

Response to SAB-BOSC Homeland Security Research Breakout Group question on EPA's work in Sampling Strategies

July 08, 2014

When discussing "sampling strategies," well-defined terminology is helpful. The following sampling-related terms were defined in, *Interagency Strategic Plan for Validation of Environmental Sampling Methods Used in Detection and Cleanup of B. anthracis Contamination in Facilities*. Department of Homeland Security (DHS), Washington D.C. (2007):

Sampling strategy: "A set of operating precepts and diagnostic tools (including sample collection methods; packaging and shipping protocols; sample recovery, extraction, and analytical methods; and statistical analysis packages, as appropriate) that are combined to answer specific hypotheses."

Sampling approach: "A methodology for selecting representative locations and surfaces for collecting samples."

Sampling plan: "A documented approach for field execution that captures the specific combination of operating precepts and diagnostic tools used for a given scenario to answer a specific hypothesis."

EPA has not conducted independent research on sampling strategies for homeland security applications; however, EPA has participated vigorously in DHS' Validated Sampling Plan Workgroup which has drafted Interagency Environmental Sampling Guidelines (to be released in 2014) that presents the tools currently available for consideration by sampling planners and technical support staff operating within an Incident Command System/Unified Command when developing sampling plans for large contamination events.

Since there has not been a large contamination event involving anthrax spores in recent years, this reference document has not been employed for a real response. However, the sampling strategies and techniques listed in the Guidelines were used to design a research and operational test, Bio-Response Operational Testing and Evaluation (BOTE) Project. Detailed information on BOTE can be found at http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=263911.

EPA has made significant research contributions that address sampling and analysis of threat agents for homeland security applications. Work published to date can be found at www.epa.gov/nhsr. The preliminary draft Strategic Research Action Plan outlines future, planned work in these areas.