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Environmental hazards a concern in real estate management

By Stephen A. Sakakeeny



The life-sciences industry has enjoyed tremendous growth in Massachusetts over the past two decades. Biotechnology, pharmaceutical, medical device and healthcare facilities occupy millions of square feet of Massachusetts real estate.

Ironically, as these companies discover technologies and manufacture products that improve our health, there may be a health risk from what they leave behind in the buildings in which they operate.

Unlike heavy manufacturing, which makes infrequent changes in real estate, life-science companies move through real estate almost on a whim. And the real estate they occupy is versatile, so that it can later become offices, dormitories, condominiums or daycare centers.

So what's the concern? The concern is the environmental risk that a life-science operation leaves behind. This includes contaminated building surfaces and polluted ventilation systems that could pose a health risk to unsuspecting building owners and subsequent tenants who breathe the air, and to construction workers who unknowingly remove building materials containing hazardous residue.

This is not to infer that the condition of a building's indoor health from a life-science operation approaches that of mold. But the problem of mold in buildings the past 10 years has set the stage for concern for all potential indoor health risks in real estate.

Real or perceived, the risk viewed by today's real estate stakeholders is not waiting for a mold-like manifestation. Building owners and managers are increasingly aware of these risks and are managing such concerns through lease terms. Prospective buyers of former life-sciences facilities have added the health of the building's interior to their environmental due diligence. Life-science companies recognize this liability and are managing it by performing environmental closures of their facilities when moving out.

Life-science operations are "light," and include research labs, bench top analytical equipment and laboratory hoods. Hundreds of solvents, acids, bases, infectious substances and other hazardous

substances are used and operations generate hazardous waste, infectious waste or both. For those facilities that perform prototype to full scale product manufacturing, the number of chemicals and waste involved may be fewer, but the volume of material handled is much greater.

Environmental closure essentially makes sure that no containers of hazardous materials are left behind, building surfaces and equipment left behind are clean, environmental permits are terminated, and all work is well documented.

There are five main aspects to a proper closure, including review and inventory of materials and equipment to be managed; disposal of hazardous materials, equipment and furnishings that are not reused elsewhere; decontamination of equipment, furnishings and building systems not disposed; environmental testing of building surfaces and air quality, if necessary; and documentation of work.

Decontamination should include all areas subject to handling and storage of hazardous materials and wastes. This includes laboratories, hoods, chemical storage areas and loading docks if hazardous materials are staged there. Decontamination is generally not expensive and therefore should be comprehensive. A wipe down of surfaces with a dilute solution of detergent and disinfectant is generally sufficient.

Areas subject to infectious materials and animal testing need to be sterilized. Stained surfaces may require more aggressive decontamination methods, particularly concrete surfaces that readily absorb liquid.

Environmental testing of surfaces includes chemical analysis of “chip” samples or “wipe” samples to measure the concentration of hazardous substances that remain. Air-quality testing is the most direct way to determine the quality of indoor air. However, the presence of hazardous compounds given off by everyday commercial products present in a building can produce confusing results and misguided conclusions. For this reason, direct air-quality testing should be limited to only those substances of concern.

We are fortunate to have the vibrant industry of life sciences in Massachusetts. It is a unique industry that brings unique challenges to managing environmental health in the real estate it occupies.

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