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Disaster Preparedness

Do You Know Where Your Chemicals Are?

Hazardous materials lurk on campus... and can complicate emergency response.

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If asked about Environmental Health and Safety (EH&S) at their colleges and universities, most administrators would be able to identity several locations that house hazardous materials. They could also assure the questioner that the staff members working with these materials are well trained in safe handling procedures.

The administrators would be right — but not completely right. In fact, hazardous materials are ubiquitous on college campuses, and show up in some unexpected places that are not as well controlled as laboratories. As a result, every corner of the institution should receive the attention of college administrators when developing disaster plans. Remote hazardous materials must be located and identified, and should be part of the overall emergency response plan.

Locating Hazardous Materials

One of the first steps in developing a hazardous materials disaster response plan is to determine all of the locations where materials are used or stored and to identify the individuals who are responsible for their safe use. Areas include:

- **Research and academic laboratories** — These areas demand a comprehensive hazardous materials management plan with well-defined handling and disposal procedures according to Environmental Protection Agency-Resource Conservation and Recovery Act (EPA-RCRA) rules. If you don't already have a formal institution-wide program to manage and dispose of laboratory chemicals and gas cylinders, the question of a disaster is not "if," it is "when."
- **Other academic departments** — Several unexpected disciplines also use hazardous materials. Arts, graphics instructional areas and galleries, and theater/performance centers, for instance, use paints, solvents, and other flammable or toxic materials; many engineering disciplines use solvents and dyes. Every department should be examined.
- **Buildings and grounds** — Cleaning and landscaping chemicals, waste oil, solvents, paints, etc., are used in regular campus maintenance operations. Asbestos and even polychlorinated biphenyls (PCBs) in electrical equipment often present hazards. Vehicle maintenance operations also harbor many petroleum-based chemicals, including explosive fuels.
- **Health services** — Health services may have mercury, controlled substances governed by EPA and/or Drug Enforcement Agency (DEA) rules, radioactive materials, sharps, and other materials that may require special handling.
- **Food services** — Here again, cleaning products, fuels, waste grease, and other hazards are prevalent and may pose dangers for building occupants and responders.

Once areas have been identified, it is important to understand the chemicals involved. Are they petroleum-based products that present water contamination hazards; are they gases or will they become gases that will poison the air; are they water-reactive chemicals — such as sodium metal — that are transformed from a safe state to a volatile or dangerous state through contact with water?

Anticipating Emergency Response

Disasters can be monolithic or minor. Monolithic disasters include hurricanes, tornados, floods, earthquakes, and ice storms — anything that has the potential to disrupt the institution, knock out power, or cause physical destruction. These types of major disasters also have the potential to spread hazardous materials from their original locations, possibly contaminating entire buildings, land, and waterways.

Minor disasters may include fuel or chemical spills or unidentified, abandoned chemicals that require an emergency response and disposal. My company has handled thousands of major and minor HAZMAT emergencies on college campuses through the years and, not surprisingly, the vast majority are unidentified or abandoned chemicals in lab closets that are old, unstable, and pose health and environmental risks if not properly handled. Lately, we've also been called upon to respond to biological and infectious diseases by sanitizing facilities following outbreaks of the H1N1 flu.

Most, if not all, colleges and universities have disaster response plans, but many do not give hazardous materials enough consideration. It is necessary to fully factor in the potential effects of these substances, since uncontrolled hazardous materials following a disaster can literally shut down the disaster first response and recovery mission if emergency personnel cannot enter sites due to contamination.

Hazardous materials response plans should be fully integrated into the overall disaster preparedness plans, and responsible individuals and contractors identified.

Set Up the Hazardous Response Plan

In developing the hazardous materials portion of an overall emergency response plan, it is best to establish a relationship with a company that can help plan for and respond to the anticipated emergencies. In most cases this will be your regular chemical and hazardous materials disposal contractor. The contractor will have trained response teams equipped to enter and neutralize contaminated areas. Make sure that the company is large enough to respond to any size emergency.

In establishing the relationship, you should negotiate standby emergency response coverage that stipulates response times, services, and rates. Negotiating the coverage upfront enables you to develop the contract through your normal negotiation and approval process rather than operating with a field contract at the time of the response. This should save money and smooth the response process.

A standby agreement also enables the responder to participate in planning and mock exercises, as well as allowing for periodic updates of the plan to reflect changes. This is extremely important so that all first responders — campus security, maintenance and administration, local fire and police, utilities, and federal authorities — can rehearse the response in accordance with Incident Command System/National Incident Management System (ICS/NIMS) procedures.

Response Vs. Recovery

Disasters generally have at least two phases: response and recovery. Response takes place in the first few hours or days and is aimed at saving lives and minimizing property damage. Then comes a point where the first responders wind down the ICS/NIMS procedures and transfer operations to recovery teams.

Recovery may take a few additional days, or even months or years. Its goal is to restore buildings, grounds, and most importantly, services to previous or higher levels. Perhaps the highest-profile example is Tulane University following Katrina. Tulane was able to recover from that tremendous disaster and reopen the campus to students in the second semester through extremely well executed response and recovery programs.

As Tulane demonstrated, a well-conceived and executed recovery plan should include hazardous materials teams that test environmental conditions before demolition, construction, and specialty restorers are given access.

Colleges and universities are large, complex organizations that benefit from the use of hazardous materials for many of their operations. It is necessary to factor in their presence for the safety and well being of building occupants and first responders. Safety begins with understanding what and where these materials are located so that trained personnel can contain, neutralize, and remove them before other important remediation tasks can proceed. A comprehensive disaster plan that follows ICS/NIMS procedures will help ensure a safe emergency response. CPM

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