



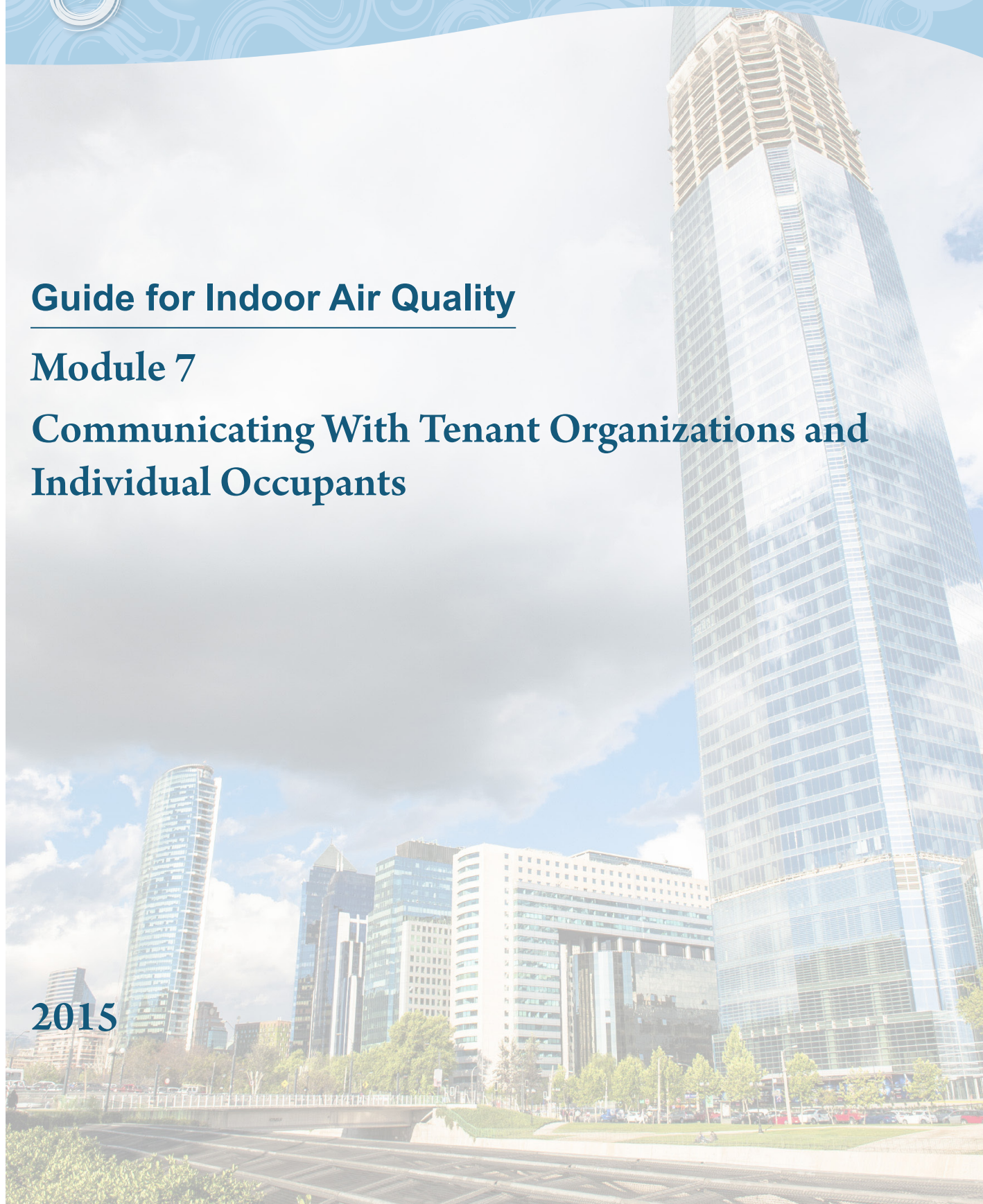
Canadian Committee on Indoor
Air Quality and Buildings

Guide for Indoor Air Quality

Module 7

Communicating With Tenant Organizations and Individual Occupants

2015



Canadian Committee on Indoor Air Quality and Buildings (CCIAQB)

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Indoor air quality is a very complex issue and there is currently a significant gap between knowledge of the effects of indoor air quality on the health of occupants and the effectiveness of various air quality technologies and solutions. User discretion is advised.

Preamble

The objective of the CCIAQB is, ultimately, to improve indoor air quality for all Canadians in every type of building. The CCIAQB has decided that its initial focus should be on buildings where many Canadians spend time outside their home, working, learning, shopping, being entertained, etc. For the most part, these buildings have relatively complex heating, ventilating and air conditioning systems that are operated and managed by knowledgeable persons. The table below gives examples of buildings that are covered using the classification found in the National Building Code of Canada (NBC). Documents produced by the CCIAQB are primarily intended for the use of building operators and facility managers, but the information contained in the guides can be helpful to anyone seeking a general understanding of indoor air quality issues.

The Committee welcomes feedback on the documents as well as ideas for the development of new materials. Please email: info@IAQforum.ca or register on the website at www.IAQforum.ca to contact the CCIAQB secretary.

NBC Classification	Examples
Group A, Division 1	Theatres, movie theatres and other facilities for the performing arts
Group A, Division 2	Art galleries, museums, libraries, educational facilities (schools, colleges and universities), gymnasia, air and rail terminals
Group A, Division 3	Arenas and swimming pools
Group C	Apartments, hotels, college residences
Group D	Offices, including medical and dental offices
Group E	Department stores, supermarkets, shops, retail space

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Guide for Indoor Air Quality

Module 7: Communicating With Tenant Organizations and Individual Occupants

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1. Purpose of This Module

This module provides guidelines for good communication with tenant organizations and building occupants about issues related to indoor air quality (IAQ).

The information presented here is aimed at building operators and those who manage facilities such as offices, retail operations, shopping centers, educational and child-care centers, theaters and hotels. This module does not cover industrial buildings or institutional buildings such as hospitals.

This document is part of a series of modules forming the CCIAQB Guide to Indoor Air Quality available at www.IAQforum.ca. For definitions and acronyms, refer to Module 1 – Introduction to Indoor Air Quality (IAQ).

2. Good Communication Is Important

Developing good IAQ in a building—and maintaining it over time—is a shared responsibility, requiring cooperation from several parties: building owners, operators, occupants and tenants.

Effective communication is essential not only for transmitting the knowledge that all parties need to develop good IAQ, but also for encouraging the kind of behavior that creates lasting change. This module provides guidelines for establishing effective communication.

Investing early in a communication system for managing IAQ is likely to be less onerous than dealing with the financial, public relations and technical fallout of serious IAQ problems. This section outlines how to build a foundation for a robust and comprehensive exchange of information about IAQ.

2.1. Understand the Building

A first step in gathering the knowledge you need for a robust communication system is to acquire reliable and comprehensive information about the building, its tenant organizations and its occupants. The best way to do this is by using a building IAQ profile.

An IAQ profile is an organized set of records, materials and documents that detail a building's structure, function and occupancy factors. Building operators can refer to these profiles whenever they plan for renovations or deal with air-quality problems in a building.

Module 8 – Creating a Building IAQ Profile, provides guidelines on how to produce and use an IAQ profile (available at www.iaqforum.ca/downloads/).

Once you have reviewed the information in the first seven sections of this module, use Form 7.3, in Section 8, as a checklist to ensure you have completed each step of the process.

2.2. Get the Cooperation You Need (Roles and Responsibilities)

The analyses and recommendations in this module cover many types and sizes of buildings with varying numbers and types of personnel. Communication tasks can be complex and sensitive. Building operators must make sure that their IAQ communications are clearly assigned to specific individuals or groups.

Table 7.1 provides an outline of typical roles and duties involved in IAQ management and communications. A blank copy of this table is included as Form 7.1, on page 14.

In Table 7.1, and throughout this module, the following group definitions are used:

A responsible party carries out a particular task or operation, although he or she may delegate it to someone else.

An accountable party approves the work and is ultimately responsible for its completion and quality.

A consulted party is asked about the particular decision or action before it is made or performed.

An informed party is made aware of the action.

An occupant is any individual inside the building.

Tenant has several meanings. In an office building, a tenant may be a single person renting space. A tenant may also be a large company with many offices that represents many occupants. Tenants may be organized in groups for the purpose of dealing with building operations. Therefore, the level of involvement of any particular tenant on IAQ matters depends on whether the tenant is an individual, part of an entity or organization, or a representative of a larger group.

Building operations staff covers the entire organization directed by the building operations management including, for example, people who provide security and custodial services.

Table 7.1: Typical IAQ roles and responsibilities												
Legend: R—responsible; A—accountable; C—consulted; I—informed												
	IAQ profile	Policies & procedures		Communication plan		Training			IAQ problems			Conflict resolution
Role	Create, maintain	Create, maintain	Implement	Plan, create, maintain	Implement	Create, maintain	Implement	Take the course	Manage	Report	Resolve, test	Resolve
Building ownership	I	I	-	I	-	I	-	-	A	-	-	A
Building operations management	A	A	A	A	A	A	A	-	A	I	A	R
Building operations staff	R	R	R	R	R	R	R	R	R	R	R	C
Building tenants	I	C	R	C	R	C	R	R	C	R	I	C
Individual occupants (everyone)	-	-	R	-	I	-	I	-	I	R	I	I

Table 7.1 doesn't cover all possible roles. A building may have health and safety officials and union representatives, for example. In such cases, a building operator using Table 7.1 for planning may need to add other categories.

Remember that no two buildings are the same. In developing this document, the CCIAQB recognized that buildings vary widely in their physical characteristics, as well as in the ways in which they are operated, including the number and qualifications of staff, the use of contractors, the nature of tenancies, and the complexity of the building and its systems. These factors can affect IAQ roles and duties. Building operators must therefore use discretion in applying this guide's recommendations.

2.3. Assess and Define Policies and Procedures

Many building operators create written IAQ policies that commit them to manage a building in a certain way. Such policies often include building operators' expectations of how the tenants and the occupants can contribute to good IAQ.

IAQ policies typically describe overall goals as well as specific rules for operation. They often cite applicable laws in their jurisdiction as well as industry standards for IAQ (such as those of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, or ASHRAE¹). A policy may govern IAQ only, or it may be part of a larger mandate such as a site-wide policy or manual for health and safety.

Most IAQ policies refer to specific procedures that take place in a building and which can affect IAQ, including:

- cleaning and maintenance;
- controlling and handling volatile organic compounds (VOCs) and hazardous chemicals² ;
- managing emergencies, including accidental release of hazardous materials;
- establishing comfort set points (such as temperature and humidity) and other heating, ventilation and air conditioning operations³ ;
- investigating and resolving IAQ problems;
- meeting legal requirements in the local jurisdiction;
- managing waste, including hazardous waste;
- procuring and using pest-control products;
- performing tasks that require respiratory protection;
- establishing safety checklists;
- communicating with tenants.

¹ American Society of Heating, Refrigerating and Air-Conditioning Engineers, accredited by the American National Standards Institute (ANSI)—see references [13] and [14].

² For more on VOCs, see Module 2—VOC Sampling Strategies and Methods (available at www.iaqforum.ca/downloads/).

³ See Module 5—Guidelines for the Hygienic Operation of Air Handling Systems (available at www.iaqforum.ca/downloads/).

Build robust communications processes into all policies and procedures. Each procedure listed in an IAQ policy should describe how building operators can ensure effective communications with tenants and occupants toward establishing or maintaining good IAQ. Procedures need to be kept current through regular reviews and updates that account for changing conditions, regulations and challenges.

Once building operators have defined IAQ communication roles and responsibilities (as described in section 2.2, “Get the cooperation you need (roles and responsibilities)”, they must ensure that procedures clearly define who is responsible and who is accountable (Table 7.1). This is critical for ensuring that important tasks are taken care of. As an example, instead of, “Tenants should be kept up to date on IAQ,” a more effective written procedure would be, “The building operations assistant manager is accountable for the monthly publication and delivery of the IAQ newsletter to all tenant mailboxes”.

In planning and managing policies, procedures and associated communications, building operation staff should recognize that there may be different or conflicting goals for the groups involved. Building owners may be as interested in profit as they are in quality and reputation; building tenants may be interested in being able to effectively use a building for their business, and at a reasonable cost; building tenants may also be interested in safety, ease of use, and a pleasant and attractive environment for work. Building operation staff will likely need to manage all these expectations.

3. What IAQ Information Should You Communicate?

Building operators should make pertinent information about IAQ and its health effects available to tenants and occupants. Various situations need to be anticipated, such as the information that will be of most use during building design or redesign, routine operations (including reporting and resolution of problems) and emergencies.

The following headings in this section address various topics that tenants and occupants may need to know about, as well as scenarios in which tenants and occupants require good communication from the building management.

3.1. Issues to Consider for New Buildings

When buildings are constructed, future operators and tenants may participate in planning the building’s design and operations. Future tenants should reach an agreement on the needs and goals for all aspects of achieving good IAQ. Issues could include:

- air quality and quantity of ventilation;
- air temperature and humidity set-points, by season;
- control of VOC sources;
- use and location of airlocks;
- choice of building materials and furnishings;
- layout of walls and rooms;
- existence and management of pollutant pathways;
- management of pollution from outside and inside sources;

- building occupancy before the construction work is completed, in order to limit the occupants exposure to pollutants.

Ideally, some flexibility will be designed in to accommodate for future changes in IAQ management, such as repositioning the walls.

3.2. Factors That Affect the Indoor Environment

Tenants need to understand that their activities and behavior can affect IAQ. They will need to know their roles in preventing problems, and in correcting any that occur. A list of factors to consider is shown in Table 7.2.

Table 7-2: Typical sources of air contamination in buildings

1. Contaminated outdoor air
 - 1.1 Pollen, dust, fungal spores
 - 1.2 Industrial pollutants
 - 1.3 Exhaust from vehicles on nearby roads, parking lots, garages, or loading docks
 - 1.4 Odors from dumpsters
 - 1.5 Importation of exhaust from the building itself or from neighbouring buildings
 - 1.6 Unsanitary debris near air intakes
 - 1.7 Pesticides
2. Soil gas
 - 2.1 Radon
 - 2.2 Leakage from underground fuel tanks
 - 2.3 Contaminants from previous uses of the site (e.g., landfills)
3. HVAC system
 - 3.1 Dust or dirt in ductwork or other components
 - 3.2 Microbiological growth in drip pans, humidifiers, ductwork, coils
 - 3.3 Improper use of biocides, sealants, and/or cleaning compounds
 - 3.4 Improper venting of combustion products
 - 3.5 Refrigerant
 - 3.6 Building air flows and gradients causing cross-zone air movement
4. Non-HVAC equipment
 - 4.1 Emissions from office equipment (volatile organic compounds, ozone)
 - 4.2 Supplies (solvents, toners, ammonia)
 - 4.3 Emissions from shops, labs, cleaning processes
 - 4.4 Elevator motors and other mechanical systems
5. Personal activities
 - 5.1 Smoking
 - 5.2 Cooking
 - 5.3 Portable devices (e.g., humidifiers and air cleaners)
 - 5.4 Body odor
 - 5.5 Personal care products
6. Housekeeping activities
 - 6.1 Cleaning materials and procedures
 - 6.2 Emissions from stored supplies or trash
 - 6.3 Use of deodorizers and fragrances
 - 6.4 Airborne dust or dirt (e.g., circulated by sweeping and vacuuming)
7. Moisture or standing water
 - 7.1 Rooftops after rainfall
 - 7.2 Crawlspace
 - 7.3 In-ground duct systems

3.3. Teach Tenants about Their Involvement and Responsibilities

For each of the factors above, tenants will need to be informed and aware of any guidelines and restrictions the building operators have introduced. They will also need to be aware of their responsibilities under the law.

Where tenants are expected to carry out activities described in a building’s written operational procedures, they must be made aware of what tasks involve them, and how they will be involved (training may be needed). They should also be aware of changes to policies and procedures that affect them or their organizations, as well as the results of audits and problem solving.

For example, an IAQ complaint may be traced to occupants unintentionally blocking the air intakes, or intentionally blocking the air outlets. This could lead to changes to equipment, system set points or procedures. In any case, tenants and occupants should be informed of their part in the prevention of IAQ complaints.

3.3.1. Focus on Emergency Preparedness

Knowledge of emergency procedures is particularly important, such as dealing with the accidental release of poisons, or routes for evacuation of buildings during emergencies. Procedures dealing with IAQ emergency situations should, as appropriate, specify the occupants’ responsibilities, authority and instructions. The content, timing, context, means, responsibility and accountability for communicating with the occupants and tenants in emergencies—and enabling them to communicate with you—are critically important.

A strategy for communications must be made a key part of a building operator’s emergency plan. Risk-management procedures and plans should include a consideration of IAQ, as well as communications concerning IAQ. This applies also to the business continuity plans.

3.3.2. Tell People How to Communicate Their Concerns

Tenants and occupants need to know about procedures for IAQ complaints, and how to contact the building personnel for inquiries about IAQ. This includes how to follow up to ensure the problems have been resolved satisfactorily. For details, see Section 5, “Resolving Tenants’ IAQ Problems”.

3.4. Communicate Schedules for Operations and Custodial Activities

Tenants may need to be aware of maintenance methods and schedules, both for their safety, as well as to ensure coordination. For example:

- occupants may be asked to clear and organize their work areas before cleaning and dusting operations, or they may be asked to be elsewhere during maintenance procedures such as carpet vacuuming;
- tenants may be involved in the choice of building custodians, or hire the caretakers themselves;
- tenants may have an interest in the effectiveness and effects on IAQ of the chemicals used for cleaning, such as chemicals scent, safety and liability;
- tenants should be aware of the effects on IAQ of any cleaning done by themselves, such as ensuring the proper concentration is used when choosing and mixing cleaning chemicals.

3.5. Communicate the Nature and Timing of Repairs and Renovations

Tenants must be consulted and notified about repairs, construction and renovations. Note that these procedures typically happen only once. Information should be available about:

- scheduling;
- location;
- sequence of activities (what, when and where);
- expected and possible emissions and odors;
- changes to ventilation during the modifications;
- chemicals used that will affect IAQ, such as water- and oil-based paints, stains, lacquers and varnish, adhesives, cleaning materials and paint strippers, floor coverings, roofing materials;
- equipment that generates emissions and noise;
- changes in pollutant pathways in the building;
- access restrictions;
- changes in entrances and exits, especially for emergencies;
- any safety equipment needed; and
- contact methods for problems and questions.

A schedule that includes notes on the possible effects of activities on IAQ, as well as the remedies, should be made available to tenants.

4. Establish Good Communication with Tenants

Good communication with tenants requires planning and effort by the building operators.

Determine each aspect of what the tenants and the occupants need to know about IAQ and decide how to effectively communicate that information. The building operator is required to establish the proper lines of communication.

IAQ communications may be included in the scope of broader activities, such as health and safety initiatives. In such cases, building operators may need to liaise and communicate with any other groups involved. Some ways to exchange information with tenants and occupants include:

- audio or video announcements;
- broadcast e-mail;
- meetings – recurring and dedicated, such as those for emergency management; These are likely to be held with the tenant representatives rather than with all of the occupants and may be part of a larger scope, such as regular meetings with tenant organizations on building health and safety matters;
- newsletter or magazine;
- notices and signs posted on walls and bulletin boards;
- pictures and posters—illustrations, warning signs, photographs;
- press releases, such as those for emergency management;
- surveys;

- dedicated forum or telephone hotline that can be used by tenants, occupants and building staff to ask questions, provide information and coordinate activities; and
- dedicated training may be offered if justified by the scope, complexity, or the need for widespread specialized knowledge; Instructors should be knowledgeable, qualified and up-to-date not only on the particular building and its operation, policies and procedures, but also in the HVAC and IAQ associated best practices; Records of staff, tenant and occupant training should be kept;
- websites or other electronic media.

Written materials should be current and, at a minimum, have a date or version number. If the operation's scale warrants a formal quality-management system, materials should be properly version controlled.

Building operators will need to define clearly what roles are involved in any communication and who is responsible and accountable. Who decides what to communicate and when to do it? Who does the actual communication and through what methods? Who handles any resulting questions from tenants or occupants? Who evaluates whether or not the communication achieved its goal?

4.1. Improve Communications Over Time

Building operators should regularly assess how well the communication is working and make improvements based on experience. The following are important considerations in any continuous improvement effort:

- ensure all information is current, including notifications about changes to come as well as changes that have already taken place;
- tailor information for the needs of each tenant such as for those with visual disabilities or who speak different languages;
- set specific targets for measuring and communicating specific IAQ parameters;
- make your efforts cost effective, including using building facilities and services efficiently;
- ensure the communication system will work during emergencies;
- measure the effectiveness of communications where it is feasible; Examples include counting website access for relevant IAQ pages, and assessing compliance by occupants with IAQ policies;
- assess whether training has been effective;
- judge whether there have been fewer and less severe complaints from the occupants, which could be the result of improved IAQ, improved communications, or both;
- assess tenant satisfaction with the complaints system (see also Section 5, “Resolving tenants’ IAQ problems” and speak with them in person about their satisfaction with IAQ.

5. Resolving Tenants’ IAQ Problems

5.1. Use a Systematic Approach

IAQ problems can be perceived by building occupants as compromising their health. Whether their perceptions turn out to be right or wrong, every request should be taken seriously. This includes building operators and staff being accessible, responding promptly to requests, being clear and honest in all communications, and following up swiftly.

Delays and inaction can cause poor relationships and escalating conflict between owners and tenants. These, in turn, can lead to unnecessarily expensive remedies, litigation, problems with regulatory authorities, bad publicity and difficulties in securing tenants in the future.

5.2. Encourage Feedback

Establish a procedure for handling complaints and for keeping track of progress. Occupants should always know whom to contact to initiate IAQ complaints (e.g., name and phone number, web page, e-mail address).

Module 4 – Recognizing and Addressing Indoor Air Quality Problems includes a flow diagram entitled “The investigative process for IAQ problems” (Figure 4.1, page 5, available at www.iaqforum.ca/downloads/). Figure 7.1, on page 14, extends the diagram with recommendations for how to communicate.

Occupants should also have a way to evaluate the complaint process. Building operators should encourage such feedback by using satisfaction surveys.

5.3. Keep Tenants Informed

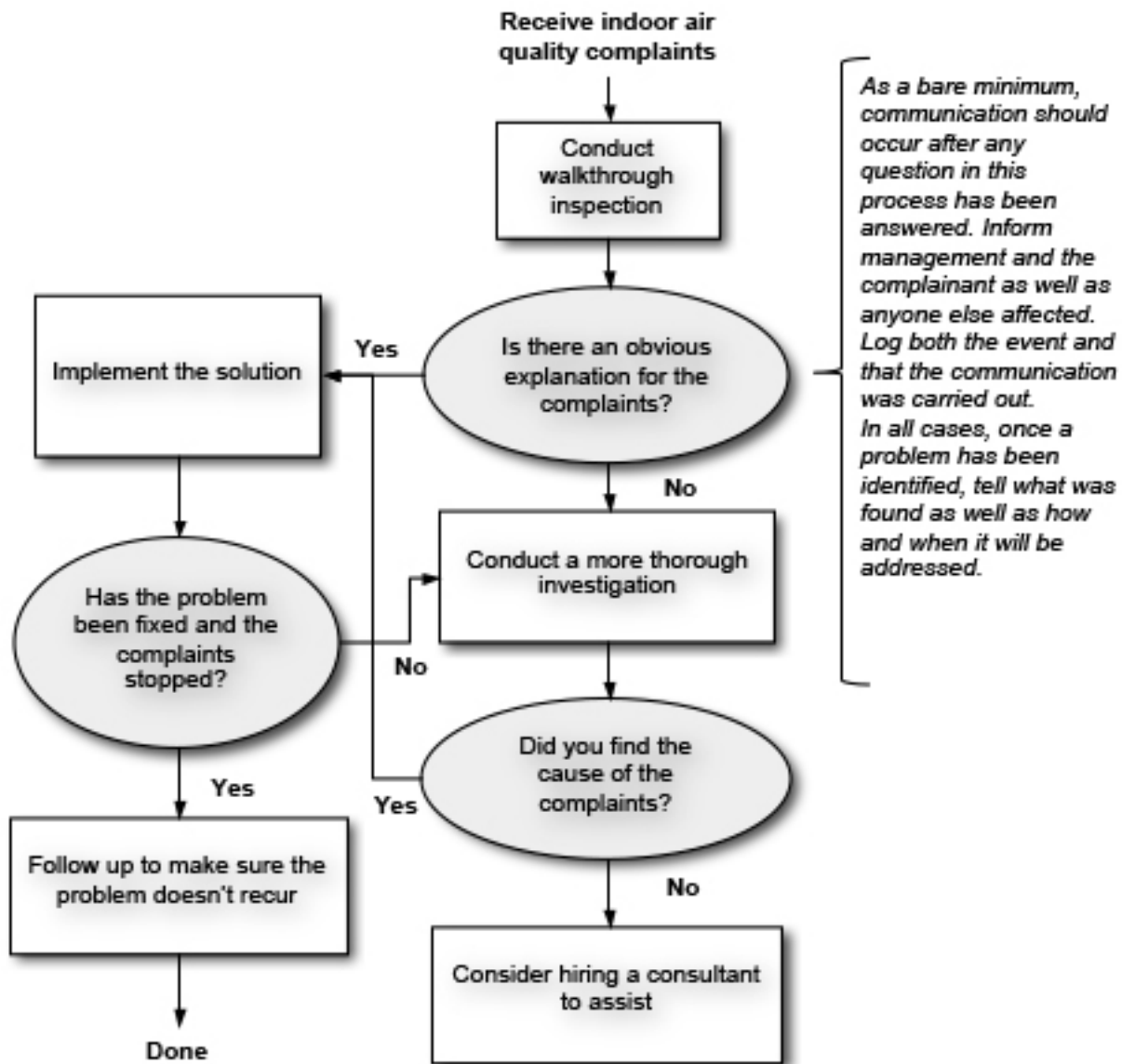
When a complainant is filling out forms, an interview by qualified staff may improve the quality of the information. There may be technical benefits, also, as a form may induce answers unrelated to the real problem. There may be important communication benefits, as the originator feels ‘heard’ when speaking to a ‘real’ person, and the staff may be able to discover critical background clues.

Below are some further guidelines for interacting with occupants about IAQ problems and build a culture of cooperation and communication:

- make sure staff is open, able to show that something is being done and able to say what that is;
- make sure the originator of a complaint feels that their request is important, even if the cause turns out not to be;
- commit to specific actions and a schedule wherever possible; Occupants should know what is being done, and why (as well as what is not being done);
- never withhold information from tenants as this encourages rumors;
- if a problem is significant, inform all those affected in the building (or potentially affected) of the situation and the plans to address it, including: the problem’s nature and location, the status of the investigation, what the possible causes are, what the possible causes are not, how long the process is expected to take, what the next steps are, when the next communication is planned, and any way in which tenants and occupants can help;
- provide news media training to building operators who need it;
- bring in external consultants if necessary;
- respect the confidentiality of occupants. Some may worry that their complaints will have repercussions with their employers. Occupants may not want their personal or medical information disclosed to the public;
- ease occupants’ concerns by practicing good communication. If they know an investigation is being carried out, they may cease their complaints. Conversely, they may become resentful if they do not feel their concerns have been heard;
- issue regular progress reports as IAQ problems are being resolved;

- once a complaint has been concluded, inform people of the outcome and encourage them to provide feedback about the results.

Figure 7.1 : The investigative process for IAQ problems, extended for communications



- **Who receives the communication?**
Depending on the issue and the building's organization, communications would be with one or more of: building management; the complainant; other occupants; the management of the issue's owner.
- **When to communicate?**
After any decision point (the oval elements), and whenever there is a change of state of the issue.

5.4. Keep Flawless Records

Module 4 – Recognizing and Addressing IAQ Problems, includes a sample of an IAQ complaint form and explains its use (Form 4.1, page 2, available at www.iaqforum.ca/downloads/). Form 7.2, on page 14 of this module, shows sample headings for a table that can be used to record problems and associated actions. Another form that may be useful for record keeping includes the one for interviewing occupants about IAQ problems which be found in Module 4. All forms should be easy to locate, use, store, browse and search.

Records should also be kept of all IAQ complaints, problems, investigations and remedial actions. This includes incoming and outgoing letters, news releases, reports, memos, checklists and e-mails.

Depending on the scale of the operation, a records system could be implemented as part of a larger computer-based system for assisting building maintenance management and tracking problems. The ‘front end’ of a computer-based system (what the end-users see) can be done via either a website and underlying database or commercial software. Simpler options could involve filling in a table either as investigations unfold or once they are complete. The table could be managed with an electronic spreadsheet or suitably indexed and filed paper copy.

Good record keeping helps building owners carry out important tasks such as monitoring the effectiveness of a system and how it could be improved, reporting to management and tenants about how issues are progressing, assessing which complaints are legitimate and which are false and updating policies, procedures and forms.

6. Customize for Specific Types of Buildings

Special aspects of different building types should be kept in mind as building operators plan communications with tenants and occupants.

6.1. Educational Facilities

Schools, colleges, universities and other educational facilities lend their own particular challenges to IAQ communication. Here are some factors to keep in mind:

- the buildings often have many uses;
- environmental needs and conditions may vary substantially from room to room;
- doors are frequently opened, both outside and inside the building;
- the buildings usually have a high occupant density and a high level of occupant movement. The typical school has approximately four times as many occupants as an office building for the same amount of floor space;
- children are often more sensitive to IAQ than adults, and children with special health risks or needs may be present. Therefore, maintenance activities need to be of a high quality, including cleaning and repairs;
- it can be more difficult to get students to behave in ways that avoid IAQ problems, such as where and how food is eaten and stored. Custodial staff may need special training in IAQ, such as how to maintain washrooms and change rooms;

- parents of younger students can be highly sensitive about the health and safety of their children. Good communication is critical when IAQ problems exist;
- during an IAQ crisis, effective communication could involve showing interested groups how a problem is being handled by taking them on a walkthrough of the building. The walkthrough can be repeated once the problem has been resolved;
- the media is likely to be interested in any public issue that involves environmental problems. Building operators need a communication plan and a central source for official information;
- educational facilities carry with them many predictable sources of indoor air pollutants: chalk, marking pens, printing, vocational workshops, science laboratories, animals, athletic activities, locker rooms, washrooms, showers, swimming pools, cafeterias, vending machines, as well as smoking areas, individual storage lockers and scents from personal-care products;
- there may be opportunities to include the building's IAQ as part of the curriculum;
- it is also important to communicate well not only with those running the schools, but also with outside agencies such as health departments, emergency services, local and regional governments;
- there may be non-academic users or permit holders for the facility such as neighbourhood community groups.

Keeping animals

Educational facilities need policies and procedures, as well as communication objectives, for controlling and housing animals. Issues that may affect IAQ and communications include:

- the size and location of animal habitats, such as aquariums and terrariums;
- any ventilation, humidity and temperature needs for the animals, and their compatibility with human habitation;
- the species and numbers of animals permitted;
- restrictions, such as not allowing animals in carpeted areas;
- the disposal of animal waste and carcasses;
- the storage and handling of food for animals;
- health and safety concerns for humans, such as allergies;
- cleaning and maintenance schedules.

Communicate the good as well as the bad

Good communication is important not just when IAQ problems arise. Building operators should also publicize their innovation, good practices, special programs and successes (i.e., not having any IAQ problems). A proactive approach can generate trust in the community.

6.2. Hotels

Below are some special considerations for IAQ communications in the hospitality industry:

- beyond the methods of communicating with building residents listed in section 4, hotels offer other ways to inform guests about IAQ—notice boards in the lobby, elevators and common areas, hotel websites, and closed-circuit television;
- training for hotel staff should include ways to inform guests about IAQ;
- guests come and leave quickly so brief communication about IAQ is best;

- some guests may be highly sensitive to IAQ problems such as cigarette smoke;
- hotels require frequent cleaning. It is especially important to choose chemicals, methods and equipment that will not degrade IAQ for guests and staff;
- swimming pools and exercise areas for guests need special IAQ attention;
- guest surveys could include questions about their level of satisfaction with the building's IAQ performance.

6.3. Offices and Office Buildings

The ways in which office buildings are built, renovated and used may require special consideration where IAQ communication is concerned. Here are some issues to consider:

- parking, shipping and receiving can be a major issue and may warrant strict rules about idling vehicles near air intakes or doorways;
- people may be likely to eat and drink in their individual offices. The effects of this should be well understood and communicated;
- the use of perfume, after-shave and/or other fragranced personal care products can cause problems and reactions with sensitive co-workers;
- many different tenants may be present. It is important to understand their needs and what they need to know about IAQ;
- office buildings may employ many different cleaning contractors. It is important to communicate with all of them;
- tenants come and leave frequently, which may lead to frequent renovations, changes in how the occupants are distributed, and changes in HVAC loads. Any of these can degrade IAQ;
- some occupants may be acutely sensitive to IAQ degradation or variability—in particular, older people, people who are ill, and those accessing health services in the building;
- there may be widespread and wide-ranging use of office equipment, such as printers and computers.

6.4. Retail

Retail spaces also call for special consideration in educating and communicating with occupants about IAQ. Some issues to pay attention to include:

- the presence of chemicals in clothing stores, such as those for laundering and dry cleaning;
- parking, shipping and receiving;
- food preparation and cooking from restaurants and food vendors;
- fragranced custodial products are often used in public washrooms;
- smoking;
- the fact that people may enter and leave the building or the individual stores frequently;
- tenants such as pharmacies, hair salons, nail salons and dry cleaners may store, use or sell chemicals in their daily operations.

7. Sample Forms

Form 7.1: IAQ roles and responsibilities												
Legend: R—responsible; A—accountable; C—consulted; I—informed												
	IAQ profile	Policies & procedures		Communication plan		Training			IAQ problems			Conflict resolution
Role	Create, maintain	Create, maintain	Implement	Plan, create, maintain	Implement	Create, maintain	Implement	Take the course	Manage	Report	Resolve, test	Resolve
Building ownership												
Building operations management												
Building operations staff												
Building tenants												
Individual occupants (everyone)												

Form 7.2: Record of IAQ Problems and Actions								
File number	Date opened	Location	Originator	Assigned to	Forms used	Status	Date closed	Description, conditions, actions and notes

8. Quick Reference Guide

Form 7.3 provides a concise summary of the contents of this module in the form of a checklist. Building operators should make sure they have reviewed all of the elements covered here and incorporate them into their building operation system.

How the components are used, and the amount of detail provided, will depend on the building’s scale and the intended audience.

Form 7.3: Checklist of IAQ tenant communications components
<p>Understand the building (section 2.1)</p> <ul style="list-style-type: none"> • develop an IAQ profile
<p>Get the cooperation you need (roles and responsibilities) (section 2.2)</p> <ul style="list-style-type: none"> • Analyze the building’s operations using the IAQ profile and establish the roles needed to manage IAQ (or modify the existing roles). • Develop a table assigning responsibility, accountability, etc. (Form 7.1 on page 14). • Use the table in defining or modifying policies and procedures.
<p>Define policies and procedures (section 2.3)</p> <ul style="list-style-type: none"> • Identify existing policies and procedures that need to be updated to deal with IAQ communications, and/or identify new ones that need to be created. • The following aspects of IAQ communications should be considered during updating and creating of first policies, and then procedures (there may be a procedure that deals specifically with IAQ communications): <ul style="list-style-type: none"> - effects of occupant activities - HVAC equipment specifications, and control instructions - IAQ problem management - known sources of (undesirable) water, heat, cold or chemicals - maintenance and custodial activities - occupant density and use - outdoor ambient environment - planning for repairs and renovations - relevant standards and codes - targets for IAQ measurements (which may vary by season and time of day) - things to do and not do regarding IAQ - what is to be communicated to tenants in specific situations, by whom, and when
<p>Customize for specific situations (section 6)</p> <ul style="list-style-type: none"> • Catalogue the unique aspects and challenges of the particular building as they pertain to IAQ and IAQ communications (e.g., an educational facility or a hotel). • Modify elements of the communication strategy as appropriate.
<p>Assess what tenants should know about IAQ (section 3)</p> <ul style="list-style-type: none"> • Assess policies and procedures to determine what tenants should know about IAQ. • Determine what occupants (as distinct from tenants) should know about IAQ. • Determine how to inform both groups—which roles are involved, methods, timing. • Decide on training requirements, availability and records. • Specify contacts for IAQ, concerning problems and problem escalation; maintenance and cleaning; proposed activities, installations and changes; preferred supplies.
<p>Communicate (section 4)</p> <ul style="list-style-type: none"> • Implement the various communications programs. • Educate tenants.

Resolve IAQ problems (section 5) <ul style="list-style-type: none">• Establish the IAQ problem-management system, including training for staff.• Maintain records (such as Form 7.2 on page 14).
Improve communications over time (section 4.1) <ul style="list-style-type: none">• Use ‘lessons learned’ from audits and problem solving to assess and improve the IAQ communications system.

9. Sources of Additional Information

General

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Specific types of buildings—retail

- 22] BOMA Canada. (2009). BOMA BEST Assessment: Enclosed Shopping Centres. www.bomabest.com/tools-resources
- 23] BOMA Canada. (2009). BOMA BEST Assessment: Open Air Retail Properties. www.bomabest.com/tools-resources
- 24] USGBC. (2009). Practical Strategies in Green Building: Existing Retail. www.usgbc.org