

# Avoiding SICK Building Syndrome

ENHANCE TENANT SATISFACTION BY MANAGING INDOOR AIR QUALITY

One of a building owner or manager's worst fears is to learn from the news that their building is the centerpiece of a story about sick building syndrome. Largely due to widespread media coverage of sick buildings, tenants are more and more aware of the health and comfort problems that can be caused by environmental conditions inside buildings. While symptoms such as eye, nose and throat irritation, headaches and fatigue are common, widespread serious health impairment has yet to be linked to indoor air quality (IAQ). In fact, most tenant IAQ concerns are about comfort conditions, particularly stale and stuffy air, less than ideal temperature conditions and unpleasant odours. Therefore, the cause of more than half of all IAQ problems is related to the design, performance or maintenance of the heating, ventilation and air conditioning systems (HVAC) that are serving sealed buildings.

The tenants in your buildings are keenly aware of the potential for IAQ to affect not only the health and comfort of their employees, but also overall office productivity and personal performance. If these employees are comfortable with their indoor environments, health complaints are minimized, absenteeism is decreased and the workplace is generally more productive. The International Facilities Management Association (IFMA) recently released its annual Corporate Facilities Monitor Survey, with its "Top 10 Complaints Building Managers Hear." At the top of the list was poor IAQ including comfort complaints of too hot or too cold and air stuffiness. According to IFMA, if a building occupant is unhappy with the workplace environment productivity can be affected.

These results are consistent with a study conducted by Theodor D. Sterling and Associates that looked at absentee rates experienced by a Vancouver business that moved into a building with IAQ problems. The business experienced a dramatic increase in staff absentee rates after the move into the building, with the

absentees' citing IAQ health and comfort complaints as the reason.

How big a problem are we talking about? Well, a risk assessment conducted by the U.S. Department of Labor in support of IAQ regulations proposed by the U.S. Occupational Health and Safety Administration determined that 20% to 30% of commercial buildings have IAQ problems. This translates into a staggering 1.4 million buildings holding 21 million people in the United States.

These statistics represent financial losses when productivity is considered. A recent study conducted by the Lawrence Berkeley National Laboratory for the U.S. Department of Energy estimates the potential savings due to productivity gains by improving indoor environmental quality in buildings to be as high as \$168 billion a year. And \$125 billion a year could be saved in increased office productivity by making HVAC systems and lighting improvements to commercial buildings. At the other end of the spectrum, a National Survey of Workplace Professionals, commissioned by the Building Owners and Managers Association, which used methods accepted by the U.S. Environmental Protection Agency, indicates that only six per cent of office workers ever experience IAQ problems.

Clearly IAQ remains extremely controversial. However, it is one of the most important challenges facing the building industry, and one that cannot be ignored. For B.C. building owners and managers and their tenants, facing this challenge is particularly urgent in light of the new Workers' Compensation Board (WCB) Indoor Air Quality Regulation which will be phased in over the next year. The regulation provides the WCB with expanded enforcement authority over IAQ issues related to the

health and comfort of building tenants throughout the province. The regulation applies specifically to individual building tenants whose employees are within their jurisdiction and it:

- Establishes ventilation rates, temperature and humidity requirements.
- Requires that IAQ investigations be conducted and that documentation be retained.
- Requires the implementation of preventative maintenance practices to avoid IAQ complaints.

Although meeting the requirements of documentation, investigations and supplementary HVAC equipment are the responsibility of the tenant, the regulation provides building owners and operators with an opportunity to offer a value added service to their tenants by providing a building-wide IAQ management program. Having such a program in place could save you from the nightmare of having your building labeled sick and the expense of undertaking the costly emergency IAQ investigations the WCB requires.

With the new regulatory environment and growing concerns related to sick building syndrome, buildings offering IAQ as part of their overall management services will be more competitive in the leasing market with happier, more productive and satisfied tenants, which can add value to a property by lowering vacancy rates. Tenants notice the superior comfort conditions provided in high quality properties, and if employee performance and comfort is considered to be very important to them, they won't mind paying more for it.

An IAQ management program should document the effective control of IAQ and comfort by your building systems

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and provide an early warning of any challenges caused by changes in building system operations or tenant activities. A carefully planned program does not have to be expensive to be effective. For most tenants, sharing this cost over the entire building makes economic sense because it translates into only a few dollars a month to ensure the comfort of their staff and compliance with the WCB IAQ regulation. A cost-effective IAQ program should include regularly scheduled air quality monitoring, combined with prudent preventative maintenance practices such as:

- Proper maintenance and cleaning of filters and HVAC systems to maintain comfort conditions and reduce dust levels.
- Immediate attention to moisture problems from condensation, leaks and standing water to avoid potential mold and bacteria growth.
- Careful selection of appropriate materials for tenant improvements (such as carpets and adhesives) to prevent the build up of formaldehyde and other volatile organic chemicals.
- Preventing tenants from overcrowding their office space and obstructing the air flow by improper partition placement.
- Careful attention to the placement of electronic office and other equipment your tenants use such as photocopiers, computers and printers to prevent overloading the air conditioning system and causing overheating.

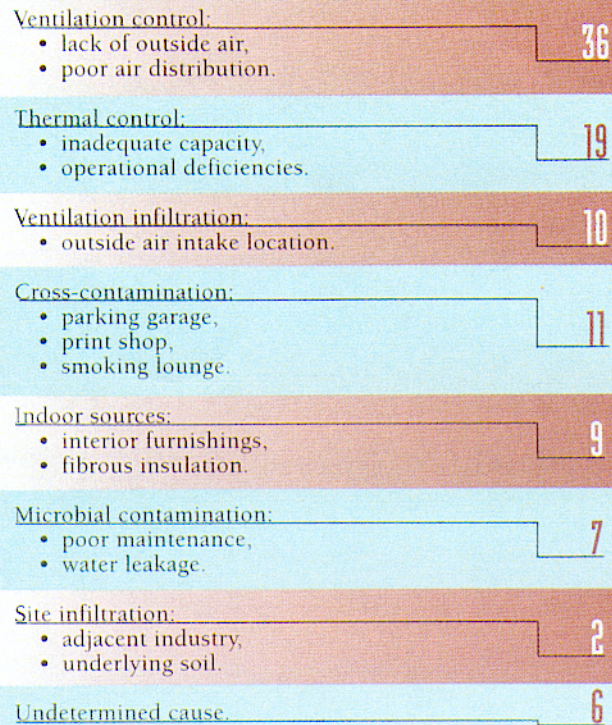
Finally, while regular measurements of complex air quality conditions should be left to experts, building operators should invest in inexpensive but accurate monitoring equipment for carbon dioxide, temperature and humidity that will allow an immediate response to tenant comfort concerns.

With the new WCB regulation and growing awareness of sick building syndrome, commercial buildings offering IAQ management as part of the overall operations and maintenance services will be more competitive in the leasing market with happier, more productive and satisfied tenants. ☛

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## CAUSES OF INDOOR AIR QUALITY PROBLEMS

Cause of problem                      % cause identified



Source: Indoor Air Quality Investigations conducted since 1981 by Theodor D. Sterling and Associates Ltd.