

ABSTRACT OF REMARKS

by

DWIGHT E. BROWN
REGIONAL ASBESTOS COORDINATOR

at

THE INTER/MICRO-82 SYMPOSIUM

Sponsored by

McCrone Research Institute

McCormick Inn
Chicago, Illinois

July 22, 1982

ADEQUACY OF TESTING:
ASBESTOS IN PUBLIC BUILDINGS

The Environmental Protection Agency recently issued final regulations that require all public and private elementary and secondary schools to identify any friable materials containing asbestos used in their buildings. The regulations' effective date is June 28, 1982.

This new rule makes it mandatory for school officials to maintain records of their findings, to notify employees, provide employees with instructions on reducing exposure to asbestos and to notify parents or the school's parent-teacher association if friable asbestos materials are found. Asbestos is a known carcinogen. Accordingly, it is especially important that the public be made aware of the hazards that may be present in materials widely used for fireproofing, thermal and acoustical insulation and for decorative purposes.

The potential for release of respirable asbestos fibers depends on the characteristics of the material containing the fibers. The new regulation applies to all friable materials, which are defined as materials that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Assessment of this potential to release fibers may require support from the analytical microscopist.

Abatement and control of asbestos hazards is an interdisciplinary process. A building owner must make responsible decisions with an awareness of the medical, legal and engineering aspects of asbestos exposure problems. If a building owner is misled, there is ample opportunity for him to be subjected to faulty, if not fraudulent, practices at tremendous costs. It is possible, perhaps probable, that a building owner can go through the abatement and control process and end up with problems worse than he had at the start.

Our experiences show that many building owners go through this process and never find out if the remedial measures taken are, in fact, adequate. For example, most building owners don't know if their buildings are clean, or clear of asbestos exposure problems. At the heart of this issue is a dire and urgent need for competent analytical support from the microscopy community.

We need to acquire the capacity to provide definitive guidance on abatement for individual building owners. Definitive guidance cannot be provided without adequate testing. Testing is required at all phases of an abatement project. It can generally be said that we lack even provisional sampling and analytical protocols in some very critical areas. Protocols under development are presently the subject of much debate within the scientific community. But, let us not overlook the facts, that while this seemingly inconclusive debate goes on in the laboratory setting, these same developmental protocols are specific issues that must be dealt with today at any asbestos-related job-site.

Lack of sufficient test design advice from competent analytical authorities forces building owners to often rely on individual, nominal-level interpretation of the state-of-the-art as it may apply to circumstances and technical capabilities at a job-site. This is a very risky proposition, from medical, legal and engineering aspects. A building owner wants to know if his building can be safely occupied. He also wants to know if his engineering approach to his asbestos problem is adequate. Both the building owner and the supporting analytical laboratory want to know if the testing concepts employed are legitimate ones. We need testing concepts that are likely to stand up in courts as technology appropriate to the provisions of "great care".

We commonly envision an asbestos abatement project as one involving three major phases of work:

Preparation of a building survey report.

Development of architectural/engineering recommendations and specifications that are specific for building site and surveillance purposes.

Rehabilitation of buildings with strict surveillance over building conditions, work practices and worker protection procedures.

We use analytical support in each of these phases, typically at the job site and not in a laboratory setting. Contrary to some presently available analytical protocols, analytical results are often needed on a near-real-time basis, and are not of great value after a 3 week waiting period.

There are major areas of concern for analytical personnel. We want to learn more about your methods, processes and procedures. We are especially concerned with your quality assurance procedures and your ability to keep information on a legal, chain-of-custody basis. Topical areas of interests are listed below.

With respect to building surveys:

Quality assurance issues: How can we gain confidence in an analysts' identification of types of materials and their percentage of constituents? This issue is growing because architects, engineers and contractors are learning to judge the usefulness of other products based on material constituents.

Priority-of-action issue: What is the comparative "releasability" of asbestos fibers from the wide variety of materials commonly used in buildings, according to their environmental conditions. Note this question must be addressed at the job site with the help of a microscopist.

Building contamination questions: How do you assess low-level contamination, especially where no suspect asbestos-containing materials are obviously present?

Air sampling as a method of exposure assessment: The public still misunderstands this issue; that is, the need to deal with the potential for fiber release rather than waiting until the fibers are manifested in air samples. Abuse of air sampling protocols is abundantly evident in this market.

With respect to A&E specifications:

How does one test a barrier as a remedial measure concept?

Sealant testing: No sealants are bonded and no standard protocols exist for on-the-site, operational testing. Sealant materials must not allow fiber release under circumstances that simulate the anticipated abuse of the material being tested.

How does one legally justify any method of a remedial measure nature?

Can the microscopist justify removal on an analytical basis? (There is considerable thought that the choice of a remedial measure is not an A&E decision.)

With respect to contractor work:

Why does air monitoring cost 20% of the total job costs when the analytical results are not normally available in time to use the information in any constructive way?

What amount of air sampling of work-in-progress is appropriate for common law defense purposes? (In contrast with what may be regulatorily required?)

When do we know that respirators are sufficient protection for workers?

How do we encourage analytical personnel to use the same measures of worker protection as the contractor requires of his workers on a job-site? How clean is "clean"? This is especially important, in that presently available protocols for sampling were not developed with this extreme measurement in mind.

In conclusion, a building owner is obligated, under common law, to test and to test adequately for hazards. You can see from the above questions that we are sorely dependent on the analytical community for day-to-day support with this testing responsibility. And, if you dare to intervene, you should anticipate litigious problems the building owner may face as he seeks to recover his costs in court, or as he faces tort liabilities for consequences of his (and perhaps your) acts that may arise decades from now. For those who are bold enough to proceed in this arena, I look forward to discussion of these problems with you.