



Liability and Indoor Air

by Jeffrey H. Mills

Quick Quiz: You've just built and leased 50,000 square feet of office space in a superbly insulated, modern building, which you've finished with three coats of paint, wall-to-wall carpeting, and fire-retardant draperies. A month later, you get a call from your tenant saying that 35 of his 80 employees are complaining about headaches, sore throats, loss of appetite, and problems concentrating on their work. He wants you to replace certain building materials and redesign your hvac system (your ventilation system's air intake, it turns out, is right above the loading dock), and to show his sincerity he threatens to sue you for negligence for exposing him to known carcinogens and other dangerous compounds. Does he have a case? Stay tuned.

This example illustrates a phenomenon that has come to be called "Sick Building Syndrome" or "Tight Building Syndrome," and concerns a growing belief among public health officials that indoor air quality has rapidly deteriorated in the post-OPEC oil embargo era. There is a growing consensus that chemical agents in many modern building materials and consumer products, coupled with losses in ventilation due to gains in energy efficiency, are contributing to a wide variety of health effects in the indoor environment—from headaches to nausea, dizziness, congestion, and more long-term chronic ailments.

The guilty compounds are many and their health risks, for the most part, are poorly understood. Though certain chemicals, such as formaldehyde and benzene, are regulated by EPA and OSHA in the industrial environment, there currently exist no comprehensive programs for controlling these pollutants in office or residential environments.

This is ironic, assert public health officials, since people typically spend 90% of their time indoors. Furthermore, indoor levels of airborne pollutants have been found to be two to five times higher than outdoor levels. A typical 12-hour air sample in a commercial or residential building can yield up to 800 different compounds, 2 to 3% of which may be mutagens or carcinogens.

Some of the more infamous indoor air pollutants include asbestos (which can be found today in approximately 3,000 products), radon (believed to be responsible for more than 10,000 cancer deaths per year), urea formaldehyde foam insulation (now banned in most areas, but still existing in many structures), and cigarette smoke. But Sick Building Syndrome can be contributed to by a wide variety of other building materials and products, such as plywood, particleboard, waxes, adhesives, paints, and air conditioning coolants.

Also a problem are faulty furnaces, stoves, heaters, and even photocopy machines, which release hydrocarbon particulates, carbon monoxide, nitrous oxides, and other unhealthy compounds.

Problems associated with indoor air pollutants are exacerbated by energy-efficiency measures that make buildings as tight as possible. Emphasis on insulating buildings from the outer world reduces ventilation rates—and thus increases the buildup of airborne pollutants and bacteria in the indoor environment. (See "Building Healthy Houses," JLC, 8/89).

What is the regulatory community doing about Sick Building Syndrome? Not much. The current statutory framework for dealing with the potential threat of indoor air pollutants is uncertain and inadequate. The Clean Air Act gives the Environmental Protection Agency the power to regulate "ambient air," which presumably could include indoor air. But President Bush's June initiative on amending the Clean Air Act does not address indoor air pollution, suggesting that indoor sources of air pollution will not become regulated under this statute in the immediate future. Other statutes, such as the Toxic Substances Control Act, seem to supply only a limited mandate for addressing indoor air pollution. Federal involvement in the early 1990's likely will continue to be limited to research.

Building codes represent another regulatory prong for addressing Sick Building Syndrome. Changes to construction standards, for instance, could require that ventilation rates be set at a level deemed healthy to occupants. Or, as the toxicity of certain materials (such as urea formaldehyde and asbestos) becomes well-documented, they may be prohibited in new construction.

Until the health effects of indoor airborne pollutants are better understood, however, it will be difficult to establish such standards in meaningful fashion. This, of course, will not prevent states from using imperfect information from risk analyses to justify changes in building codes.

In any case, a lack of regulatory action does not mean that builders should ignore the mounting evidence about indoor air pollution—especially since affected parties can always take offenders to court.

Increased awareness over Sick Building Syndrome predictably has caused an increase in litigation by those who seek damages for injuries or illnesses from long-term exposure to the air in tight buildings. In a 1983 suit, for instance, a California computer programmer sued the architects, engineers, and contractors of a building, claiming they had not exercised reasonable care in choosing materials and designing its ventilation system. The case was settled before trial in 1987 for over \$600,000. Other cases related to fungi and bacteria in hvac systems and carpeting also have been filed. And litigation concerning asbestos and formaldehyde has been rampant for some years.

Toxic tort theories of negligence as applied to indoor air pollution cases,

however, have produced a highly variable track record. Until more structured regulations give the construction industry better guidelines concerning the health effects of its products, contractors, architects, engineers, and manufacturers will be subject to the vagaries of the jury deliberation process and its "kissing cousins," negotiation and settlement.

How can construction professionals protect themselves?

- Eliminate suspect materials from buildings if at all possible. In other words, nip that future ban in the bud.
- Keep up with changes and potential changes in the building code. Spend a few minutes periodically on the phone interviewing building officials about regulatory developments.
- Install fans and vents around areas of combustion.
- Pay close attention to the design of your hvac system. Make necessary changes to existing, poorly ventilated buildings.
- Make periodic tests of your buildings' air quality. Discuss air quality with tenants. Show good faith.
- Consult a lawyer to discuss lease language that may protect you from tenants' claims.

And whatever you do, don't put your air intake over the loading dock. ■

Jeffrey H. Mills is a former environmental analyst and is currently manager of publications for Robinson & Cole, a 125-lawyer firm with offices in Hartford and Stamford, Conn. If you have legal questions you'd like to see considered in this column, please send them to Legal, The Journal of Light Construction, RR 2, Box 146, Richmond, VT, 05477.