

# S&T Standards Protecting the Nation Against Suspected Biological Attacks



**Homeland  
Security**

Science and Technology

## RESPONDING TO THE 2001 ANTHRAX ATTACKS

In 2001, the first anthrax attacks occurred at the office of the former Senator Tom Daschle and left his staff and office in a state of confusion on how to respond to the emergency and get treatment for those who were exposed. The actions of our local first responders are critical in providing an effective response during a suspected biological attack. The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) in partnership with the National Institute of Standards and Technology, Pacific Northwest National Laboratory, the Environmental Protection Agency, the Federal Bureau of Investigation, and the Centers for Disease Control and Prevention has developed national operational guidance and sample collection protocols to effectively coordinate the bioterror response activities of local hazmat and law enforcement, emergency response officials, on-scene coordinators, environmental and hazardous materials response teams, laboratories, and public health officials.

## NATIONAL BIOTERROR RESPONSE CAPABILITY

A successful response capability requires development of the following elements to enable proper coordination and communication at all levels of response and confidence in the test results obtained:

1. A concept of operations to support the use of fielded assays and the coordination of response among the key stakeholders;
2. Training and certification of end-users;
3. Proficiency testing in the hands of the end-user;
4. Sample collection and handling standards; and
5. Assays that have been tested by a qualified third party and certified to meet or exceed recognized national voluntary consensus standards for performance.



## ENABLING CONFIDENCE IN BIOTERROR TEST RESULTS

Progress has been made through development of AOAC International standards to define minimum performance requirements for field biological assays, and the following ASTM International standards:

- E2458 Standard Practices for Bulk Sample Collection & Swab Sample Collection of Visible Powders Suspected of Being Biological Agents & Toxins from Nonporous Surfaces
- E2770 Guide for Operational Guidelines for Initial Response to Suspected Biological Agents & Toxins
- E2800 Practice for Characterization of Bacillus Spore Suspensions for Reference Materials
- E2805 Practice for Measurement of the Biological Activity of Ricin
- E3095 Guide for Surrogate Materials for Field Evaluation of Nucleic Acid-Based On-Site Biological Assessment Technologies
- E3131 Specification for Nucleic Acid-Based Systems for Screening of Suspicious Visible Powders

With the development of these standards, S&T is enabling law enforcement, Hazmat and public health officials at all levels of government to effectively coordinate bioterror detection activities, enhance communication in the response community, ensure public safety, and maintain a secure chain of custody necessary for prosecution of perpetrators.

