U.S. Environmental Protection Agency
Applicability Determination Index

Control Number: C7

Category: Asbestos
EPA Office: Region 7
Date: 10/08/1980
Title: Dry Removal of Asb. from Building
Recipient: Sherman, Howard B.
Author: Camin, Kathleen, Q.
Comments: NOTE: Asb. Reg.s were in Sub. B (61.20 et seq.) before 4/85

Subparts: Part 61, B-Asb, Asbestos Demolition/Renovation (Now Sub. M)

References: 61.145(c)
61.150

Abstract:

Since moisture will damage sensitive, high voltage electrical equipment present in the areas of the builing being renovated, the dry asbestos removal method requested is approved. The work area must be totally sealed off with four to six mil thick plastic sheets as described in the guidance manuals supplied. Workers must wear respirators and disposable protective clothing. A HEPA filter must be installed on the truck-mounted vacuum system. Non containerized asbestos disposal is approved under certain conditions.

Letter:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
324 EAST ELEVENTH STREET
KANSAS CITY, MISSOURI 64106

October 8, 1980

Mr. Howard B. Sherman
Dickie Construction Company
2025 South Brentwood Blvd.
P.O. Box 6737
St. Louis, Missouri 63144

Dear Mr. Sherman:

My staff has reviewed your letters of August 21 and September 4, 1980, and the enclosures in which you request approval to: (1) perform a dry removal of asbestos from the SAFECO INSURANCE CO. building, 3637 South Geyer Road, Sunset Hills, Missouri, (2) transfer the asbestos from the building utilizing a truck-mounted vacuum system, and (3) dispose of the wetted asbestos sludge without containerization. Additional information to support your request was received from the owner of the truck-mounted vacuum system, Mr. Dale L. Torgerson, President, Ventilation Power Cleaning, Inc., 3914 Leary Way Northwest, Seattle, Washington. Details of your proposed procedures have been discussed by telephone with Mr. Wolfgang Brandner, Environmental Protection Agency, Region VII Asbestos Coordinator. The methods you propose to use appear to be consistent with the principles of the National Emission Standards for Hazardous Air Pollutants 40 CFR 61.22(d) and (j). In order to prevent the release or escape of asbestos fibers into the ambient air, the following procedures need to be implemented:

1. Title 40 CFR 61.22(d)(4)(vii) allows the use of dry removal methods if wetting of the asbestos-containing material would result in damage to equipment. Since moisture will damage sensitive, high voltage electrical equipment present in the areas of the SAFECO building you are renovating, the dry asbestos removal method is approved. The work area must be totally sealed off with four to six mil thick plastic sheets as described in the guidance manuals, "Asbestos-Containing Materials in School Buildings: Part 1 and 2", which have previously been supplied to you.

2. Workers must wear disposable protective clothing and air-purifying respirators. These respirators must be properly fitted and consist of a rubber cup which forms a tight seal around the nose and mouth. The respirator filters must be capable of preventing asbestos fibers from being breathed by the workers. A sufficient quantity of these filters must be provided so that workers can change filters during the work day.

The single-use disposable respirator is not to be used. In support of your application, Mr. Dale Torgerson provided us with a University of Washington air sampling study conducted during a similar asbestos removal job in Seattle. This study reveals that high fiber counts can be experienced during the dry removal method even when vacuum equipment is used. Therefore, powered air purifying respirators or supplied air respirators must be worn by the workers if the fiber counts in the workers' breathing zones exceed 20 fibers per cubic centimeter of air as determined by the National Institute of Occupational Safety and Health (NIOSH) method number P&CAM 239.

3. The use of a local exhaust ventilation and collection system to prevent asbestos fiber emissions to the outside air is allowed by 40 CFR 61.22(d)(4) (iv). The truck-mounted vacuum system you propose to use is such a ventilation and collection system. Mr. Dale Torgerson provided information on the vacuum filtration system which revealed that the bag house filters consisted of 16 ounce dacron material capable of retaining only particles over 3 microns in size at a 99.7% efficiency if the air-to-cloth ratio did not exceed 14:1. Such filters are not capable of trapping small asbestos fibers which can be as minute as 0.2 microns in size. Therefore, a High Efficiency Particulate Absolute (HEPA) filter must be installed in the vacuum system prior to the exhaust port. High Efficiency. Particulate Absolute filters are capable of retaining 99.97% of all particles greater than 0.3 microns in size. Mr. Torgerson has provided evidence that a HEPA filter has been installed on his vehicle. The pressure gauges reflecting the pressure drop across these filters must be continuously monitored while the vacuum system is in operation. A pressure drop of as little as 2 inches of water has been shown to rupture HEPA filters. If the HEPA filter should rupture, the vacuum system must be immediately shut off and new HEPA filters installed.

4. Title 40 CFR 61.22(j)(3)(i)(B) and (C) require asbestos-containing waste material to be sealed in leak-tight containers while the material is still wet and these containers must be labeled with a warning label. Alternate disposal methods are allowed by 40 CFR 61.22(j)(3). In your method, the asbestos-containing material has been removed from a building and sucked into a 40 cubic yard dumpster where it is soaked. You propose to dispose of this asbestos slurry at Bob's Home Service near Wright City, Missouri, in an open trench which is immediately covered with several feet of soil after the asbestos has been deposited in it. The asbestos-containing material will not be containerized. Your proposed disposal method has also been reviewed with Mr. Tom Ellis of the Missouri Department of Natural Resources and found to be acceptable to both agencies provided that:

a. Dumping of the asbestos waste is done only during calm weather, winds of less than five miles per hour;

b. All workers, including the bulldozer operator, wear air purifying respirators;

c. A water mist be applied to the asbestos debris as it is being discharged from the dumpster:

d. The asbestos-contaminated reservoir and the outside surface of the dumpster be thoroughly rinsed with a pressurized water spray at the dump site to remove all asbestos debris from the vehicle; and

e. A record be kept by the landfill operator of the exact disposal location so that the asbestos is not excavated in the future.

5. To document that no asbestos fibers have been released into the ambient air by your asbestos removal operation, I would like air samples to be collected at the sites listed below. The air samples are to be analyzed by NIOSH method number P&CAM 239:

a. Within ten feet, upwind and downwind, of the truck-mounted vacuum system exhaust; and

b. Within 100 feet upwind of the disposal site and within 20 feet downwind of the disposal site.

The air sampling reports of analysis specified above and those required within the building by the Occupational Safety and Health Administration should be provided to Mr. Brandner at the conclusion of your removal operation.

6. All vacuum lines must be thoroughly cleaned and tightly capped when the system is not in operation and during partial disassembly of the vehicles for transport of the asbestos waste to the disposal site.

7. Changing of the bag house or HEPA filter must be accomplished without the release of asbestos fibers into the ambient air. You should anticipate frequent changes of the HEPA filters. Experience by other contractors with similar vacuum systems has shown that HEPA filters become clogged with asbestos fibers within two to four hours if the wetting of the asbestos debris is not complete. Clogged HEPA filters will, of course, reduce the suction ability of the vacuum system and your workers can expect to experience higher fiber counts within the asbestos removal area.

If you have any questions regarding this letter, please contact Mr. Wolfgang Brandner at 816-374-6538.

Sincerely yours,

Kathleen Q. Camin Ph.D.
Regional Administrator