

Understanding and Mitigating the Chem/Bio Threat to Facilities

The deliberate introduction of hazardous materials such as chemical or biological (C/B) agents into facilities represents a serious emerging threat to the critical national infrastructure of the United States. C/B agents can be introduced into a building in several ways, including facility infiltration through open doors and windows, intake through the heating, ventilation, and cooling (HVAC) system air inlets, or by direct release at some point inside the facility. Regardless of the method of introduction, airborne agents are then rapidly spread throughout the facility under the influence of the HVAC system. Assessing facility vulnerability to C/B attack, developing and assessing the outcomes of credible attack scenarios, developing emergency response plans, assessing the impact of possible mitigating strategies (sprays, decontaminating foams, filters, HVAC flow manipulations, etc.), and developing building design modifications to harden a facility against attack all require an understanding of hazardous agent transport within the building interior. Tools and technology are currently being developed to effectively understand and mitigate the C/B threat to facilities.