Date: Fri, 09 Jan 1998 16:52:55 -0800
From: Meredith Brown <racer@lanl.gov>
Subject: Green Alert: Chemically Eliminate Asbestos

This Project Hanford Lessons Learned Bulletin has potential for saving many thousands of dollars across the DOE complex. Few buildings at Hanford have the type of fireproofing discussed in this lessons learned so the actual cost saving potential at Hanford is minimal. It is forwarded to other DOE sites that may have buildings with sprayed on fireproofing. Please pass this to your asbestos expert for information.

Thank you,
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Project Hanford Lessons Learned

Title: **New Product Chemically Eliminates Asbestos In Installed Fireproofing**

Date: January 7, 1998
Identifier: 1998-RL-HNF-0001

Lessons Learned Statement:
New technologies for chemically treating asbestos may significantly reduce the cost of remediating sprayed-on asbestos fireproofing commonly found in steel-framed buildings constructed in the 1950-1970 era.

Discussion of Activities:
Summary:
W. R. Grace & Co. and Brookhaven National Laboratory (BNL) have developed a new product capable of destroying in place, the asbestos in installed fireproofing without diminishing the existing fire-resistive performance of the fireproofing material on columns and beams.

Details:
In a press release dated December 10, 1997, W.R. Grace and BNL announced a new product that dissolves asbestos fibers in sprayed-on fireproofing material on columns and beams in many buildings. Building owners are expected to realize significant cost savings in remediating asbestos with the new product. Current techniques for removing asbestos-containing fireproofing require constructing air-tight barriers, labor-intensive scraping of the fireproofing, and installing new asbestos-free fireproofing. The new product eliminates the need to remove and replace older material and substantially reduces the time needed for the entire process. The new process produces essentially no waste and is expected to save building owners the expense of disposing of regulated waste materials.

The new technique uses a foamy solution sprayed directly onto asbestos-containing fireproofing. The foam chemically digests asbestos fibers, dissolving them into harmless minerals. When the treatment is done, the fireproofing is no longer a regulated material. The process is the first to chemically destroy asbestos without first removing the fireproofing. The new product is expected to be commercially available in early 1998.

Full-scale tests performed with the new product by Grace and BNL have confirmed that its use would reduce asbestos to less than 1 percent, which is the Environmental Protection Agency's definition of non-asbestos materials. Treated materials were tested at the Underwriters Laboratories (U.L.) in Northbrook, Illinois. Those tests demonstrated that treated fireproofing maintained the same fire rating on columns and beams as the originally installed material. Although most of the efforts thus far have been centered around spray-applied fireproofing, laboratory tests have confirmed that the digestion process should also be effective with acoustical plasters.

Recommended Actions:
Facilities with sprayed-on asbestos fireproofing should consider this method for remediating the asbestos.

Estimated Savings/Cost Avoidance (if applicable): Approximately $75.00 could be saved per square foot of fireproofing material remediated. This estimate is based on a typical cost of $100.00 per square foot for remediation by manual scraping, including installing containments, air sampling, clean up, and installing non-asbestos fireproofing. As a rough order-of-magnitude estimate, up to 75% of that cost could be saved. These costs are highly variable depending on the area being remediated and other cost factors.

Priority Descriptor: GREEN/Good Work Practice
Functional Categories (DOE): Fire Protection, Occupational Safety & Health, Research & Development
Functional Categories (User-Defined): Mechanical/Structural
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References: BNL Press Release at http://www.pubaf.bnl.gov/pr/gracebnlpr121097.html