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Whether it's a commercial office building, mixed-use development, hospital or highway, every construction project carries some environmental risks for the contractor. While the idea of pollution incidents may bring to mind major oil spills or chemical releases, it's not just the big risks that pose a threat. Problems stemming from daily operations, such as heating and air conditioning systems servicing, roofing installation or material laydown, can contribute to product releases or mold or bacterial growth, which can open a contractor up to potential liabilities. Contractors that do not purchase insurance specifically targeted for environmental exposures should be prepared to bear the costs of any pollution incident as well as the potential damage to their reputation caused by an inadequate response.

Today, any construction exposure with an actual or perceived environmental component will most likely be excluded by a standard commercial general liability (CGL) policy. The rapid growth of the pollution insurance market over the last decade, however, means that coverage for an increasing range of environmental risks is widely available. At the same time, pollution liability insurance is increasingly required as part of the project bid. Because of the expanding scope of environmental exposures, contractors should consider pollution insurance not just for projects where it is required, but, rather, as an overall risk management tool for the oftenoverlooked, day-to-day pollution risks.

Changing Risks in an Evolving Market

As the market for contractors' pollution liability insurance has grown, it has embraced a broader spectrum of environmental exposures, including emerging risks such as *legionella pneumophila* bacteria in water systems.

As the exposures themselves change the resulting effects also change. For instance, when stories about mold contamination were making headline news, much of the concern centered on the potential for serious illnesses and other bodily injury. Over time, however, the main risks have been property damage usually necessitating drywall and mechanical system replacement rather than catastrophic bodily injury.

While the pollution market has continued to address new exposures, the casualty market has become increasingly focused on enforcing policy exclusions and denying claims with environmental aspects under CGL policies. This narrow approach carries risk for contractors that may overlook pollution exposures on a site, such as pre-existing asbestoscontaining materials or lead-based paint. Contractors also may not recognize how their daily operations could lead to pollution conditions, including mold growth from a leaking window or a spill caused by damaging an underground pipeline.

As more pollution-related risks are excluded by CGL policies, pollution coverage is becoming the standard mechanism to respond to a wider range of exposures. The evolution of pollution policies has become more a result of CGL carriers enacting exclusions and aggressively enforcing these policy exclusions.

Contract requirements also have played a significant role. While a decade ago, contractor's pollution liability was not a regular part of the insurance specification for construction projects that is not the case today. Pollution coverage has also largely been driven by project requirements, which is now a frequent prerequisite, as owners and risk managers seek to ensure they are protected against environmental risks.

The increased availability and affordability of pollution coverage makes it more attractive for small to mid-sized contractors that may not have considered it before, but whose operations may nonetheless present significant environmental risks. The coverage has proved its worth over time, as insurers continue to pay on pollution claims.

Coverages Adapt to New Exposures

As the pollution liability market has matured, coverage has become more attractively priced with lower rates, lower retentions and higher capacity. Insurance carriers have sought to differentiate themselves with new offerings and enhanced terms. Coverage has become more comprehensive, expanding from contractors' primary exposures into the secondary exposures resulting from support operations, such as transportation, waste disposal and contractor-owned premises.

For their part, carriers have expanded beyond standard bodily injury and property damage liabilities to provide supplemental coverage in areas such as catastrophe management expenses for expert public and media relations assistance. This coverage can include consulting services by a catastrophe management firm, the costs of public relations materials and third-party expenses for medical needs, psychological counseling, travel and temporary living costs.

Policies expanded to include emergency response resulting from contractor operations.

Because a timely and effective response is critical in mitigating the damage and limiting the costs of a pollution incident,

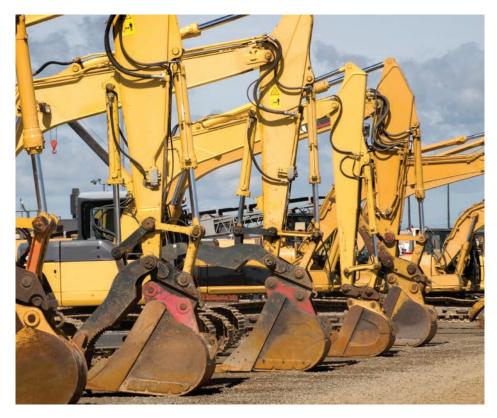


contractors should consider carriers that provide assistance in reporting incidents to the appropriate local, state and federal authorities and in managing the response. Such a program can ensure that contractors have access to pre-screened pollution response vendors appropriate for the specific incident, for example, a chemical spill or mold contamination. Contractors should take advantage of a carrier's expert risk management services to identify and mitigate environmental exposures and for training in areas such as regulated substances, mold, *legionella* and health and safety.

Economic Trends Heighten Environmental Exposures

Over the last decade, the construction industry has had to weather the worst financial crisis in decades, gear up for an astonishing turnaround in U.S. oil and gas production, respond to massive natural disasters, and adapt to changing project demands and new building trends.

On the economic front, the financial crisis led many experienced contractors and tradespeople to leave the business, and increased competition among those remaining. The lack of skilled labor, however, may heighten environmental risks if work is not performed properly.



Construction industry struggles with lack of skilled labor

While construction employment has rebounded from lows hit after the financial crisis, the industry is still struggling with a lack of skilled labor that is holding back growth. While construction employment rose in 39 states in the year through June 2016, shortages of qualified workers appeared to be causing employment to stall in many parts of the country, the Associated General Contractors of America reported. About 70 percent of construction firms reported early in 2016 that they were experiencing difficulties finding qualified workers, according to the association.

"Construction demand is still growing strongly in all regions and among many types of owners, but contractors appear to be struggling to fill jobs in the short run," the association stated. Construction employment in June 2016 was more than 1 million less than in June 2007, according to data from the Bureau of Labor Statistics. Two contributing factors to the shortage of skilled labor were older workers who were retiring and workers who left the industry after the financial crisis for other sectors. Labor shortages, for instance, were affecting the ability of the U.S. hotel industry to complete new projects, hotel developers said at a Hotel Data Conference.¹⁹

For example, faults in welding may lead to leaks, and mishandling of potentially dangerous products can cause spills, explosions and fires with ensuing property damage and bodily injury.

The construction industry has yet to recover that loss of skilled labor, which occurred just as the massive boom in new shale oil and gas resources was getting underway in Texas, North Dakota and the Northeast. A shortage of skilled labor and a transient workforce have been particular concerns for contractors working on new oil and gas projects and on the associated infrastructure needed to support those developments. Contractors can run greater environmental risks if temporary or inexperienced workers do not show the same commitment to following safety procedures as long-term employees. Time pressures also can be a factor as contractors hire workers quickly to complete energy projects on accelerated schedules. Those same concerns can impact the housing and logistical support projects for energy development. For instance, construction quality problems can result in water intrusion that increases the potential for mold.

While the economic crisis led many people to leave the industry, competition among contractors has intensified. That competition has driven many contractors to take on work in new regions and on projects outside their traditional areas of expertise. Competition on bidding, however, may lead to cost pressures on the job that could inadvertently increase environmental risks. For instance, specialty subcontractors under financial pressure may be more prone to safety and construction quality lapses. The industry has recently seen total failures of subcontractors, which affect project completion and potentially construction quality.

In a competitive market, many contractors have sought to expand into new areas or take on new types of projects. Different states may offer opportunities tied to a more vibrant local economy or for cleanup and rebuilding following a natural disaster. Many out-ofstate contractors came to New Jersey and New York to meet demand for demolition, debris hauling, rebuilding and other jobs after Hurricane Sandy caused an estimated \$18.75 billion in property losses. South Florida experienced a boom in condominium construction that was ended by the financial crisis, but more recently the Miami area is seeing a reprise of that boom, driven in large part by foreign buyers.² Contractors that take on work in new states should be aware of the varying environmental regulations in each state. As contractors bid on new types of projects or seek work in new areas, they should be careful to recognize the different environmental risks that come with projects outside their traditional territories and areas of expertise.

The construction industry also has been adapting to a shift in project demand from commercial and educational to energy, healthcare, metropolitan mixed-use and infrastructure. Healthcare remains a vibrant area, spurred by a wave of new federal healthcare regulations. Outside of healthcare, infrastructure spending is providing a wider variety of opportunities beyond roads and bridges, to include water and wastewater treatment plans and supporting utility lines. Going forward, demographically driven housing trends may increase stress on urban infrastructure as younger adults favor renting in cities and place greater demand on local services. In 2015, multi-family housing drove much of the growth in residential construction as apartment construction rose to the highest rate since 1987.3

The New Standard to Combat Legionella

Roughly 8,000 to 10,000 cases of Legionnaires' Disease are reported each year in the United States, and more than 10 percent of those cases are fatal, accord ing to ASHRAE, the American Society of Heating, Refrigeration and Air Con ditioning Engineers. The *legionella* bacteria also cause the less-severe, flu-like illness known as Pontiac Fever. In the summer of 2015, the group promulgated long-awaited industry guidance on managing the risk of *legionella* contamina tion for building owners, and property managers as well as design, construction and property maintenance firms.

ASHRAE Standard 188-2015 establishes minimum risk management require ments for building water systems; calls for the building owners to set up a pro gram team and water management program to comply with the standard, and provides specific and detailed requirements for what *legionella* control strate gies must accomplish and how they are to be documented.²⁰ After a *legionella* outbreak in New York, the city council voted to require adherence to part of the new ASHRAE standard.²¹

Changing Environmental Regulations

Because environmental regulations are not static, contractors must be aware of how changing regulations may affect them, including areas like post-construction storm water runoff or lead containing materials.

In 2014, the Environmental Protection Agency (EPA) amended its regulations covering storm water discharge from construction sites where more than an acre of land will be disturbed. The rules cover erosion and sediment controls, soil stabilization, dewatering, pollution prevention and discharges such as motor fuel and concrete washout. Violations can be costly. In July 2015, the EPA announced a settlement with the California Department of Transportation and a general contractor that required each of them to pay \$80,000 in a case involving pollution at a northern California bridge

project near Shasta Lake, the state's largest drinking water reservoir. Caltrans discharged about 33,000 pounds of sediment into the lake, and the contractor discharged 8.5 gallons of diesel fuel, 50 gallons of hydraulic fluid and hundreds of gallons of dewatering slurry, the EPA said.⁵

The EPA also has been aggressive about enforcing rules concerning exposure to lead dust and debris during construction in homes, childcare facilities and preschools. In late 2015, the agency announced 75 enforcement actions, with individual civil penalties ranging to above \$50,000, for alleged violations of its lead rules for repair, renovation and painting. ⁶ The agency has been developing work practice and other requirements that would apply to renovation of commercial buildings where lead may be present as well. ⁷

Construction Green Building Blossoms

An estimated 20 percent of all new U.S. commercial real estate construction followed green building principles in 2013, according to the U.S. Green Building Council, as the global green building market reached \$260 billion. The trend toward environmentally friendly and sustainable building is expected to intensify.²²Commercial building owners and managers are expected to invest about \$960 billion globally through 2023 on green improvements to existing buildings, including energy efficient heating, cooling and ventilation, as well as windows, lighting and other areas.

Client demand for LEED certified (Leadership in Energy and Environmental Design) buildings is driven by lower operating costs, better indoor air quality, and improved employee productivity. In Los Angeles, for instance, tenants were found to be willing to pay more to lease Energy Star- and LEED certified spaces, and such buildings attracted higher sales prices.²³

Another area where regulations are evolving concerns caulk, that may contain polychlorinated biphenyls (PCBs) in buildings that were constructed before 1979.8 The EPA has issued guidance for contractors for handling caulk that may contain PCBs during renovation and for disposing of caulk containing PCBs in compliance with the Toxic Substances Control Act.9

Industry groups also are active in offering guidelines and standards to address environmentally related issues. For example, the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) has promulgated Standard 188-2015 that establishes minimum risk management requirements for building water systems to control *legionella pneumophila* (*Legionella*), the bacteria that cause the potentially fatal Legionnaire's Disease. ¹⁰

Twelve people died in an outbreak of Legionnaire's disease in New York City in the summer of 2015 and more than 120 were sickened. Subsequent testing found that 20 cooling towers around the city had the *Legionella* bacteria. In response, the New York City Council mandated strict regulation of cooling towers, 12 followed by the state, which issued an emergency order to require all cooling towers to be registered with the state health department, regularly tested and disinfected immediately if necessary. 13

While these emerging issues may not be thought of as traditional environmental risks, contractors can protect themselves with a pollution insurance program that includes these exposures, along with protection for changes in regulation.

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Protecting Against Unexpected Risks

New risks may stem from new technology aimed at creating more sustainable and environmentally friendly buildings using "green" design and building materials. For instance, builders may face expensive water intrusion and mold problems in green buildings as overly tight building envelopes trap moisture. Green building products such as flooring or caulking may not have the same performance record as more traditional materials builders historically used. Builders may find themselves working with newer products that have yet to receive industry certifications. Because of that, it can be more difficult for builders to assess their exposures in terms of durability and longterm performance.

While prudent risk management includes assessing the known exposures and taking steps to mitigate them, it is important to recognize that many of the biggest risks may simply be unanticipated. For instance, the massive rebuilding effort



after the widespread damage caused by Hurricane Katrina led to a shortage of drywall that was addressed, in part, by importing drywall from China. The U.S. Consumer Product Safety Commission subsequently received thousands of complaints about Chinese drywall causing noxious, sulfurous odors in homes, corrosion of pipes and appliances and a variety of health complaints. 14 As of February 2015, more than 22,000 claims for compensation had been submitted under a multidistrict drywall litigation settlement of overseen by the U.S. District Court in New Orleans.15 Concerns have also been raised about radioactive materials contained in foreign steel products.¹⁶ Finally, severe weather patterns throughout the country, such as heavy snowfall in the Northeast during recent winters, tornadoes in the Midwest and floods throughout the U.S. can cause significant damage that may lead to eventual mold growth if the repairs are not performed properly or in a timely manner.

With New Countries Come New Risks

As more contractors look beyond the United States for opportunities, they need to be aware of the different environmental regulations in each country where they do business as well as the national insurance regulations. Around the world, many countries are taking a stricter stance in seeking to protect the environment. China, for instance, has set tougher environmental penalties for pollution infractions that would allow larger fines and would permit non-governmental organizations to bring lawsuits.¹⁷ The European Union has adopted a bloc-wide framework for environmental regulations, but member nations may take a stricter approach.

Individual countries not only take differing stances on environmental coverage, they also have different legal traditions. Many countries, for instance, have a less litigious culture than the United States.

An important consideration for contractors is whether their U.S.-based policies can legally provide coverage in a particular country. While some countries allow such non-admitted coverage, many require that insurance be provided by a company licensed to do business locally. Companies that seek to rely on a traditional U.S.-based policy may risk violations of local tax laws and other penalties. Although pollution policies may have worldwide coverage territory provisions, contractors need to make sure that their policies will provide coverage and be able to pay claims in a particular country. For that reason, they should look for an insurer that has global expertise and the necessary relationships with insurers in a particular country or region. Global insurance programs can provide the mix of U.S. and local policies that help to protect a contractor at home and abroad.

An Essential Part of a Risk Management Strategy

Wherever and whatever the project may be, contractors face an evolving range of environmental exposures that increasingly are not covered under CGL policies. In some cases, the changing economic landscape has heightened environmental risks while new environmental regulations have added new exposures. Coverage for pollution risks, however, is readily available and attractively priced.

Contractors should remember, though, that it is not just premium that matters. An insurer that has a long track record in the construction industry can provide reliable coverage as well as offer risk engineering services to identify and mitigate pollution exposures. Contractors may want to consider an insurer that can

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provide technological tools and services to help them better manage pollution incidents and provide a rapid response to quickly address the pollution itself along with the reporting requirements and associated regulatory exposures. Catastrophe management services that include crisis communications can help limit reputational damage that threatens a contractor's future. An insurer that understands the environmental risks and knows the industry can provide the expertise that contractors need to make these exposures more manageable.

Because environmental risks are part of every construction job today, contractors should consider pollution liability insurance not as an esoteric coverage for special situations, but as an essential part of their overall risk management strategy.

Quick Response Help is Crucial for Environmental Releases

When an environmental release happens, a quick and effective response is the key to avoiding injuries, controlling contamination and limiting damage to a company's property and reputation. Contractors may not be prepared to respond adequately nor even to report the incident to the proper authorities. If they haven't planned ahead of time, contractors may not know what to do or where to turn to for expert help in cleaning up property worksite in compliance with local, state and federal regulations. A chemical release, for instance, will require a much different response than mold contamination. Delays in mounting an effective response can lead to greater damage, increased liabilities, higher costs and potentially lengthier shutdowns.

To make sure they're prepared, contractors should look for pollution coverage that includes technological tools and services that provide assistance in incident reporting, contractor referrals and response coordination. Chubb's Environmental Incident ALERTSM provides 24/7 incident reporting via phone, web or mobile devices, access to thousands of pre-screened local response contractors, assistance with local, state and federal reporting and customized alerts via email or text when the system is activated. Those tools and services can help a contractor respond quickly and effectively to any environmental incident.

About the Authors

Anthony Benner is Vice President, Chubb Environmental. Based in Philadelphia. Mr. Benner manages the day-to-day professional and pollution product line for the construction industry nationwide which includes developing corporate policies, procedures and products, referrals and underwriting large, complex risk. Mr. Benner has provided risk engineering and underwriting services to the construction industry for over 25 years.

Diana Eichfeld is Vice President, Chubb Environmental, based in Philadelphia. Ms. Eichfeld underwrites professional and pollution policies for the construction industry nationwide as well as helps develop corporate policies, procedures and products. Ms. Eichfeld has provided risk engineering and underwriting services to the construction industry for over 25 years. She is a member of and has served in a leadership position in the Associated General Contractors of America.

Victoria Clark is Assistant Vice President, Chubb Environmental. Ms. Clark is responsible for product line management, regulatory compliance and operations support. In her role, she develops new products, implements underwriting guidelines, insures compliance with industry regulations, provides underwriting support and manages operational and technical projects for the Environmental business units in the US & Canada. Ms. Clark has almost 20 years of environmental insurance experience and holds the Chartered Property Casualty Underwriter (CPCU) and Registered Professional Liability Underwriter (RPLU) professional designations.

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Contact Us

Chubb 436 Walnut Street Philadelphia, PA 19106 USA

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