Southeastern States Asbestos Conference 2005
October 24-26, 2005 Gatlinburg, Tennessee

Questions and Answers & Discussion Topics / Updates

EPA has responded to the following questions to the best of the Agency's ability given EPA's understanding of the questions and given the limited information provided. These responses do not represent official EPA applicability determinations about any specific situation. It is always better to present a specific case scenario and ask the EPA to respond to it than to ask general questions.

QUESTIONS and ANSWERS

1) What constitutes a "thorough inspection" under the Asbestos NESHAP?

Prior to demolition or renovation activities, the Asbestos NESHAP requires that a thorough inspection be conducted to determine the presence of asbestos in the area subject to the demolition or renovation. A thorough inspection, which is the responsibility of the owner or operator, means that every accessible area of an affected facility (part of the facility where the demolition or renovation will take place) is inspected. The presence of asbestos and the amount of asbestos in materials may differ from one situation to the next. The inspector should consider all factors pertaining to a particular situation in determining the appropriate number of samples "sufficient to determine" the presence of asbestos including but not limited to homogeneous areas, construction dates, and materials mixed on site. Cinder blocks, mortar, brick, cement foundation, and paint do not typically contain asbestos and would not normally be sampled. However, if any of these materials are suspected to contain asbestos, they should be sampled and analyzed. EPA recommends that samples be collected such as described in the 3-5-7 sampling rule (3 samples< 1,000 sq. ft., 5 samples - 1,000-5,000 sq. ft., 7 samples>5,000 sq. ft.) Since most demolition and renovation activities would cause the ACM to become RACM (see *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials* - pink book). If EPA or another regulatory agency finds asbestos which was not identified prior to beginning a demolition or renovation, enforcement action may be warranted. Strict liability exists here. If asbestos is present, it should be identified in the "thorough inspection". EPA recommends utilizing enforcement resources to pursue a failure to perform a thorough inspection only in situations where both asbestos is found that was not previously identified in the thorough inspection and the amount of asbestos involved meets applicable regulatory threshold amounts.

2) When is the thorough inspection required to be conducted by an accredited building inspector?

An accredited inspector is required pursuant to 15 U.S.C. Section 2646 to perform inspections at public and commercial buildings. An accredited inspector is also required pursuant to 15 U.S.C. Section 2646 to perform inspections at K-12 schools.

40 C.F.R. Part 763, Subpart E, Appendix C defines "public and commercial building" as

the following:

> the interior space of any building which is not a school building, except that the term does not include any residential apartment building of fewer than 10 units or detached single-family homes. The term includes, but is not limited to: industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, preschools, stores, warehouses and factories. Interior space includes exterior hallways connecting buildings, porticos, and mechanical systems used to condition interior space.

Accredited inspectors are not required to perform the thorough inspection for facilities that are not covered under 15 U.S.C. Section 2646. Bear in mind that other facilities not exempted under the Asbestos NESHAP definition of "facility" as well as building exteriors are covered by the Asbestos NESHAP.

3) If a contractor performs polarized light microscopy (PLM) with point counting and determines that no ACM is present in a removal and a regulatory agency finds ACM utilizing transmission electron microscopy (TEM), can the regulatory agency allege violations of the Asbestos NESHAP?

The Asbestos NESHAP states that polarized light microscopy (PLM) or PLM with point counting is to be utilized to analyze the asbestos content of a sample. An owner or operator of a demolition or renovation activity is not required by the Asbestos NESHAP to collect samples. However, the owner or operator is required pursuant to 40 C.F.R. Part 61, Section 61.145(a) to "... thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM." A regulatory agency can allege violations under the Asbestos NESHAP based on TEM analyses. Although TEM analyses is not required, a thorough inspection is required pursuant to Section 61.145(a). This thorough inspection should include a number of samples sufficient to determine the presence and extent of asbestos contamination (although sampling is **not** specifically required by the Asbestos NESHAP). The fact that a regulatory agency finds asbestos that was not previously discovered (regardless of the sample analyses procedures utilized) can be indicative of the failure to perform a thorough inspection. If the thorough inspection had been performed as required, the ACM that was later discovered by the regulatory agency should have been found. The regulatory agency could also allege other Asbestos NESHAP violations including notification, work practice, and disposal violations as applicable. The owner or operator would have known that he needed to comply with specific Asbestos NESHAP requirements if he had performed the thorough inspection.

4) What is the difference in chemical composition and physical structure between chrysotile and crocidolite?

Asbestos minerals are divided into two major classes - serpentine and amphibole asbestos. The serpentine group contains only one asbestos mineral, chrysotile. Chrysotile has

been the most widely-used type of asbestos accounting for approximately 95% of the asbestos found in buildings in the United States. Chrysotile has a sheet or layered structure. Chrysotile has scroll-like, very fine, white fibers (.02-.08 micrometers in diameter). Chrysotile is flexible, heat resistant, and exhibits high tensile strength. The composition of chrysotile is $Mg_3\ Si_2\ O_5\ (OH)_4$.

Crocidolite is one of the five asbestos minerals in the amphibole group. The other minerals are amosite, antinolite, anthophyllite, and tremolite. Amphiboles have a chain-like crystal structure. Crocidolite, although rarely used (some high temperature applications), is the most dangerous form of asbestos. It is known as blue asbestos. It consists of straight, rigid fibers. The composition of crocidolite is $Na_2\ Fe^2{}_3 + Fe^3{}_2 + Si_8O_{22}\ (OH)_2$.

5) When is the removal of Category I floor tile regulated?

The Asbestos NESHAP requirements are applicable to renovations involving the removal of specified threshold amounts (260 linear feet, 160 square feet, 35 cubic feet) of regulated asbestos-containing material (RACM). Category I nonfriable asbestos-containing materials (packings, gaskets, resilient floor coverings and mastic, and asphaltic roofing materials) are considered RACM only when: (1) they will be or have been subjected to sanding, grinding, cutting, or abrading; (2) they are in poor condition and hence friable; or (3) they are located in a structure to be demolished by burning.

Under most common removal scenarios identified in EPA's *A Guide to Normal Demolition Practices Under the Asbestos NESHAP*, resilient floor tile should not be rendered friable if it was in good condition before the renovation. Some removal techniques which would not render the tile to be friable include the use of solvents or water in conjunction with long-handled scrapers or gas or electrically-powered mechanical chisels, dry ice, and infrared machines. **However,** if the tiles are extensively damaged prior to removal, the aforementioned removal techniques **could** render the floor tile to be RACM. Furthermore, any removal method that will cut, grind, sand or abrade the tile as described in 40 C.F.R. Part 61, Section 61.141 will cause the tile to become RACM. Also, pulling the tile off of the floor, if still attached to the subfloor by mastic, may tear the vinyl tile making it become RACM.

In summary, the applicability of the Asbestos NESHAP to the removal of Category I nonfriable asbestos-containing materials (ACMs) depends on the following: (1) the condition of the material at the time of renovation, (2) the nature of the operation to which the material will be subjected, and (3) the amount of ACM involved. The requirements contained in the Asbestos NESHAP are only applicable to renovations involving threshold amounts of vinyl asbestos tile (VAT) when such VAT is considered to be RACM or considered to be rendered RACM by the removal procedures being employed. An inspector would have to be on-site to examine the debris to determine if the method used to remove the floor tile rendered it to be RACM. This must be determined on a **case-by-case basis!**

6) What is the current status of the ACTS/NARS program?

Please see the May 12, 2005, memorandum entitled *Shut Down of the National Asbestos Registry System (NARS).* Please report the following Asbestos NESHAP activities at least forty-five (45) days after each fiscal quarter:

1. number of notifications received
2. number of inspections
3. non-notifier activity if applicable
4. number of non-penalty enforcement actions
5. number of enforcement actions with an assessed penalty
6. total penalty assessment

Please report this information to Pamela McIlvaine at mcilvaine.pam@epa.gov.

(7) Is there evidence that ACM present in a fire, such as asbestos cement material, reduces the asbestos content percentage when analyzed by PLM?

EPA interprets this question to ask if during a fire, would asbestos fibers be reduced as a percentage when analyzed by PLM. Certain types of asbestos when heated to a very high temperature for a period of time will degrade. Unless the fire gets hot enough to degrade the fibers, the fire would not reduce the percentage of asbestos fibers that would have been present before the fire. Research shows that chrysotile will degrade around 800 degrees Celsius (about 1500 degrees F) to fosterite which is not an asbestos material.

(8) Does the Asbestos NESHAP allow for the implosion of a building that has Category II asbestos-containing paint on the exterior of the building?

If you implode the building, the asbestos-containing paint does turn to dust hence becoming RACM. Quite a disposal mess would likely be created. An encapsulate could be applied to the paint surface to allow for the removal of the paint before the implosion. This would avoid all of the debris following the implosion being required to be treated as RACM.

(9) Is it a requirement under the NESHAP for a trained supervisor to be on-site for any demolition activity?

Under Section 61.145(c)(8) of the Asbestos NESHAP, it states, "...no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative...trained in the provisions of this regulation and the means of complying with them, is present." Since the possibility exists of finding asbestos-containing material regulated by Subpart M at any point during a demolition, a trained on-site supervisor should be present throughout all of the removal and demolition activities until the debris has been properly prepared for disposal. This only applies to demolitions in which threshold amounts are met or exceeded.

UPDATES

(1) Integrated Risk Information System (IRIS) -

IRIS is managed by EPA's Office of Research and Development (ORD). IRIS is in the process of being updated for asbestos based on toxicology studies regarding health impacts and risks. The updated IRIS will undergo peer review and internal/external review.

The updated IRIS will be utilized by EPA to revisit the Asbestos NESHAP in the distant future (at least that is EPA's vision for now). Therefore, it will be a few more years before EPA considers revising the NESHAP. At this point in time, EPA anticipates re-opening the Asbestos NESHAP during 2008-2009 at the earliest.

(2) ASTM E2356-04, Standard Practice for Comprehensive Building Asbestos Surveys -

In July, 2004, ASTM published the E2356 Standard Practice for Comprehensive Building Asbestos Surveys. E2356 describes both baseline surveys and project design surveys. In addition to including inspection and sampling methodology, the baseline survey includes recommendations for long-term management / abatement of ACM based on assessments done according to protocols described in an appendix to E2356. E2356 identifies 18 categories of information pertinent to the preparation of a project design survey for an abatement project.

More than half of the 40-page E2356 standard is devoted to three appendices: *Sampling Techniques and Equipment, Assessment Protocols,* and *Data Collection and Report Format. Sampling Techniques and Equipment* includes detailed sampling procedures for 18 types of suspect ACM. *Assessment Protocols* describes qualitative and quantitative protocols to be used to provide information to prioritize response actions. *Data Collection and Report Format* is a set of pre-formatted pages to assist in compiling survey results.

The use of E2356 in schools would provide additional information with which a local education agency can manage ACM. E2356 also recognizes that public, commercial, and industrial buildings and facilities are different from the school buildings for which the AHERA regulations were developed. A baseline survey provides more information than previously available methodologies and incorporates the latest analytical and assessment techniques. The quantitative assessment protocol provided in the appendix allows asbestos program managers to prioritize removal and O&M plans. The project design survey ensures that important building-related factors will be considered when designing abatement plans, therefore increasing the likelihood of a successful abatement project.

E2356 may be purchased on-line at astm.org or by calling (610) 832-9585.

3) CDC Work-Related Lung Disease Surveillance Report - 2002-

This report, published by CDC-NIOSH in December, 2002, has separate chapters on asbestosis and mesothelioma. According to the report, the number of deaths from asbestosis in the U.S. has been steadily increasing and is still on the rise (1,265 in 1999, 948 in 1990). Males getting asbestosis far outnumber females. Nearly 2,500 deaths occurred from mesothelioma in 1999, and the number is still increasing. Approximately 20% of the deaths were women. Some people believe that the number of mesothelioma deaths in the U.S. are under reported by as much as half due to misdiagnosis, lack of autopsy, etc. . These numbers are much higher than what has been predicted over the years.

4) Naturally Occurring Asbestos (NOA)-

EPA has been looking into naturally occurring asbestos in the soil in El Dorado County, California. Ultramafic rocks are areas containing serpentine rock and related rock types where chrysotile and tremolite asbestos may be found, particularly near faults. EPA has conducted studies on airborne asbestos levels during simulated activities that would disturb the soil (example: playing baseball). EPA found asbestos fibers in nearly all El Dorado Hills air samples. This included those collected nearby, but outside of the activity area. Personal asbestos exposures from simulated sports and play activities were significantly elevated over levels observed in the nearby asbestos air samples taken outside of the activity areas. EPA stated that the main asbestos fiber type detected was amphibole. EPA further stated that amphibole is considered more toxic than chrysotile.

The California Air Resources Board has put out an advisory on ACM used on playgrounds and other surfaces. The advisory suggested that playgrounds, unpaved parking lots, and unpaved roads on school grounds, bus stops and day-care centers should be inspected to determine if they are surfaced with asbestos-containing serpentine rock. For areas surfaced with crushed rock or gravel that is grayish-green or bluish-black in color, the advisory recommended that a registered geologist determine whether the material is serpentine rock. If indeed it is, the advisory further advised that the rock be tested using ARB Test Method 436 to determine if asbestos is present. The advisory recommended abatement or sealing / covering the asbestos-containing rock to prevent its disturbance.

Georgia has the highest naturally occurring asbestos concentrations in the Southeast (mostly in the talc / marble area of North Georgia). EPA is working with the states to develop strategies for confirming the locations of NOA sites identified by the United States Geological Society (USGS) and screening these sites for potential human exposure to NOA.

5) S. 852 (H.R. 1360 is the House version of this bill) - Part of the Asbestos Compensation Fairness Act of 2005 (FAIR Act) -

S. 852 is an asbestos bill that was introduced into Congress on April 19, 2005. The bill is essentially what was the Hatch Bill (S. 1125). S. 852 is currently pending in the U.S. Senate after being reported by the Judiciary Committee in mid-June, 2005. The bill is sponsored by Senator Arlen Specter, Pennsylvania Republican and chairman of the Senate Judiciary

Committee. The bill aims to prevent future asbestos litigation. Such litigation has resulted in over 74 companies going into bankruptcy and the loss of thousands of jobs. This has placed a great strain on the nation's economy. Stakeholders include manufacturers, labor - AFL/CIO, the insurance industry and trial lawyers.

Under S. 852, asbestos claims would be handled through a federally defined process rather than through the state/local court systems. Persons exposed to asbestos would be paid based on the severity of injuries, similar to workmen's compensation, without proving in court who would be liable under existing tort laws. S. 852 would eliminate the high costs of litigation and contingent attorneys' fees. Unlike current law where exposure may be compensated for potential future injuries, S. 852 would allow damages to be collected only on proof of existing harm.

This legislation would establish an approximately $140 billion trust fund from contributions by manufacturers and insurers. The fund would be administered by the U.S. Department of Labor. Business is adamant that no additional money would be added to the $140 billion fund. Labor groups have been running television and other ads opposing S. 852, mostly on the basis that labor wants significantly more money allocated to the fund. S. 852 puts all cases in the fund unless they had previously gone to verdict or had signed settlements with individual defendants. Without an active trial bar reviewing potential claims for litigation, S. 852 opts to give workers screening of their physical condition. Business objects to periodic medical screening of the workers exposed to asbestos, arguing that it would bring unmeritorious cases into the fund.

If the fund runs out, claimants have the right to return to court to reclaim their right to a jury trial. Claimants could go back to federal court or the venue where the injury occurred or the claimant lives. Business is anticipated to be covered by the fund, according to Senator Specter, for at least 7.5 years.

The Congressional Budget Office (CBO) analysis said this Asbestos Injury Claims Resolution Fund that would be created by the bill could cause some defendant companies to file bankruptcy and could force unforeseen federal borrowing. CBO said the fund will increase the projected federal deficit by approximately $6.5 billion in 2006-2015.

The CBO analysis estimated the number of cases, the amount of revenue, and the amount of compensation that the fund would provide. Claims were estimated to range from $120 billion to $150 billion over the next 50 years. Maximum revenues were expected to be $140 billion "but could be significantly less." The borrowing would occur because the fund would have more than half of its anticipated claims expenses in its first 10 years although it would receive constant revenue collections from insurers and defendant companies for the first 30 years, causing a gap. CBO also concluded that the Department of Labor would need more than 700 employees to staff the fund for 2006 through 2015, generating administrative costs of nearly $1 billion.

H.R. 1360 is the House version of this bill. An asbestos ban portion (originally Patty Murray, D-WA) is in place as an appendix in both bills. This would control asbestos exposure by prohibiting the future manufacturing of asbestos-containing products as well as requiring the

eventual removal of such products from commerce.

Legislation similar to S. 852 was voted out of the Judiciary Committee in July, 2003. Thirty-six mediation sessions have taken place with the stakeholders since August, 2003. Twenty-seven Senate offices have participated.

(6) H.R. 1957 - Also part of the FAIR Act of 2005 -

H.R. 1957 was introduced into Congress on April 28, 2005. H.R. 1957 has been referred to the House Committee on the Judiciary. The bill would provide for equitable judicial consideration of personal injury and wrongful death claims arising out of asbestos or silica exposure. Under H.R. 1957, no damages shall be awarded for fear of risk of cancer in any civil action asserting an asbestos or silica claim. H.R. 1957 also limits noneconomic loss rewards to $250,000 regardless of the number of parties against whom an action is brought (mesothelioma - $500,000). Under H.R. 1957, no punitive damages shall be awarded in any civil action alleging an asbestos or silica claim.

(7) Other Asbestos Legislation -

S. 668, Asbestos Standards Enforcement Act of 2005, was introduced into Congress on March 17, 2005 (status: referred to the Committee on Health, Education, Labor, and Pensions). S. 668 provides for enhanced criminal penalties for willful violations of occupational standards for asbestos.

S. 1199, Prompt Disability Payment to Mesothelioma Victims Act of 2005, was introduced into Congress on June 8, 2005 (status: referred to the Committee on Finance). S. 1199 is a bill to amend Title II of the Social Security Act to shorten the waiting period for social security disability benefits for people with mesothelioma.

(8) Cross Media Electronic Reporting and Recordkeeping (CROMERR) -

Headquarters is working on the CROMERR Rule which is anticipated to be published by the end of 2005. OMB instructed government agencies to examine the feasibility of electronic reporting in the mid-1990s. The CROMERR will explain how local and state agencies should analyze / revise their electronic systems to ensure their compatibility with EPA's electronic systems. The CROMERR will not automatically allow electronic submittals. The CROMERR will outline the next steps to be taken by EPA to make electronic communication a reality. EPA may need to analyze / revise its electronic systems to ensure that they are capable of accepting electronic submittals in accordance with the CROMERR.

DISCUSSION TOPICS

1) The Residential Exemption - Just when are those buildings regulated under the Asbestos NESHAP?

2) How often are inspectors finding residential plaster with an asbestos layer?

3) How often are inspectors finding wallboard / sheet rock (separate from joint compound) containing asbestos?

4) Has EPA Region 4 or any state in the region cited waste transporters who transported unpackaged ACM away from an abatement or demolition site?