

ING WARNING

Editor's note: The following is the conclusion of last month's article found on page 28.

The Great American Asbestos Hoax

Part two of two

by Richard Baxter

Studies conducted by the Environmental Protection Agency (EPA) and private industry indicate that airborne asbestos levels inside buildings are low, and the difference between prevalent indoor and outdoor asbestos fiber concentrations is not significant from a public health perspective.

There is, at present, not sufficient information available to correlate the relationship between potential exposure and actual indoor concentrations of airborne asbestos fibers. Current lower fiber counts indicate that overall risk is low, and that the frequency of "episodic" releases are also low.

The data base used to assess health risks associated with asbestos fiber exposure by federal agencies is based on studies of occupational settings, and no data base exists for exposure of the general population to ordinary and unconcentrated levels of exposure to asbestos fibers (harmful or otherwise).

In Perspective

From the summary of the international "Symposium on Health Aspects of Exposure to Asbestos in Buildings," conducted at the Energy and Environmental Policy Center at the John F. Kennedy School of Government at Harvard University: "Deaths from asbestosis are observed only among individuals that have been occupationally exposed to high levels of asbestos. Present levels of asbestos in workplaces utilizing current control procedures are not expected to produce any measurable impairment.

"Further, if asbestosis occurs, due to recent and much lower levels of asbestos exposure in workplaces, it has a slow progression and rarely results in serious disability or increased mortality. Consequently, there does not seem to be any evidence that asbestosis is a concern as a result of environmental exposure."

The occupational-related data

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Photo courtesy of Lusa Asbestos Removal Co., Melrose Park, Ill.

Preparation work is being done before the actual removal of asbestos.

base used by federal agencies to catch public attention included no essential information about the age of decedents or whether or not other causal factors (smoking or exposure to other hazardous materials) contributed to the deaths. *The Wall Street Journal* reported recently that approximately 100,000 deaths had been attributed to asbestos exposure over the years – no mention of how many years, the age of decedents, other causal factors, etc.

If one reflects on the number of deaths and disabilities that are attributable to automobiles and smoking each year, the problems attributable to asbestos fade into the sunset. But we don't see federal agencies clamoring for the banning of automobiles even though the best statistics indicate over 50,000 fatalities per year are attributable to the automobile.

To their credit, some federal agencies have addressed the smoking issue, but not nearly as strongly as the asbestos issue. Perhaps if the tax revenue on asbestos fibers equaled the tax revenue on tobacco, asbestos would be a much less harmful product.

The symposium summary attempted to put the risk of death in the general population by asbestos exposure into perspective by comparing projected asbestos risks to other known risks. "Risk Models" developed using conservative exposure levels of mixed asbestos fibers calculated from EPA measured exposures were used for the projections of asbestos-related risk.

Lifetime risks of cancer induced by ambient air toxins in major metropolitan areas are 10 times greater than the potential for cancer caused by asbestos exposure. Living with a smoker increased the cancer-related risk by 200 to 400 times the risk of cancer from asbestos exposure.

The figures shown in the chart are reproduced from the symposium summary, with lifetime risk of premature death per 100,000 indicated for various known and projected causes.

It is absolutely unconscionable for a government which subsidi-

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Various known and projected causes of premature death per 100,000

Smoking (all causes)	21,900
Smoking (cancer only)	8,800
Motor Vehicle	1,600
Frequent Airline Passenger	730
Coal Mining Accidents	441
Indoor Radon	400
Motor Vehicle (pedestrian)	290
Environmental Tobacco Smoke	200
Diagnostic X rays	75
Cycling Deaths	75
Consuming Miami/New Orleans Drinking Water	7
Lightning	3
Hurricanes	3
Asbestos in School Buildings	1

dizes the growth of tobacco as a farm crop (and therefore an industry that produces substantial health hazards) to ban a substance as useful as asbestos when the potential hazards from the use of tobacco and asbestos are objectively evaluated.

Did You Know?

When the fireproofing properties of asbestos fibers are considered alone, asbestos has probably saved more lives in the general population than been harmful. ←

The full economic and safety impact of the elimination of asbestos fibers from automotive brakes and clutches remains to be assessed. Brake pads and clutch disks formed without asbestos fibers tend to disintegrate after only short periods of use and may cause loss of control of the vehicle. But deaths caused by

failure of brake and drive train components will be listed in the motor vehicle category and while in fact, only the absence of asbestos fibers will be the cause.

Aside from the obvious economic waste involved in removal of asbestos-containing materials from buildings for no rationally justifiable reason, industry must deal with irrational bureaucratic decisions regulating the removal of ACM in any form. Friable asbestos, reducible to powder using hand pressure, has been the target of most regulation by federal and state agencies, but it is impossible, in most instances, to get official differentiation between friable and non-friable asbestos-containing materials.

Non-friable and/or encapsulated asbestos materials have little, if any, propensity to release indi-
(more on next page)



vidual asbestos fibers even when disturbed. Virtually all asbestos-containing roofing materials are encapsulated in asphalt, are not friable by federal definition, and do not constitute an airborne or respirable fiber hazard.

More Data

The National Roofing Contractors Association (NRCA) has been collecting data during removal of roofing assemblies containing asbestos fibers for several years, contending that asbestos-containing roofing materials (ACRM) are not a particular hazard because asbestos fibers are essentially encapsulated in bituminous materials and are non-friable by federal agency definition.

Hundreds of samples have been collected from monitoring of roof removal work to indicate that removal of asbestos fibers encapsulated in bituminous materials constitutes no particular health hazard to the remover or to the general population. In private, federal officials have acknowledged the evidence as valid, but officially, introduction of the evidence that Permissible Exposure Levels (PELs) are rarely, if ever, exceeded during roof removal processes has resulted only in reduction of the PELs by regulating agencies.

It seems that the original PELs once indicated as acceptable had no scientifically supportable founda-

tion. If an industry doesn't exceed the PELs established by a government agency, the PEL must be reduced until the prescribed individual protective measures are implemented by the removing contractor to justify the agency's regulations. As in the case of the originally imposed PELs, the subsequently imposed lower PELs have even less foundation except for the additional stroke of the bureaucratic pen.

The NRCA engaged the Stanford Research Institute (SRI) to evaluate the data accumulated from air monitoring by NRCA members. Conclusions drawn by SRI were similar to those related in the Harvard symposium regarding the fallacies of phase-contrast microscopy (PCM) methods for evaluating airborne fiber exposure during removal of asbestos-containing roofing materials, and the potential hazards associated with removal of ACRMs.

SRI concluded that on most general construction sites, a random fiber counted by PCM will more likely be something other than asbestos, and that it is generally not possible to differentiate (reliably) between asbestos and non-asbestos fibers with the PCM.

But SRI also provided the best, if somewhat illogical, excuse for OSHA relying on outdated and generally marginally reliable methods for evaluating airborne

particle samples; "... any change in the measurement method to determine compliance with the OSHA standard would, in effect, constitute a new standard and would require the same elaborate consensus-gathering effort, with public hearings and the like, as was required for the last standard setting effort in 1986."

That reason alone appears sufficient to continue to err in the eyes of the bureaucrats. And so OSHA, NIOSH and the EPA all have different definitions and standards for compliance with multiple and sometimes contradictory rules - and the issue is even further clouded with interpretations and unjustified tightening of the criteria by equivalent state agencies.

Some Agreement

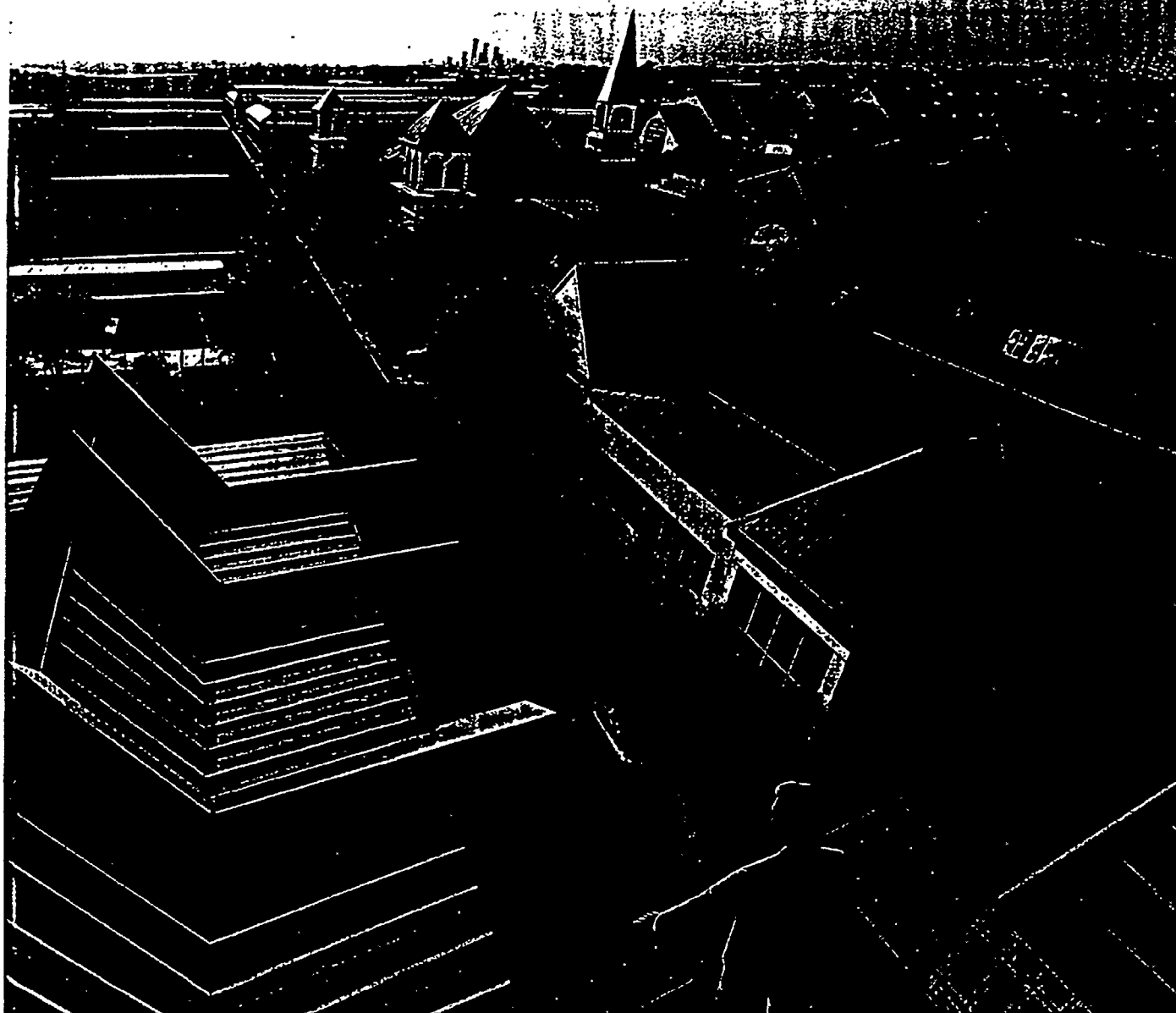
William K. Reilly, current administrator of the EPA, has recently admitted that the asbestos risk has been miscommunicated, and that the current asbestos situation is a "good illustration of the law of unintended results."

He admits that most of the federal agency conclusions about human health risks are based on debatable assumptions and projections, which may or may not accurately predict human health effects, and that unnecessary removal of ACM could pose a greater health risk than leaving the material alone so long as the material is undisturbed and unlikely to be disturbed.

Reilly contends that "If government is going to sound the alarm about potential threats to public health and safety ... we must also state clearly just what these threats are, and how best to deal with them. And when appropriate public reaction does occur, we have a responsibility to step up promptly and explain exactly what we know and don't know so the public can make an informed judgement of the situation."

It certainly doesn't appear that his sentiments have been passed along to other self-serving federal agencies. And OSHA prepares to again reduce the PEL for asbestos
(more on page 52)

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fiber exposure by another 50 percent for no other apparent reason than the current PELs are not exceeded often enough during normal construction operations.

And now that OSHA has received a congressional mandate to levy increased penalties and fines to help reduce the federal budget deficit, they will be absolutely uncontrollable. Congress, it seems, is counting on OSHA to contribute \$1.2 billion dollars to the general fund over the next five years through its new power to fine and collect penalties for violations of their illogical and unjustifiable rules and PELs. Obviously, the official positions of the EPA and OSHA are an absolute dichotomy.

Some early studies (1960s) on roof-related asbestos exposure were conducted using old monitoring methods, the longest sample exposure being 3 hours with no time-weighted average for exposure considered.

All fibers were counted using the PCM concept, not just asbestos fibers. Some sampling was done during application of asbestos-containing roofing materials, and some during the removal of asbestos-containing roofing materials.

Ironically, concentrations of asbestos fibers were sometimes found to be higher upwind than downwind of the sample area, and none of the personal samples

exceeded the 0.1 f/cm³ when calculated as an eight-hour time-weighted average for comparison with the OSHA standard.

Unfortunately, all of the samples collected during the early tests are suspect because of the lack of control of background contaminants or concurrent installation of other fibrous materials.

Samples recently submitted to SRI by the NRCA were collected using currently acceptable sampling techniques and evaluated by PCM. Most were taken during the time of removal of asbestos-containing roofing materials, and most tests were conducted by certified industrial hygienists. Samples suspect, containing insufficient information, or illegible were discarded as invalid.

All of the 560 personal and 352 area sample results are below the Action Level (AL) (based on eight-hour time-weighted average); all were below the Short Term Excursion Limits (STEL). All of the samples above the Action Limit were taken for time periods of less than 30 minutes, and should be more reasonably compared to the STEL rather than the PEL or AL.

Some TEM data were included in the SRI report. The samples were reported as apparently having been analyzed by competent laboratories, with no results at or above the action level reported.

More Findings

Conclusions rendered by SRI following study and evaluation of NRCA-supplied sample data were as follows:

"On the basis of our review of these data, there appears to be no solid evidence that removal of ACRM yields exposures at or above the action level, the permissible exposure limit, or the excursion limit. A few of the data results were above the 0.1 fiber/cc for the given sampling duration, but information was not available for the remaining eight-hour work shift.

"They were below the OSHA action level when calculated as eight-hour time-weighted averages assuming zero exposure for the remaining shift. There appears to be no pressing need for air monitoring at the start of each job, negative pressure enclosures or wetting.

"However, the use of half-mask respirators is recommended until the source of the fibers in the few samples where concentrations were above 0.1 fibers/cc can be defined. Exposure to asbestos should be minimized until more (or better) information is available; the use of respirators seems a prudent compromise when working with uncharacterized and aged roofing materials. Further work should include analysis of additional samples by transmission electron microscopy (TEM), particularly when phase contrast microscopy (PCM) indicates high exposure levels, to distinguish between asbestos fibers and other fibers present in roofing removal."

The SRI study noted that there may be serious health risks associated with working in protective clothing during hot weather, the use of respirators during work above the ground and with closed chambers and heat stress during roof removal projects; and as is the case with most every study, SRI indicated that the NRCA data could not be construed to be conclusive and that further study should be undertaken to evaluate other conditions. Those qualifications alone should be reason

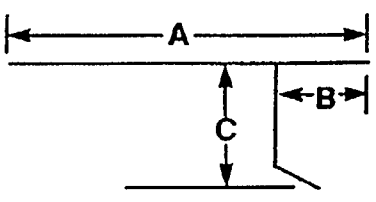
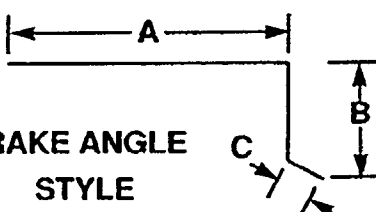
(more on page 54)

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	DE-7	3	3/4	1-1/2		500
	DE-8	4	3/4	2		500
 RAKE ANGLE STYLE						
	RA-1	2	1	1/4		500
	RA-2	3	1-1/2	1/4		500
	RA-11	4	2	1/4		500

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 5" Gutter Guard
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 4" Ornamental Boxes
 Gutter Wedges
 Tile Adapters
 3" Diverters
 4" Diverters
 Roof Apron Hangers
 Pipe Cleats
 5" K Style Gutter

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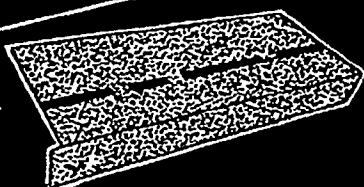


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enough for rejection of the evidence by federal agencies.

What appears to be the consensus from respected institutions and individuals is that, although there are some dangers associated with some types of respirable asbestos fibers, there appears to be no immediate danger to the general population caused by airborne asbestos fibers in buildings or in the environment.

In fact, chrysotile fibers occur naturally in exposed rock formations and are regularly eroded by water and wind to become airborne asbestos fibers. Presumably, man has lived with exposure to airborne asbestos fibers since the days he began to walk upright and carry a club.

Data bases used by federal agencies to determine the permissible levels of airborne asbestos fiber exposure are not necessarily applicable to exposure of the general population to environmental asbestos and are based almost entirely on data collected from an industrial environment where workers were exposed to concentrated and prolonged doses of amphibole or mixed asbestos fibers in very confined areas.

The exposure levels determined as being hazardous by federal agencies have little or no scientific foundation with regards to the general population.

No consideration was made, nor was data collected for, evaluation of exposure to other contributing hazards, such as smoking, or the age of decedents. Methods dictated by federal regulations to be used in evaluation of airborne fiber exposure are very likely to produce erroneous results because of their inherent inability to differentiate between harmful and other fibers.

The risks associated with removal of asbestos-containing materials from building interiors appear to be much higher for building occupants and removal workers than if the asbestos-containing materials were left in place.

So the American public is once again the victim of misinformation perpetrated by those with a vested interest in justifying their

existence. Does anyone remember saccharin? A synthetic sweetener product that made life more pleasant for those with diabetes and tendencies toward obesity, eventually blasphemed by the Food and Drug Administration (FDA) which eventually forced its removal from the market.

Time and research have proved the FDA was absolutely wrong in its evaluation of the effects of saccharin on the health and welfare of the American public, but has the FDA ever extended an apology or restitution for the damage caused to an industry to whom the agency originally conferred its blessing? The Canadian government has continued to approve saccharin while banning the cyclamates endorsed by U.S. federal agencies.

It is not likely that OSHA and/or NIOSH will ever concede that empirical evidence should be considered to alter their rule-making, or that the positives of asbestos outweigh the negatives. Nor will the agencies be peculiarly responsible for their decisions - right or wrong!

The Damage Is Done

The general population will never be provided with enough rational information to determine all the good asbestos has done for the public at large, nor to make educated decisions as to the long-term effects of asbestos on their lives.

Instead, the general population will continue to be bombarded with negative propaganda perpetrated by those with a vested interest in existence justification and economic gains in the removal of asbestos-containing materials and the media which becomes an unwitting accomplice in the perpetration and embellishment of misinformation.

Those of us attempting to exist and make payrolls while attempting to unravel the mystifying, contradictory government rules regarding asbestos removal and disposal could be accused of wrongdoing by one federal agency while complying with the rules of another federal or state

agency. And all the information we can gather to try to protect ourselves will only be used against us as justification by the rulemakers that their original SWAGs concerning exposure levels were too high and must therefore be reduced to ensure that the rules are justified and enforceable regardless of the facts.

Is the furor over asbestos really justified? After considering the minimal calculated risks presented by experts in fiber exposure, is it worth deferring teachers' pay raises to provide funds for removal of functional fireproofing or insulation from schools? Is it worth having otherwise functional facilities condemned because they contain innocuous quantities of asbestos-containing materials? Is it worth risking failure of friction components in vehicles because they no longer contain asbestos fibers?

Should we suggest the encapsulation of all exposed natural

rock formations to minimize the effects of natural wind and water erosion and therefore exposure of the general population to air-

Exposure levels determined as being hazardous by federal agencies have little scientific foundation with regards to the general population.

borne (and therefore respirable) asbestos fibers? Instead of rebuilding deteriorated bridges, should we vacuum shoulders of major highways or install filtration devices at toll booths to minimize personal exposure to air-borne asbestos filters? Only if you

happen to be a tort attorney or derive your income from a federal or state agency that has appointed itself responsible for administering fear to American citizens.

When evaluated against the other voluntary and involuntary risks encountered every day in the course of a normal life in the United States, the worry about asbestos exposure simply doesn't count.

Given the apparent economic waste, the minimal effects of asbestos on the general population and the potential for hazards because of the absence of asbestos, this boondoggle should be laid directly onto Washington bureaucrats. Write your elected representatives who have most likely also been treated like mushrooms by the federal and state agencies. You should be mad as hell about the economic waste, misinformation and paranoia perpetrated by self-serving agencies. Revolutions have come about for less cause. **CG**



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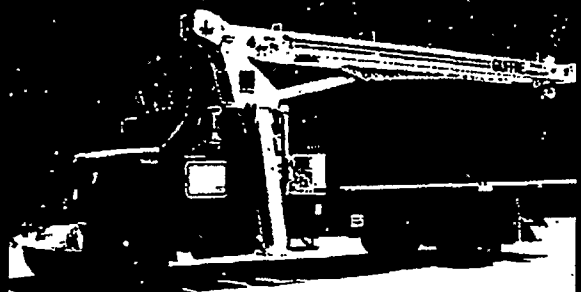
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