

Griffiss AFB Turning Asbestos into Non-Toxic Material

Griffiss AFB may be the first in the world to begin a program that will convert a particularly noxious substance, friable asbestos, to a harmless and, better yet, useful one: silica. By May 15, the Griffiss system will be capable of treating a half ton of friable asbestos per day, but because of limited manpower, it will be processing 300 pounds a week.

Friable asbestos-containing material is defined under the Asbestos Hazardous Emergency Response Act as "any asbestos-containing material applied on ceilings, walls, structural members, piping, duct work, or any other part of a building which when dry may be crumbled, pulverized, or reduced to powder by hand pressure. The term includes non-friable asbestos-containing material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure." Asbestos is regulated by the U.S. EPA because it is known to be a cause of lung cancer.

Asbestos is an excellent, and relatively inexpensive, insulator for heat, sound, and vibration. Because of these characteristics, asbestos was used in many building applications (e.g., insulation between floors, in walls, and in boiler and furnace ductwork) until the mid-1980s.

Griffiss AFB has a team of people dedicated to removing asbestos material from their base facilities. Until recently, the friable asbestos removed from Griffiss AFB facilities was being double bagged and warehoused for landfill disposal. However, because of Griffiss's ongoing commitment to pollution prevention, the Griffiss staff began looking into alternatives to landfilling.

One alternative is to convert asbestos into a non-toxic material. There are currently two methods of converting friable asbestos: vitrification, which processes asbestos through a series of high temperature chambers and results in chunks of glasslike material; and the ABCOV method (a system patented by DSI Industries Consolidated, Inc. in New York), which processes asbestos through a series of mixing tanks with special chemicals and results in a mixture of sand and lime. This system is being evaluated to determine that it does not create hazardous waste and is cost effective.

Several years ago the asbestos abatement crew at Griffiss AFB witnessed a small-scale test of the ABCOV method and participated in a larger-scale test whereby friable asbestos was reduced in volume by 60 to 80 percent and rendered totally harmless in 40 minutes. The success of the demonstration generated enthusiasm for implementing the ABCOV method on a large scale at Griffiss AFB.

Base employees William Weners, Ralph Lalonde, and John Light were certified by DSI Industries Consolidated, Inc. in the ABCOV method, and an old engine test cell rebuilt to house the mixing tanks. The required chemicals and equipment for the system were received in December 1993, and the asbestos abatement crew began setting up the Asbestos Conversion Program under the Griffiss Environmental Management Flight.

According to Mr. Weners, who has been involved in the program since the beginning, a trial run to test the system for leaks will be conducted May 3 using sand and water. If all goes well, the system will begin processing asbestos on or before May 15, and Griffiss will probably be the first federal facility to put this technology to use on a large scale.

The ABCOV system can be set up to be mobile and moved from base to base as needed. The current ABCOV system at Griffiss AFB is set up on skids and can be moved from one location to another at the base.

The most important aspect of the conversion program is the chance to turn something hazardous into something non-hazardous, thus eliminating the liability associated with landfilling asbestos. The product resulting from the ABCOV method is a mixture of sand and lime Griffiss intends to use on icy roads.

This method of converting friable asbestos will ultimately become extremely cost effective as the cost of hauling hazardous materials increases and landfill space diminishes, driving up landfill fees. Mr. Weners expects to begin seeing returns on the investment in the ABCOV method in about five years. ♦



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