

Perform Ventilation Field Review to Ensure Compliance with Air Quality Requirements



While standards vary, [Canadian Occupational Health and Safety \(OHS\) regulations](#) require companies to [ensure that workplace ventilation is adequate](#) for airborne hazards and conditions actually present. Examples, ranging from the basic to the more elaborate:

- **Ontario:** Workplaces must be adequately ventilated so that the atmosphere doesn't endanger workers' health and safety.
- **Alberta:** Mechanical ventilation systems used to control airborne contaminants must be designed, installed, and maintained according to established engineering principles and manufacturer specifications.
- **Federal:** In addition to ventilation equipment, employers must have a procedure for investigating situations in which air quality may endanger workers and the procedure must provide for [reviewing complaints](#), visually inspecting the workplace, and [inspecting the HVAC system](#).

Ventilation Must Keep Up with Air

Quality Changes

Ensuring adequate ventilation is a moving target. Simply having an operational HVAC system isn't enough. You must also perform constant monitoring to identify and adjust to changes to workplace air quality. The starting point is to recognize the red flags that can cause such changes, including:

Changes to the Production Process

An existing general HVAC system that operates normally may no longer provide adequate ventilation if welding stations, spray painting, or other production changes generating fumes or other new atmospheric hazards are introduced into the workplace.

Buildings Get More Crowded

An HVAC system designed for 75 occupants may no longer generate and distribute enough outdoor air for a site that now routinely has 120 people.

Ventilation System Exhausts but Doesn't Replace Air

An exhaust system that removes contaminated air but doesn't replace it with make-up air (or draws make-up air from an undesirable location) may not be adequate, especially in jurisdictions like Ontario where OHS requirements specifically require that replacement air be free of hazardous contaminants.

Exhaust System Just Sends Contaminated Air Somewhere Else

Exhaust air may re-enter through an outdoor-air intake or affect an adjacent work area. Thus, for example, British

Columbia's OHS Regulation contains requirements addressing both adequate outdoor-air distribution and discharged air.

Workers Complain about Air Quality

One of the brightest red flags of indoor air quality (IAQ) problems are worker complaints about headaches, unusual odours, respiratory irritation, excessive dust, stuffiness, etc.

Solution 1: Perform Field Level Ventilation Review

Bottom Line: Just because your HVAC system is operating normally doesn't mean you're effectively ventilating the workplace. So, instead of asking "Is the HVAC system working?," OHS directors should ask "Is our ventilation system adequate for the people, processes, and airborne hazards that exist in this workplace at this time?"

Strategy: [Perform a field level ventilation review](#). Walk through work areas and ask:

- Has occupancy increased since the ventilation system was designed and put into use?
- Have new processes, chemicals, equipment, or production activities been introduced?
- Have workers reported problems raising potential IAQ concerns?
- Are exhaust hoods and local exhaust systems actually capturing contaminants at the source?
- Are air intakes, filters, ducts, vents, or exhaust outlets obstructed or poorly maintained?
- Are furnishings, equipment, renovations, or other items or conditions altering airflow?
- Are there areas where air is being recirculated when it should be exhausted?

Compliance Pointer: Consider the need for local exhaust ventilation (LEV). General HVAC systems are no substitute for source capture where workers are exposed to welding fumes, solvents, dust, vapours, or other airborne contaminants.

Solution 2: Perform IAQ/Ventilation Assessment

Have a [competent](#) person perform a documented IAQ/ventilation assessment if the field review identifies any potential concerns. Depending on the hazard, the IAQ/ventilation assessment may involve airflow measurements, ventilation-system testing, and/or monitoring for specific contaminants. Keep records documenting:

- The time and date tests were performed.
- The type of tests performed, including methods and equipment.
- The parts of the facility in which the tests were performed.
- The person(s) who performed the tests.
- The test findings.
- The actions taken to correct problems identified or reason no such actions were taken.
- The further testing and actions taken to ensure the effectiveness of corrective measures.