

Clearing the air about indoor air quality

By Scott H. Lawson

As any smart CEO knows, taking anything for granted these days is setting oneself up for failure. As a result, successful business executives have become experts in micromanagement and multi-tasking. It is impossible, however, for even the most diligent business owner to be everywhere at one time.

As a result, something as seemingly insignificant as the air employees are breathing is easily overlooked. Ignoring indoor air quality, however, frequently proves to be a costly and unnecessary mistake that no business owner can afford to make.

A business with poor indoor air quality — or IAQ — may be exposing employees to microbial contaminants, including bacteria and mold, chemicals such as carbon monoxide, carbon dioxide and radon and other allergens.

The U.S. Environmental Protection Agency labels “environmental tobacco smoke, asbestos from insulating and fire-retardant building supplies, formaldehyde from pressed wood products, paints, adhesives, copying machines, and photography and print shops, biological contaminants from dirty ventilation systems or



water-damaged walls, ceilings, and carpets, and pesticides from pest management practices” as common contributors to unhealthy IAQ.

While these contaminants are clearly adverse to the health of employees, a busy CEO may consider the risks to be minor and may choose to make an investigation of IAQ a low priority. Unfortunately, this attitude can often be harmful to employees. According to the EPA, employees can be affected by poor IAQ with only one exposure to some contaminants. Exposure can cause a number of short-term symptoms and illnesses, such as “dry or burning mucous membranes in the nose, eyes, and throat; sneezing; stuffy or runny nose; fatigue or lethargy; headache; dizziness; nausea; irritability and forgetfulness.” These symptoms are clearly not conducive to a productive workplace.

Over the long term, extended exposure to contaminants can cause respiratory disease, heart disease and cancer.

For example, the EPA states that radon, a known carcinogen, is “in the indoor air of buildings of all kinds.” They estimate that 21,000 lung cancer deaths each year in the United States are radon-related. In fact, radon is surpassed only by smoking as the leading cause of lung cancer in America.

Other IAQ, contaminants such as asbestos and carbon monoxide can also cause long-term illnesses.

Need for expertise

Proper attention to indoor air quality is important to more than just employee health. By giving the matter the attention it deserves, a CEO can also ensure a strong and healthy bottom line.

William J. Fisk of the Lawrence Berkeley National Laboratory in California argues in a 2000 study that addressing IAQ can result directly in economic benefits. He cites reductions in health-care costs, sick leave and poor performance of workers as the most notable ways that better IAQ can have economic gains.

Poor IAQ causes an increase in the four most common respiratory illnesses (common cold, influenza, pneumonia, and bronchitis), which are the cause of about 176 million days lost from work a year, as well as another 121 million work days of restricted activity and lessened productivity.

Fisk notes that the cost of this lost work and the annual health-care costs of upper and lower

respiratory tract infections add up to a staggering \$70 billion per year in lost revenues for American businesses.

An experienced IAQ expert can provide the necessary IAQ assessments to evaluate precisely where a facility can make economically beneficial improvements and can take the necessary steps to implement and maintain those modifications.

The process of properly identifying what changes need to be made to improve IAQ can be complicated. For most IAQ experts, the first step will be getting to the bottom of any symptoms employees are presenting. Whether or not the IAQ consultation was initiated by employee complaints, a certified industrial hygienist or other IAQ consultant will typically interview employees to discern which, if any, symptoms could have been caused by an IAQ issue.

After identifying the symptoms common among employees, an IAQ expert will isolate a probable cause.

Indoor pollution sources are the primary cause, since they release harmful gases or particles into the air. Inadequate or inefficient ventilation also can cause higher levels of indoor pollutants by not allowing the diffusion of indoor pollutants or the circulation of fresh outdoor air. Poor temperature and humidity regulation also can cause higher concentrations of some pollutants.

Once identified, an IAQ expert will propose solutions to these problems which may include increasing ventilation, reducing air recirculation, improving filtration, disinfecting the air of ultraviolet contamination, reducing office sharing, or reducing occupant density.

An experienced IAQ consultant can provide advice on how to make these facility modifications as inexpensively as possible, which can ultimately drive an increase in profits.

In his 2000 study, Fisk estimates that U.S. companies could save a combined \$160 billion a year by improving indoor air quality regulations and standards.

Not all IAQ problems, however, are easily fixed. Some require more elaborate and complicated modifications to facilities which, when handled inefficiently, can add up to big costs for businesses. **HR**

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