

Appendix F: Glossary and Acronyms

ACGIH — American Conference of Governmental Industrial Hygienists.

ASHRAE — American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

ASTM — American Society for Testing and Materials.

Air Cleaning — An IAQ control strategy to remove various airborne particulates and/or gases from the air. The three types of air cleaning most commonly used are particulate filtration, electrostatic precipitation, and gas sorption.

Air Exchange Rate — Used in two ways: 1) the number of times that the outdoor air replaces the volume of air in a building per unit time, typically expressed as air changes per hour; 2) the number of times that the ventilation system replaces the air within a room or area within the building.

Antimicrobial — Agent that kills microbial growth. See “disinfectant,” “sanitizer,” and “sterilizer.”

BRI — See “Building-Related Illness.”

Biological Contaminants — Agents derived from or that are living organisms (e.g., viruses, bacteria, fungi, and mammal and bird antigens) that can be inhaled and can cause many types of health effects including allergic reactions, respiratory disorders, hypersensitivity diseases, and infectious diseases. Also referred to as “microbiologicals” or “microbials.”

Breathing Zone — Area of a room in which occupants breathe as they stand, sit, or lie down.

Building Envelope — Elements of the building, including all external building

materials, windows, and walls, that enclose the internal space.

Building-Related Illness — Diagnosable illness whose symptoms can be identified and whose cause can be directly attributed to airborne building pollutants (e.g., Legionnaire’s disease, hypersensitivity pneumonitis).

CFM — Cubic feet per minute.

CO — Carbon monoxide.

CO₂ — Carbon dioxide.

Ceiling Plenum — Space below the flooring and above the suspended ceiling that accommodates the mechanical and electrical equipment and that is used as part of the air distribution system. The space is kept under negative pressure.

Commissioning — Start-up of a building that includes testing and adjusting HVAC, electrical, plumbing, and other systems to assure proper functioning and adherence to design criteria. Commissioning also includes the instruction of building representatives in the use of the building systems.

Conditioned Air — Air that has been heated, cooled, humidified, or dehumidified to maintain an interior space within the “comfort zone.” (Sometimes referred to as “tempered” air.)

Constant Air Volume Systems — Air handling system that provides a constant air flow while varying the temperature to meet heating and cooling needs.

Dampers — Controls that vary airflow through an air outlet, inlet, or duct. A damper position may be immovable, manually adjustable, or part of an automated control system.

Diffusers and Grilles — Components of the ventilation system that distribute and diffuse air to promote air circulation in the occupied space. Diffusers supply air and grilles return air.

Disinfectants — One of three groups of antimicrobials registered by EPA for public health uses. EPA considers an antimicrobial to be a disinfectant when it destroys or irreversibly inactivates infectious or other undesirable organisms, but not necessarily their spores. EPA registers three types of disinfectant products based upon submitted efficacy data: limited, general or broad spectrum, and hospital disinfectant.

EPA — United States Environmental Protection Agency.

ETS — Environmental tobacco smoke.

Environmental Agents — Conditions other than indoor air contaminants that cause stress, comfort, and/or health problems (e.g., humidity extremes, drafts, lack of air circulation, noise, and overcrowding).

Ergonomics — Applied science that investigates the impact of people's physical environment on their health and comfort (e.g., determining the proper chair height for computer operators).

Exhaust Ventilation — Mechanical removal of air from a portion of a building (e.g., piece of equipment, room, or general area).

Gas Sorption — Devices used to reduce levels of airborne gaseous compounds by passing the air through materials that extract the gases. The performance of solid sorbents is dependent on the airflow rate, concentration of the pollutants, presence of other gases or vapors, and other factors.

HEPA — High efficiency particulate arrestance (filters).

HVAC — Heating, ventilation, and air-conditioning system.

Hypersensitivity Diseases — Diseases characterized by allergic responses to animal antigens. The hypersensitivity diseases most clearly associated with indoor air quality are asthma, rhinitis, and hypersensitivity pneumonitis. Hypersensitivity pneumonitis is a rare but serious disease that involves progressive lung damage as long as there is exposure to the causative agent.

IAQ — Indoor air quality.

IPM — Integrated pest management.

Indicator Compounds — Chemical compounds, such as carbon dioxide, whose presence at certain concentrations may be used to estimate certain building conditions (e.g., airflow, presence of sources).

MCS — See “Multiple Chemical Sensitivity.”

MSDS — Material Safety Data Sheet.

Make-up Air — Air brought into a building from the outdoors through the ventilation system that has not been previously circulated through the system.

Microbiologicals — See “Biological Contaminants.”

Multiple Chemical Sensitivity — A term used by some people to refer to a condition in which a person is considered to be sensitive to a number of chemicals at very low concentrations. There are a number of views about the existence, potential causes, and possible remedial actions regarding this phenomenon.

NIOSH — National Institute for Occupational Safety and Health.

NTIS — National Technical Information Service.

Negative Pressure — Condition that exists when less air is supplied to a space than is exhausted from the space, so the air pressure within that space is less than that in surrounding areas.

OSHA — Occupational Safety and Health Administration.

PELs — Permissible Exposure Limits (standards set by OSHA).

PM — Preventive Maintenance.

Plenum — Air compartment connected to a duct or ducts.

Positive Pressure — Condition that exists when more air is supplied to a space than is exhausted, so the air pressure within that space is greater than that in surrounding areas.

Psychosocial Factors — Psychological, organizational, and personal stressors that could produce symptoms similar to poor indoor air quality.

RELs — Recommended Exposure Limits (recommendations made by NIOSH).

Radiant Heat Transfer — Radiant heat transfer occurs when there is a large difference between the temperatures of two surfaces that are exposed to each other, but are not touching.

Re-entrainment — Situation that occurs when the air being exhausted from a building is immediately brought back into the system through the air intake and other openings in the building envelope.

SBS — See “Sick Building Syndrome.”

Sanitizer — One of three groups of antimicrobials registered by EPA for public health uses. EPA considers an antimicrobial to be a sanitizer when it reduces but does not necessarily eliminate all the microorganisms on a treated surface. To be a registered sanitizer, the test results for a product must show a reduction of at least 99.9% in the number of each test microorganism over the parallel control.

Short-circuiting — Situation that occurs when the supply air flows to exhaust registers before entering the breathing zone. To avoid short-circuiting, the supply air must be delivered at a temperature and velocity that results in mixing throughout the space.

Sick Building Syndrome — Term sometimes used to describe situations in which

building occupants experience acute health and/or comfort effects that appear to be linked to time spent in a particular building, but where no specific illness or cause can be identified. The complaints may be localized in a particular room or zone, or may be spread throughout the building.

Soil Gases — Gases that enter a building from the surrounding ground (e.g., radon, volatile organics, pesticides).

Stack Effect — Pressure-driven airflow produced by convection as heated air rises, creating a positive pressure area at the top of a building and a negative pressure area at the bottom of a building. The stack effect can overpower the mechanical system and disrupt ventilation and circulation in a building.

Static Pressure — Condition that exists when an equal amount of air is supplied to and exhausted from a space. At static pressure, equilibrium has been reached.

Sterilizer — One of three groups of antimicrobials registered by EPA for public health uses. EPA considers an antimicrobial to be a sterilizer when it destroys or eliminates all forms of bacteria, fungi, viruses, and their spores. Because spores are considered the most difficult form of a microorganism to destroy, EPA considers the term sporicide to be synonymous with “sterilizer.”

TLVs — Threshold Limit Values (guidelines recommended by ACGIH).

TVOCs — Total volatile organic compounds.

Tracer Gases — Compounds, such as sulfur hexafluoride, which are used to identify suspected pollutant pathways and to quantify ventilation rates. Tracer gases may be detected qualitatively by their odor or quantitatively by air monitoring equipment.

VAV — Variable air volume system.

VOCs — See “Volatile Organic Compounds.”

Variable Air Volume System — Air handling system that conditions the air to a constant temperature and varies the outside airflow to ensure thermal comfort.

Ventilation Air — Defined as the total air, which is a combination of the air brought into the system from the outdoors and the air that is being recirculated within the building. Sometimes, however, used in reference only to the air brought into the system from the outdoors.

Volatile Organic Compounds (VOCs) — Compounds that evaporate from the many housekeeping, maintenance, and building

products made with organic chemicals. These compounds are released from products that are being used and that are in storage. In sufficient quantities, VOCs can cause eye, nose, and throat irritations, headaches, dizziness, visual disorders, memory impairment; some are known to cause cancer in animals; some are suspected of causing, or are known to cause, cancer in humans. At present, not much is known about what health effects occur at the levels of VOCs typically found in public and commercial buildings.

WHO — World Health Organization.