



HVAC and Mechanical Contractors

HVAC and mechanical contractors face significant environmental exposures. Improper design, installation, maintenance and repair to systems can promote the growth of biological contaminants, like mold and legionella, or distribute contaminants from inside or outside the building which can contribute to unhealthy indoor air quality and impact building occupants. Various chemicals, sealants and cleaners are used on HVAC systems that can emit fumes or gases that could be hazardous to third-parties. The storage, transportation and disposal of these materials creates additional environmental liability. HVAC and mechanical contractors may also be involved in some or all of the system design, or they may make modifications to design specs, which creates exposure to professional liability.

Environmental and Professional Exposures May Include

- Improper design, installation, maintenance, balancing and testing of HVAC systems can allow excessive moisture to overflow, leak, condense or pool and result in the growth of mold. Mold can disperse through the system into other areas of a building and/or absorb into insulation and other building materials. Mold can lead to claims of severe bodily injury or significant remediation costs.
- Legionella is a bacterium that causes a form of potentially fatal pneumonia. It thrives in large central air-conditioning systems, cooling towers and other locations associated with the HVAC system where bacterium can accumulate in warm, stagnant, pooled or infrequently drained water. Errors in design/assembly, failure to eliminate water collection areas, poorly maintained ductwork and inadequate sanitizing of parts and surfaces can support growth. Exposure of third parties to legionella-contaminated mists or vapors can result in severe health issues like Legionnaire's disease.
- Sick Building Syndrome occurs when unhealthy indoor air quality causes building inhabitants to suffer health problems while in a building. It's often attributed to poor design, maintenance, filtration or ventilation in a building's HVAC system. Exposures that can contribute to unhealthy indoor air include biological contaminants such as bacteria and mold and contaminants from inside or outside the building that enter the HVAC system like chemical or gaseous pollutants, volatile organic compounds or carbon monoxide.
- Refrigerants found in air conditioning systems can include ammonia, hydrofluorocarbons (HFCs) or chlorofluorocarbons (CFCs). Improper repair, installation or maintenance of systems can result in a hazardous release of these chemicals. Exposure to third parties may result in serious health effects or even death.
- Installation or repair work can disturb existing asbestos, lead-based paint and/or mold. Asbestos can be found in areas such as ceiling tiles and insulation and around wiring. Mold contaminated materials can be disturbed where water intrusion has occurred. Improper identification and inadvertent disturbance of these materials may cause a hazardous release that can lead to third-party bodily injury claims and remedial and disposal liabilities.
- Materials used during construction, repair and maintenance of systems may include chemicals, sealants, coatings, coil cleaners, surfactants, degreasers, deodorizers and antimicrobials which can release hazardous and irritating fumes to occupants during application, curing or drying. Improper application, chemical residuals and failure to properly ventilate the area or shut down the HVAC system could result in third-party liability. Spills on the job site or a discharge of these materials down drains or into storm sewer systems can create additional environmental liability exposure.
- Spills and leaks of chemicals, solvents and cleaners at the location of storage, during transportation or loading and unloading may cause third-party and cleanup liability. Combinations of incompatible chemicals are prone to react violently or produce toxic by-products/gases when stored together or mixed. Some products are flammable and may result in a fire that spreads and releases other contained materials and produces hazardous vapors.
- Contractors are responsible for determining if their wastes, such as spent solvents or refrigerants from air conditioning units, are subject to hazardous waste disposal requirements. Improper disposal can lead to environmental tort liability and clean-up costs.
- Companies may provide in-house design services that can result in professional liability. This may include performing all of the design work, performing some design work relative to an aspect of the HVAC system or providing professional opinions on design aspects. Design exposures can include the selection of equipment, slope of drains, location of outdoor air intakes and exhaust, ventilation controls and moisture controls.
- Contractors may make modifications to design specs while at the job site. Malfunctions arising from these changes create a direct professional responsibility for the contractor.
- Proper selection and supervision of subcontractors can be a professional exposure for the contractor responsible for them. Contractors may have to defend themselves against claims relating to work for which they were responsible due to the hiring of the sub.

Contractors Pollution & Professional Liability Can Provide Coverage For

- Contracting operations done "by or on behalf of" the insured
- Contracting operations performed at a job site
- Third-party claims for bodily injury and property damage
- Third-party claims for cleanup
- First-party emergency response cost
- Mold, legionella, bacteria, fungi, lead, asbestos and more
- Sudden and Accidental coverage for owned/leased locations
- Non-owned disposal site liability
- First and third-party transportation pollution liability
- Loading and unloading
- Professional liability
- Mitigation/rectification
- Excess/contingent design
- Defense of third-party claims

Claims Scenarios & Examples

- When a faulty HVAC system circulated carbon monoxide and fire-proofing chemicals in their school over an extended time period, fifteen students and teachers suffered physical injuries. Although some only experienced temporary respiratory illnesses, at least one student is likely to require a lung transplant and have a shortened life expectancy from their injuries. Settlement damages totaled several million dollars and were paid by the school district and the HVAC system designer and installer.
- A contractor was performing routine maintenance work on a bank's rooftop-mounted HVAC system. When yellow jacket bees swarmed in the vicinity of his work, he sprayed an insecticide, which subsequently flowed into the HVAC system. A bank teller, who had asthma, had an allergic reaction to the insecticide and had to be hospitalized for one week.
- A mechanical contractor installed an HVAC system in an assisted living facility. The system was constructed improperly, resulting in mold growth in some of the residences. The facility had to relocate several patients during the mold repair and renovation. Property damage and cleanup cost claims were filed.
- An HVAC contractor did not properly balance an existing HVAC system. Because of this, the system caused people to complain about allergies and respiratory problems. The building owner filed a lawsuit against the HVAC contractor, noting that prior to the contractor coming out, the system had worked, and they never received complaints from their employees before. The HVAC contractor was found liable for resulting indoor air quality issues.
- Within a few years of the construction of an apartment community, tenants began complaining about mold in bathrooms. These complaints came from multiple buildings and units within the complex. An extensive investigation found that construction defects with the HVAC systems and showers caused severe water intrusion and build up of moisture, leading to widespread mold growth. Damages for the property owner included loss of rent, cleanup costs and settlements with injured tenants, all totaling over \$2 million.
- A project owner hired a contractor to do a constructability review and a value engineering analysis for the construction of a school. The contractor looked everything over and noticed that the HVAC system was undersized. Although the contractor recommended changes, the project owner rejected them due to the higher costs. Because the HVAC system was undersized, extra moisture resulted and caused mold to grow. The contractor was held partially responsible for not properly warning of the consequences.
- An HVAC contractor installed a new tank and furnace at a residential property. A few weeks later, the homeowner reached out to the contractor because of a sudden strong fuel oil odor in the home. The contractor inspected the residence and found a small pool of heating fuel on the concrete floor and noted that the fuel had caused some of the contents to be wet. It was also noticed that the leak was because of a cracked fitting that had been over-tightened during the installation.
- While renovating a 25-story office building, an HVAC contractor installed a new ventilation system. Two years after the renovation was finished, an electrical fire broke out in the building's basement. As the fire burned, PCBs and dioxins spread throughout the building through the ventilation shafts. The ventilation shaft openings were found to be too close to transformer equipment, so the contractor was held liable for a large portion of the more than \$40 million in cleanup costs.
- A local HVAC contractor was hired by a school district to clean the school's air ducts while it was closed for the summer. The contractor found mold in the duct work and applied biocide to treat it. A week prior to school starting at the end of summer, the teachers came back to school. One of the teachers who had asthma and chemical sensitivities claimed that the biocide caused an allergic reaction and respiratory problems preventing her from going back to school at the start of the year. She further alleged that because of the exposure, she would never again be able to work as a school teacher and sought significant future lost earnings and benefits.
- When an office had a new HVAC unit installed, the ducts were improperly sealed, allowing condensation to build up. This resulted in the growth of legionella in the system. Several office employees became ill from the legionella and brought suit against the property owner and the contractor.
- An HVAC system was installed in a new commercial office building. Three years later, mold and mildew were found along with a bacteria. The HVAC contractor was held responsible, and bodily injury and property damage claims surpassed \$500,000.
- An HVAC contractor installed an HVAC system in a new office building. Within weeks of opening, occupants were overcome by the effects of sick-building syndrome. The structure was closed, and the contractor was one of many parties sued. During discovery, it was determined that the HVAC system was installed exactly as specs described. However, the contractor had to absorb over \$250,000 in uncovered defense costs because he had no environmental coverage, and therefore, no defense costs in this case.

Final Consideration

As a contractor you can be faced with the cost to defend yourself against allegations or legal action from pollution or professional related events, regardless if you are at fault or not. Having the proper insurance coverage in place will help fund the expenses incurred to investigate or defend against a claim or suit and provide you with claims handling expertise.

This environmental risk overview has been developed by Environmental Risk Professionals on behalf of J. Loos & Associates. It is intended to provide the reader with a broad range of potential risks they may encounter and may not reflect all risks associated with their business. To verify available insurance coverage, please consult your insurance representative.

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