

GLOSSARY AND ACRONYMS

AHERA - Asbestos Hazard Emergency Response Act

AHU – See “Air Handling Unit”

ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers. See **Appendix I: Resources** for more information

ASTM - Consensus standard-setting organization. See **Appendix I: Resources** for more information.

Action Packet - Contains three components – an introductory memo, *IAQ Backgrounder*, and IAQ Checklist – to assist school personnel to implement an effective yet simple IAQ program in their school.

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. The rate at which outside air replaces indoor air in a space. Expressed in one of two ways: the number of changes of outside air per unit of time – air changes per hour (ACH); or the rate at which a volume of outside air enters per unit of time – cubic feet per minute (cfm).

AIR HANDLING (AHU). For purpose of this document

refers to equipment that includes a blower or fan, heating and/or cooling coils, and related equipment such as controls, condensate grain pans, and air filters. Does not include ductwork, registers or grilles, or boilers and chillers.

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

BRI. See “Building-Related Illness”

BIOLOGICAL CONTAMINANTS.

Biological contaminants are produced by living things. Common biological contaminants include mold, dust mites, pet dander (skin flakes), droppings and body parts from cockroaches, rodents and other pests or insects, viruses, and bacteria. Biological contaminants 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”. See **Appendix E: Typical Indoor Air Pollutants** for more information.

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).

CENTRAL AHU. See “Central Air Handling Unit”

CENTRAL AIR HANDLING UNIT. For purpose of this document, this is the same as an Air Handling Unit, but serves more than one area.

CFM. Cubic feet per minute. The amount of air, in cubic feet, that flows through a given space in one minute. 1 CFM equals approximately 2 liters per second (1/s)

CO. Carbon monoxide. See **Appendix E: Typical Indoor Air Pollutants** for more information.

CO2. Carbon Dioxide. See **Appendix C: IAQ Measuring Equipment**, and **Appendix E: Typical Indoor Air Pollutants** for more information.

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.)

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 GRILLS. Components of ventilation system that distribute and return air to promote air circulation in the occupied space. As used in this document, supply air enters a space through a diffuser or vent and return air leaves a space through a grille.

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.

DRAIN TRAP. A dip in the drain pipe of sinks, toilets, floor drains, etc., which is designed to stay filled with water, thereby preventing sewer gases from escaping into the room.

EPA. United States Environmental Protection Agency. See **Appendix I: Resources** for more information.

ETS. Environmental tobacco smoke. See **Appendix E: Typical Indoor Air Pollutants**, **Appendix F: Secondhand Smoke**, and **Appendix I: Resources** for more information.

EXHAUST VENTILATION. Mechanical removal of air from a building.

FLOW HOOD. Device that easily measures airflow quantity, typically up to 2,500 cfm.

HVAC. Heating, ventilation, and air conditioning system.

HYPERSENSITIVITY DISEASES. Diseases characterized by allergic responses to pollutants. 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.

IAQ BACKGROUNDER. A component of the Action Packet that provides a general introduction to IAQ issues, as well as IAQ program implementation information.

IAQ CHECKLIST. A component of the Action Packet containing information and suggested easy-to-do activities for school staff to improve or maintain good indoor air quality. Each focuses on topic areas and actions that are targeted to particular school staff (e.g., teachers, administrators, kitchen staff, maintenance staff, etc.) or specific building functions (e.g., HVAC system, roofing, renovation, etc.). The Checklists are to be completed by the staff and returned to the IAQ Coordinator as a record of activities completed and assistance as requested.

IAQ COORDINATOR. An individual at the school and/or school district level who provides leadership and coordination of IAQ activities. See **Section 3** for more information.

IAQ MANAGEMENT PLAN. A set of flexible and specific steps for preventing and resolving IAQ problems. See **Section 6** for more information.

IAQ TEAM. People who have a direct impact on IAQ in the schools (school staff, administrators, school board members, students and parents) and who implement the IAQ Action Packets. See **Section 3** for more information.

IPM. Integrated pest management. See **Appendix D: Developing Indoor Air Policies** for more information.

INDOOR AIR POLLUTANT. Particles of dust, fibers, mists, bioaerosols, and gases or vapors. See **Section 4 and Section E: Typical Indoor Air Pollutants** for more information.

MCS. See “Multiple Chemical Sensitivity”.

MAKE-UP AIR. See “Outdoor Air Supply”.

MICROBIOLOGICALS. See “Biological Contaminants”.

MULTIPLE CHEMICAL SENSITIVITY. A condition in which a person reports sensitivity or intolerance (as distinct from “allergic”) to a number of chemicals and other irritants at very low concentrations. There are different views among medical professionals about the existence, cause, diagnosis and treatment of this condition.

NIOSH. National Institute for Occupation Safety and Health. See **Appendix I: Resources** for more information.

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. Under this condition, if an opening exists, air will flow from surrounding areas into the negatively pressurized space.

OSHA. Occupational Safety and Health Administration. See **Appendix I:** Resources for more information.

OUTDOOR AIR SUPPLY. Air brought into a building from the outdoors (often through the ventilation system) that has not been previously circulated through the system.

PPM. Parts per million.

PLENUM. Unducted air compartments used to return air to central air handling unit.

POLLUTANT PATHWAYS. Avenues for distribution of pollutants in a building. HVAC systems are the primary pathways in most buildings; however all building components and occupants interact to affect how pollutants are distributed. See **Section 5** for more information.

POSITIVE PRESSURE. Condition that exists when more air is supplied to space than is exhausted, so the air pressure within that space is greater than that in surrounding areas. Under this condition, if an opening exists, air will flow from the positively pressurized space into surrounding areas.

PRESSURE, STATIC. In flowing air, the total pressure minus velocity pressure. The portion of the pressure that pushes equally in all directions.

PRESSURE, TOTAL. In flowing air, the sum of the static pressure and the velocity pressure.

PRESSURE, VELOCITY. The pressure due to the air flow rate and density of the air.

PREVENTIVE MAINTENANCE. Regular and systematic inspection, cleaning, and replacement of worn parts, materials and systems. Preventive maintenance helps to prevent parts, materials and systems failure by ensuring that parts, materials and systems are in good working order.

PSYCHOGENIC ILLNESS. This syndrome has been defined as a group of symptoms that develop in an individual (or a group of individuals in the same indoor environment) who are under some type of physical or emotional stress. This does not mean that individuals have a psychiatric disorder or that they are imagining symptoms.

PSYCHOSOCIAL FACTORS. Psychological organizational and personal stressors that could produce symptoms similar to those caused by poor indoor air quality.

RADON. A colorless, odorless gas that occurs naturally in almost all soil and rock. Radon migrates

through the soil and groundwater and can enter buildings through cracks and other opening in the foundation. Radon can also enter through well water. Exposure to radon can cause lung cancer. See **Appendix G: Radon** for more information. See **Appendix E Typical Indoor Air Pollutants** for more information.

RE-ENTRY. Situation that occurs when the air being exhausted from a building is immediately brought back into the system through the air intake and other opening in the building envelope.

SBS. See “Sick Building Syndrome”

SANITIZER. One of three groups of antimicrobials registered by EPA for public 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.

SECONDHAND SMOKE. See **Appendix F: Secondhand Smoke** for more information.

SHORT-CIRCUITING. Situation that occurs when the supply air flows to return or exhaust grilles before the breathing zone (area of a room where people are). 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 organic compounds, gases from pesticides in the soil.)

SOURCES. Sources of indoor air pollutants. Indoor air pollutants can originate within the building or be drawn in from outdoors. Common sources include people, room furnishings such as carpeting, photocopies, art supplies, etc. (see **Section 5** for more information).

STACK EFFECT. The flow of air that results from warm air rising, 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.

STERILIZER. One of three groups of antimicrobials registered by EPA for public 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”.

TVOCs. Total volatile organic compounds. See “Volatile Organic Compounds (VOCs)”

UNIT VENTILATOR. A single fan-coil unit designed to satisfy tempering and ventilation requirements for individual rooms.

VOCs. See “Volatile Organic Compounds”.

VENTILATION AIR. Defined as the total air brought inside from outdoors and the air that is being recalculated within the building. Sometimes, however, used in reference only to the air brought into the system from the outdoors; this document defines this air as “outdoor air ventilation”.

VOLATILE ORGANIC COMPOUNDS (VOCs). Compounds that vaporize (become a gas) at room temperature. Common sources which may emit VOCs into indoor air include housekeeping and maintenance products, and building and furnishing materials. 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. See **Appendix E: Typical Indoor Air Pollutants** for more information.

ZONE. The occupied space or group of spaces within a building which has its heating or cooling controlled by a single thermostat.