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Strategic Preparedness for Venue Protection against Chemical and Biological Terrorism

Prominent public venues, such as transportation hubs, stadiums, and arenas, are potential terrorist targets because of their economic importance to the region and the high concentration of people. Organizations, like the *Transportation Security Administration* (TSA), have considerable experience in defending facilities against conventional weapons and explosives, but few groups have the necessary expertise for developing defensive plans to protect venues against chemical and biological (chem-bio) terrorism attacks.

Sandia National Laboratories offer an experienced team with extensive expertise in defending venues against chem-bio terrorism attacks. The Sandia Chem-Bio Defense Assessment Team (CBDAT) has developed and implemented chem-bio defensive systems at several venues including:

- NY Grand Central Terminal
- Washington DC Metro
- Boston South Station
- McAfee Coliseum (Oakland, CA)
- San Francisco International Airport
- Albuquerque International Airport
- DOE office buildings
- DOE facilities

This base of experience for developing chem-bio defensive plans was developed at Sandia over the past six years and $19 million under the following programs:

- Rapidly Deployable Chemical Detector System (RDCDS) – DHS,
- Program for Response Options and Technology Enhancements for Chemical/Biological Terrorism (PROTECT) – DOE/DHS,
- Protective and Responsive Options for Airport Counter-Terrorism (PROACT) – DOE/DHS, and
- Biological Defense Initiative (BDI) – DoD
- BioWatch Enhancement Indoor Siting Studies - DHS

Developing a defense strategy is a three-step process: (1) assessing the threat scenarios, (2) analyzing the existing defensive infrastructure and response plans, and (3) developing a chem-bio defense plan.

The starting point for facility protection is to first identify and assess the potential threats: what are the possible scopes of an attack, and what are plausible scenarios? Scenarios can span from fast-acting chemicals with single-breath lethality (e.g. – sarin) to biological agents that might incubate for days before the onset of symptoms (e.g. - anthrax). They can include attacks in public indoor areas, restricted access areas such as air-handlers, or outdoor areas. Potential attack scenarios include: spray-can release of a biological agent inside a secure area; a briefcase release of sarin gas inside an HVAC system; or an explosive release of toxic industrial chemicals from a tank truck driving on a nearby highway.

Once the analysis is completed, the next step to develop an overall defensive architecture and emergency response measures for the facility. What new systems, upgrades, enhancements and response plans would better deter and mitigate the consequences of an attack? Facility hardening may be used to prevent attacks through HVAC system by limiting the ability of an attacker to directly release an agent into the HVAC system, which can then spread rapidly throughout the facility. More important than the defensive systems are establishment and implementation of the emergency response measures. This includes training of employees to recognize overt chem-bio events, and exercise the procedures to shelter people in place, evacuate people to quarantine, and decontaminate people.

The Sandia CBDAT offers an experienced team of chem-bio defense experts fully capable of assessing the chem-bio needs of a venue or facility and providing solutions for a comprehensive defense system.