil rig or floating seafood processor employees
Alaska Department of Labor Division of Occupational Health and Safety 3301 Eagle Street, Suite 303 Pouch 7-022 Anchorage, Alaska 99510 Phone: 264-2597 Contact: Stan Godsoe	Asbestos in the air at the work place Work practices for handling asbestos

PRIVATE LABORATORIES WHO TEST SAMPLES FOR FRIABLE ASBESTOS

NHS Incorporated
Environmental Health Sciences Lab
805 Goethals Avenue
Richland, Washington 99352
Phone: (509) 376-6980

Chemical & Geological Labs of Alaska
5633 B Street
Anchorage, Alaska 99502
Phone: (509) 562-2343

Microlab Northwest
7609 140th Place, N.E.
Redmond, Washington 98502
Phone: (206) 885-9419

# # #

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 15,000. 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-

Sent to all school districts and private schools

Note: under TAP, in 1979 all schools were sent copies of Guidance Document 1 & 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 C. Bannerman
Acting Director,
Industry Assistance Office

Date

ROUTING AND TRANSMITTAL SLIP

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. ~~Tom Counts~~		
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.

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

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

1 of 4

ADAC REGION SCHOOLS
FPO SEATTLE AK 96791

SUPERINTENDENT
BRISTOL BAY BOROUGH SCH D
NAKNEK AK 99633

SUPERINTENDENT
ALASKA GATEWAY SCH DIST
TOK AK 99780

SUPERINTENDENT
CRAIG CITY SCH DIST
CRAIG AK 99921

SUPERINTENDENT
DELTA GREELY SCH DIST
DELTA JUNCT AK 99737

SUPERINTENDENT
GATEWAY BOROUGH SCH DIST
KETCHIKAN AK 99901

SUPERINTENDENT
ANCHORAGE SCH DIST
ANCHORAGE AK 99502

SUPERINTENDENT
HAINES BOROUGH SCH DIST
HAINES AK 99827

SUPERINTENDENT
HOONAH CITY SCH DIST
HOONAH AK 99829

SUPERINTENDENT
KENAI PENINSULA BOROUGH S
SOLDOTNA AK 99669

SUPERINTENDENT
KING COVE CITY SCH DIST
KING COVE AK 99612

SUPERINTENDENT
LAKE AND PENINSULA SCH DI
NAKNEK AK 99633

SUPERINTENDENT
LOWER KUSKOKWIM SCH DIST
BETHEL AK 99559

SUPERINTENDENT
IDITAROD AREA SCH DIST
MCGRATH AK 99627

SUPERINTENDENT
ANNETTE ISLAND SCH DIST
METLAKATLA AK 99926

SUPERINTENDENT
NORTH STAR BOROUGH SCH DI
FAIRBANKS AK 99701

SUPERINTENDENT
NORTH SLOPE BOROUGH SCH D
BARROW AK 99723

SUPERINTENDENT
PETERSBURG CITY SCH DIST
PETERSBURG AK 99833

SUPERINTENDENT
PRIBILOF ISLAND SCH DIST
ST PAUL AK 99660

SUPERINTENDENT
ALEUTIAN REGION SCH DIST
ANCHORAGE AK 99503

SUPERINTENDENT
BERING STRAIT SCH DIST
NOME AK 99762

SUPERINTENDENT
CORDOVA CITY SCH DIST
CORDOVA AK 99574

SUPERINTENDENT
COPPER RIVER REAA SCH DIS
GLENNALLEN AK 99588

SUPERINTENDENT
DILLINGHAM CITY SCH DIST
DILLINGHAM AK 99576

SUPERINTENDENT
GALENA CITY SCH DIST
GALENA AK 99741

SUPERINTENDENT
JUNEAU BOROUGH SCHOOLS
DOUGLAS AK 99824

SUPERINTENDENT
SITKA BOROUGH SCH DIST
SITKA AK 99835

SUPERINTENDENT
HYDABURG CITY SCH DIST
HYDABURG AK 99922

SUPERINTENDENT
KAKE CITY SCH DIST
KAKE AK 99830

SUPERINTENDENT
KLAWOCK CITY SCH DIST
KLAWOCK AK 99925

SUPERINTENDENT
KODIAK ISLAND BOROUGH SCH
KODIAK AK 99615

SUPERINTENDENT
LOWER YUKON SCH DIST
MT VILLAGE AK 99632

SUPERINTENDENT
MATANUSKA-SUSITNA BOR SCH
PALMER AK 99645

SUPERINTENDENT
NENANA CITY SCH DIST
NENANA AK 99760

SUPERINTENDENT
NOME CITY SCH DIST
NOME AK 99762

SUPERINTENDENT
NORTHWEST ARCTIC SCH DIST
KOTZEBUE AK 99752

SUPERINTENDENT
PELICAN CITY SCH DIST
PELICAN AK 99832

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

SUPERINTENDENT
SAINT MARYS CITY SCH DIST
ST MARYS AK 99658

SUPERINTENDENT
SAND POINT SCHOOLS
SAND POINT AK 99661

SUPERINTENDENT
SOUTHWEST REGION SCH DIST
DILLINGHAM AK 99576

SUPERINTENDENT
UNALASKA CITY SCH DIST
UNALASKA AK 99685

SUPERINTENDENT
RAIL BELT SCHOOL DISTRICT
CLEAR AK 99704

SUPERINTENDENT
YUKON FLATS SCH DIST
FORT YUKON AK 99740

SUPERINTENDENT
WRANGELL CITY SCH DIST
WRANGELL AK 99929

SUPERINTENDENT
YAKUTAT CITY SCH DIST
YAKUTAT AK 99689

SUPERINTENDENT
SKAGWAY CITY SCH DIST
SKAGWAY AK 99840

SUPERINTENDENT
SOUTHEAST ISLAND SC
KETCHIKAN AK
99901

SUPERINTENDENT
CHATHAM REGION SCHOOLS
ANGOON AK 99820

SUPERINTENDENT
KUSPUK SCHOOL DISTR
ANIAK AK
99557

SUPERINTENDENT
VALDEZ CITY SCH DIST
VALDEZ AK 99686

SUPERINTENDENT
CHUGACH SCH DIST
WHITTIER AK
99502

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Private schools for requests

Office copy

DATE: 2 August, 1982

SUBJECT: Identification and Notification requirements for Friable Asbestos-Containing Materials in Schools

FROM: A. B. Christensen, Asbestos Technical Advisor, Region X

A B Christensen

TO:

Each public school district has been mailed a separate package containing copies of "Asbestos-Containing Materials in School Buildings: A Guidance Document", Parts I & II (the orange colored booklets) and the new Regulation dated Thursday May 27, 1982, "Friable Asbestos-Containing Materials in Schools: Identification and Notification" (which requires inspection of all public and private schools for the presence of friable asbestos-containing material).

The responsibility for compiling and maintaining records in each school district (Local Education Agency) is placed on the individual districts. This mailing is designed to assist you to fulfill the requirements. You may find much of the work was already accomplished under the "Voluntary Asbestos Survey Program".

To assure each district and school have in their file the required information, we have made up some "check-off" lists for your use. One blank copy for the district and blank copies for the individual schools in the district are attached. For those districts and schools that are not complicated by the presence of any friable materials it will be a simple matter to fill in the blanks which apply. Those districts and schools which have friable materials are, obviously, required to complete inspections and analysis and to comply with the additional requirements of the rule as outlined on the "check-off" list and spelled out in the regulation. Please retain a copy of the "check-off" list with your file.

The check lists are made out to try to cover every situation so please bear with the seeming duplication on the second page of each list.

Should you require copies of any of the following reference materials:

(1) Guidance Documents, Parts I & II,
(2) Mathematical formula referred to in Part I, Chapter 7, page 14 (The Algorithm),
(3) Polarized Light Microscopy (PLM) laboratory listing,
(4) Any other pertinent information, please call or write direct to:

Environmental Protection Agency
School Asbestos Program M/S 524
1200 Sixth Avenue
Seattle, WN 98101 / ~~(206) 442-1255~~ 586-7619

3200 Hospital Dr
Suite 101
Juneau, AK 99801

Your assistance to complete the identification of friable asbestos-containing materials in your school district is appreciated.

EPA Form 1320-6 (Rev. 3-76)

Recordkeeping required by Chapter 1 of Title 40, Code of Federal Regulations, Part 763 - ASBESTOS Subpart F - Friable Asbestos-Containing Materials in Schools; Identification and Notification

Cover Sheet

LOCAL EDUCATION AGENCY
INSPECTION FOR FRIABLE ASBESTOS-CONTAINING MATERIALS

Cover Sheet

Name and Address of the Agency (School District)

Local Education Agencies shall inspect each school building which they lease, own, or otherwise use as a school building, to locate all friable material. Inspection shall consist of looking for and touching all suspect material, including surfaces behind suspended ceilings or other non-permanent structures which may be entered during normal building maintenance or remairs.

Listing of All Schools Under Agency Authority	Inspected for Friable Materials		Contains Friable Materials	
	Yes	No	Yes	No
1.				
2.				
3.				
4.				
5.				
6.				

(Attach additional listing to include all schools in agency)

Record of Friable Materials in schools which were sampled and analyzed

School	Sampled Yes or No / Analyzed Yes or No	Analysis Results	Total Area Analyzed / Material (Friable / Asbestos)
1.			
2.			
3.			
4.			
5.			
6.			

(Attach additional listing to include all schools in Agency which contain Friable Asbestos-Containing Materials)

For each school which contains friable asbestos-containing materials, the total number of school employees who regularly work in that school

Administrative	Faculty	Custodial

Continued Next Page

Warnings and Notifications

(a) Local Education Agencies shall post in the primary administrative and custodial offices and in the faculty common rooms of each school under their authority a completed copy of the Notice to School Employees unless no friable asbestos-containing material is present in the school. The Notice shall remain posted indefinitely in any school which has friable asbestos-containing material.

Date Posted _____ Copies Attached - Yes_____ No_____

(b) Local Education Agencies shall provide to all persons employed in school buildings under their authority which contain friable asbestos-containing materials a written Notice of the location, by room or building area, of all friable asbestos-containing materials in the school

Date Notice Provided _____ Copies Attached - Yes_____ No_____

(c) "A Guide for Reducing Asbestos Exposure", shall be provided to all custodial or maintenance employees.

Date Guide Provided _____

(d) Local Education Agencies shall provide notice of the results of inspections and analysis in each school in which friable asbestos materials are found to the appropriate parent-teacher association of that school. If there is no parent-teacher association for the school, the Local Education Agency shall notify directly the parents of the pupils.

Date Notice Provided to: PTA_____ Parents _____

(e) Each Local Education Agency shall complete and retain in the administrative office of the Local Education Agency the form "Inspections for Friable Asbestos-Containing Materials".

Copy Completed - Yes_____ No_____

CERTIFICATION:

I hereby certify that this Agency has complied with the EPA Regulation 40 CFR, 763.100 through 763.117, "Asbestos-Containing Materials in Schools; Identification and Notification", and that the information on this form is, to the best of my knowledge, true and complete.

Signature	Typed or Printed Name
Typed or Printed Title	Date

Please send copies of this form completed to:

(1) State Department of Education, Pouch F, Juneau, AK 99811, ATTEN: Facilities

(2) EPA ~~M/S 524~~ EPA-900
~~1200 6th Ave.~~ 3200 Hospital DR.
~~Seattle, WN 98101~~ Suite 101
Juneau, AK 99801

Recordkeeping required by Chapter 1 of Title 40, Code of Federal Regulations, Part 763-ASBESTOS Subpart F - Friable Asbestos-Containing Materials in Schools; Identification and Notification

Cover Sheet

INDIVIDUAL SCHOOL INSPECTION FOR FRIABLE ASBESTOS-CONTAINING MATERIALS

Cover Sheet

Name and Address of the School

Local Education Agencies shall inspect each school building which they lease, own, or otherwise use as a school building, to locate all friable material. Inspection shall consist of looking for and touching all suspect material, including surfaces behind suspended ceilings or other non-permanent structures which may be entered during normal building maintenance or repairs.

Listing of All Buildings Used by School	Inspected For Friable Materials	Friable Materials Present/ Not Present
1.		
2.		
3.		
4.		
5.		
6.		

(Attach additional listing to include all buildings - (§763.103 (h))

FOR EACH SCHOOL BUILDING WHICH CONTAINS FRIABLE MATERIALS, THE FOLLOWING INFORMATION MUST BE MAINTAINED IN THAT SCHOOL'S ASBESTOS FILE:

1. A blueprint, diagram, or written description of the building which identifies clearly the location(s) and approximate area(s) in square feet of each sampling area of such material(s), the locations at which samples were taken, and the identification number of each sample, and which shows clearly whether each sampling area of friable material contains asbestos, including an estimate of its percent asbestos content as determined by calculating the average of the percent asbestos content of all samples taken in the area.

2. A copy of all laboratory reports and all correspondence with laboratories concerning the analysis of samples taken.

3. For each school, copies of the "Guide for Reducing Asbestos Exposure", and one copy of "Asbestos-Containing Materials in School Buildings: A Guidance Document, Parts 1 & 2.

Continued Next Page

Warnings and Notifications

(a) Local Education Agencies shall post in the primary administrative and custodial offices and in the faculty common rooms of each school under their authority a completed copy of the Notice to School Employees unless no friable asbestos-containing material is present in the school. The Notice shall remain posted indefinitely in any school which has friable asbestos-containing material.

Date Posted _____ Copies Attached - Yes _____ No _____

(b) Local Education Agencies shall provide to all persons employed in school buildings under their authority which contain friable asbestos-containing materials a written Notice of the location, by room or building area, of all friable asbestos-containing materials in the school.

Date Notice Provided _____ Copies Attached - Yes _____ No _____

(c) "A Guide for Reducing Asbestos Exposure", shall be provided to all custodial or maintenance employees.

Date "Guide" Provided _____

(d) Local Education Agencies shall provide notice of the results of inspections and analysis in each school in which friable asbestos-containing materials are found to the appropriate parent-teacher association of that school. If there is no parent-teacher association for the school, the Local Education Agency shall notify directly the parents of the pupils.

Date Notice Provided To: PTA _____ Parents _____

CERTIFICATION:

I hereby certify that this school has complied with the EPA Regulation 40 CFR 763.100 through 763.117, "Asbestos-Containing Materials in Schools; Identification and Notification", and that the information on this form is, to the best of my knowledge, true and complete.

Signature	Typed or Printed Name
Typed or Printed Title	Date

copy of the friable-asbestos results of any Alaska school that complies with the present regulation.

3) [illegible] of these schools represented at your presentation in Anchorage and Fairbanks.

Thank You for your time and effort.

September 17, 1982

Sincerely,

Chris Christensen, Asbestos Technical Advisor
EPA/Region X
1200 Sixth Avenue
Seattle, Washington 98101

Dear Chris[illegible]
A. Smith

The EPA-AOO, Juneau would like to express their appreciation for your presentation on the May 27, 1982 Regulation on Friable Asbestos-Containing Materials in Schools conducted in Juneau (9/13), Anchorage (9/14), and Fairbanks (9/15) for all Alaska school district representatives. I think this explanation, and clarification of the relatively new rule will help to promote Alaska schools to comply with the regulation.

As we discussed, you are planning to distribute a letter explaining the new friable-asbestos regulation to each Alaska school district and private school. Hopefully, this will clarify the regulation for those school representatives who were unable to attend your presentation and encourage each school to comply with the regulation in a timely manner. If we can be of any assistance to you in notifying Alaska schools of their responsibility in identifying friable-asbestos materials in their schools, please contact us.

In order to complete our records concerning this project would you please send us a copy of the following materials:

1) The 1982 cover letter that accompanied the new regulation and Guidance Document distributed to all school districts and private schools.

2) The follow-up letter (yellow) and attachments you will be distributing to school districts and private schools.

3) Copy of the friable-asbestos results of all Alaska schools that complied with the volunteer program.

4) Copy of the friable-asbestos results of any Alaska school that complies with the present regulation.

5) List of those schools represented at your presentation in Anchorage and Fairbanks.

Thank you for your time and effort.

Sincerely,

Kathy Pazera
Environmental Scientist

cc: J. Halterman
A. Smith

ATTENDANCE TO CHRISTENSEN'S PRESENTATION in Anchorage 9/14/82

Tom Bacon Risk Manager Anchorage School Dist

Bob Thornton MAINT DEPT. ANCHORAGE School Dist.

Bob Ellison MAINT + OPERATIONS DIR. KODIAK SCHOOL DIST

Dan R. Sherk PLANT MANAGER North Slope Borough Sch Dist

Ludwig G. Osowiecki DEPUTY SUPERINTENDENT Kenai Peninsula Boro

James Wm. Elliott DOE (SEA) ANCHORAGE

Patrick A. Day DIR. FACILITIES Valdez City Schools Valdez

James C. Hunsicker DIR operation & Maintenance MAT SU School Dist.

Jan D. Affinito, Ass't Contract Administrator, Matanuska-Susitna Borough

Steve Zeake AK Dept. of Env. Cons. AK

437 E St., Suite 200

Anch., AK 99501

Please send 10 copies of material listed on 2 Aug. 82 memorandum. Thank you.

Need copy of model specifications for development of asbestos removal contracts.

ATTN: JAN AFFINITO

MATANUSKA-SUSITNA BOROUGH
P.O. Box B
PALMER, AK
99645

Please send set of specs to and PLM Lab.
Tom Bibeau Risk Manager
Anchorage School Dist.
Pouch 6-614
Anchorage, AK 99503

Attendance to Christensen to presentation in Fairbanks 9/15/82.

List

+ * Donna Higdon - S.D. Warehouse 1300 Minnie St FBKS. {P.O Box 1250 {FBKS. AK 99707

+ * Michael D. Pinon FAIRBANK NSBSD
Dir. Maint + OPS.

+ Nancy R. Napolilli
Dept. of Environmental Conservation
Pouch 1601
fairbanks, AK 99707

+ Bid B. IRVIN
ALASKA GATEWAY SCHOOL DISTRIC
PO BOX 226 TOK ALASKA 99780

+ Ray L. Huntley
Delta/Greely School Dist.
PO Box 527 Delta Jct. ak 99737

+ JIM ELLIOTT
DOE 650 W. INTNL AIRPT RD
ANCH 99502

+ HARRY PURDY
Galena City School District

* James Howard
Maint Foreman -
FBKS No. Star Borough School Dist.
PO Box 1250 - 99201

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

SB

373/374

See also separate file folders for SB 373 and SB 374

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

Presented Before the Senate Health and Social Services Committee

April, 1981

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

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

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

BACKGROUND

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

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

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

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

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

RECOMMENDATIONS

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

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

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

I. Recommendations for SB-339

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