

CAPSULE REPORT

DESTRUCTION & DECONTAMINATION of RADIOACTIVE ASBESTOS-CONTAINING MATERIAL by the ABCOV™ PROCESS

SUMMARY:

Bench-scale tests performed at the West Valley Nuclear Services Company, Inc. facility, West Valley, New York, demonstrated that radioactive asbestos-containing material (RACM) can be converted to a non-radioactive, non-asbestos solid which satisfies the RCRA criteria of a non-toxic, non-hazardous waste. This chemical physical (non-thermal) treatment produced very little, non-radioactive, solid residue that passed the TCLP test. Radioactive constituents remained in the treatment solutions.

¹³⁷Cesium, ²⁴¹Americium, and alpha and beta radioactivity were measured before and after asbestos conversion and decon. The ¹³⁷Cs, ²⁴¹Am, and gross beta contamination of the (now non-asbestos) residual solids was below the detection limits of the analysis. The gross alpha contamination was reduced by more than 99%. This contamination had transferred to the treatment liquids.

CONCLUSION:

Radioactive contaminated asbestos can be converted to a non-asbestos, non-hazardous, non-toxic solid that is not contaminated with radionuclides.

The solutions used in the ABCOV Process are replenished and reused after each treatment, and several treatment methods are available to decon these solutions, concentrating the radionuclides into a very small, dry, product, orders of magnitude smaller than the starting RACM.

Distribution of Radioactive Contamination Between Solid and Liquid Phases in ABCOV Conversion
[Note: Y Axis Scale Ranges from 99 to 100%]

