Maintaining Indoor Air Quality During the Summer

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Training Objectives

- Brief Explanation of Indoor Air Quality and the Health Impacts
- Common Indoor Air Quality Problems
- Mold Growth and Prevention Tips
- Stagnant Air and Prevention
- Pest Control
- Volatile Organic Compounds (VOCs)
- Regular Maintenance / Cleaning Protocols
- Monitoring Technology Devices

Indoor Air Quality

What is Indoor Air Quality?

- Indoor air quality (IAQ) refers to the condition of the air within buildings and structures, such as workplaces and schools. IAQ is influenced by factors such as ventilation, humidity, temperature, and the presence of indoor pollutants.
- Poor indoor air quality can lead to short-term and long-term health effects.
- Ensuring good indoor air quality is essential for creating a healthy environment.
- Insurance costs are impacted by improper indoor air quality, such as workers' compensation claims, general liability, and lawsuits.

Common Indoor Air Quality Problems

Challenges During the Summer Months.

Schools often face unique indoor air quality challenges during the summer months when the buildings are largely unoccupied. Common issues:

- Mold Growth
- Stagnant Air / Lack of fresh air ventilation
- Pest Droppings and Dander
- Volatile organic compounds (VOCs)
- Unmaintained HVAC Systems

By addressing these potential issues proactively, schools can maintain a healthier and more comfortable indoor environment for the start of the new school year.

Mold Growth and How to Prevent

Mold growth increases as humidity and warm temperatures create ideal conditions, especially in areas with poor ventilation or water leaks. Closed-up buildings can trap moisture, exacerbating the problem.

Preventing Summer Mold Growth:

- Regularly inspect for leaks and address them promptly.
- Ensure proper ventilation, even when buildings are unoccupied. Consider running HVAC systems for a few hours each day or using dehumidifiers.
- Keeping humidity levels below 60%.
- Remove organic debris and clutter.
- Use mold-resistant building materials in areas prone to moisture.

Stagnant Air and Prevention

Stagnant air in schools during the summer months is a common problem arising from a combination of factors such as the lack of regular occupancy and the reduced operation of HVAC units.

Preventing Stagnant Air During the Summer Months:

- Running HVAC systems for a few hours each day or week can significantly improve air circulation.
- Ensure HVAC systems are bringing in adequate outdoor air and that air filters are cleaned or replaced.
- Use Natural ventilation if security and weather conditions allow; opening windows strategically during cooler parts of the day can improve air exchange.
- Thoroughly clean buildings before summer break and again before the start of the school year to remove accumulated dust and allergens.

Pest Droppings and Dander / Prevention

Pests and their droppings can significantly contribute to poor indoor air quality in schools. Pest droppings, shed skin, and body parts all contain allergens. Allergens become airborne and can be inhaled.

Preventing Pest-Related IAQ Problems:

- Integrated pest management program that focuses on prevention, monitoring, and targeted control measures, minimizing the use of pesticides.
- Seal cracks and crevices to prevent pest entry.
- Maintain a clean and sanitary environment.
- Keep grass and vegetation trimmed back from the foundation.
- Regular inspections for signs of pest activity. Address promptly.

Volatile Organic Compounds (VOCs)

- Volatile organic compounds (VOCs) can pose a significant indoor air quality concern in schools, especially during the summer months. Preventing VOCs exposure will create a healthier indoor environment.

- Volatile organic compounds (VOCs) increase during warmer temperatures. VOCs are released or “off-gassed” from building materials, furnishings, and stored supplies such as art supplies and cleaning products.

- VOCs are often trapped inside schools that are closed up with limited ventilation, leading to higher VOC concentrations.

- VOC concentrations often lead to health effects such as respiratory irritation, eye, nose, and throat irritation, headaches, and dizziness. Some VOCs can also exacerbate allergies and asthma.

Volatile Organic Compounds (VOCs) Cont'd

Preventing VOCs Exposure in Schools During the Summer:

- Increase ventilation even when the building is unoccupied. Running the HVAC system for several hours each day or week will bring in fresh air and dilute VOC concentrations.
- Choose products with low-VOC during renovation activities.
- Schedule high-VOC emitting activities when the building is unoccupied to allow for VOCs to dissipate before students and staff return.
- Store products that emit VOCs, such as art supplies and cleaning products, in well-ventilated areas or sealed containers.

Regular Maintenance and Cleaning

Regular maintenance and cleaning practices are crucial for ensuring healthy indoor air quality and avoiding expensive repairs in schools.

HVAC System Maintenance:

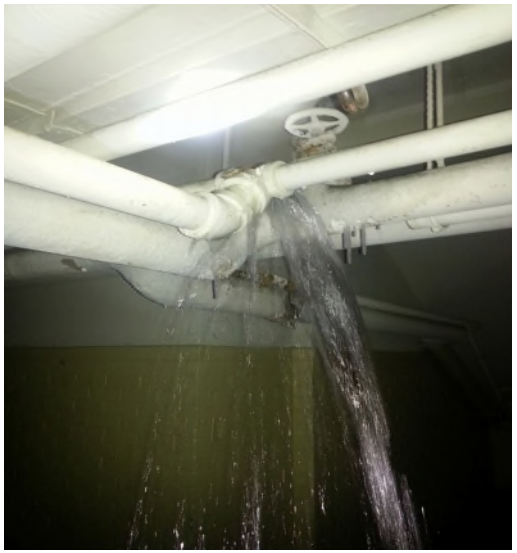
- Run HVAC regularly: Schedule systems to run for a few hours each week of weekly. Use timers or programmable thermostats to automate this.
- Replace or clean air filters. Consider upgrading to higher-efficiency filters.
- Inspect and clean ducts and vents, look for mold and debris.
- Check for leaks and damage to HVAC systems.
- Schedule professional maintenance as needed.

Regular Maintenance and Cleaning

Plumbing inspections and routine maintenance often get overlooked when the building is unoccupied. Plumbing maintenance is critical during these times to prevent leaks.

- Check for leaks: Inspect pipes, faucets, and toilets for leaks. Repair them promptly.

- Flush toilets and run water in sinks and other fixtures to prevent drain traps from drying out and allowing sewer gases to enter the building.



Regular Maintenance and Cleaning

Cleaning and sanitation in schools during the summer break are crucial for ensuring a safe and healthy environment for students and staff when they return in the fall. With classrooms, restrooms, and common areas unoccupied, it's the perfect time to deep clean and sanitize these spaces.

Cleaning and Sanitation:

- Thoroughly clean all areas of the school, classrooms, restrooms, cafeterias, gymnasiums, and common areas.
- Disinfect frequently touched surfaces.
- Deep clean carpets and upholstery.
- Empty all trash cans to prevent pest infestations.

Regular Maintenance and Cleaning

Additional important tasks:

- Inspect the roof for damage, missing or damaged shingles, cracks, holes, and sagging areas. Check for leaks, water damage, and mold growth.
- Gutters and downspouts should be inspected for debris, blockages, and proper attachments to discharge water away from the building.
- Maintain vegetation and grass around the building foundation. Overgrown vegetation can trap moisture, attract pests, and provide access points for rodents and insects.
- Trim trees, shrubs, and other vegetation so that they are at least a foot away from the building.
- Perform regular security checks to help deter vandalism and theft.

Operations and Maintenance

An efficient operation and maintenance program must be established to safeguard the investment and performance of all buildings and their systems. Inadequate maintenance or improper operation can result in significant claims and costs for the school.

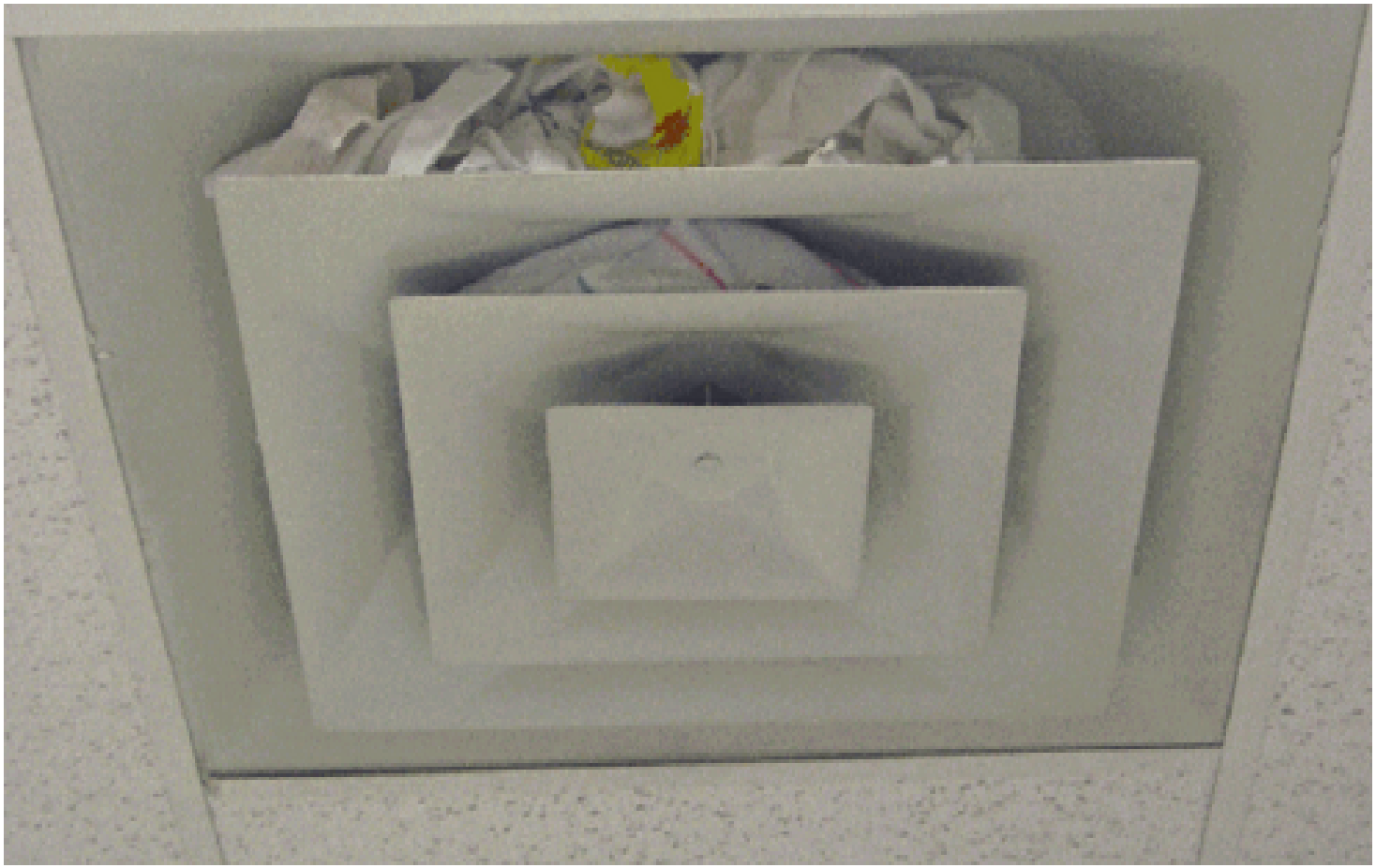
An effective maintenance plan should:

- Educate employees on the value of preventive maintenance.
- Establish a budget for maintenance.
- Develop a preventative maintenance plan.
- Use a work order system to track work and maintenance performed.
- Availability of spare parts (filters, plumbing fittings, etc.)
- Train staff on how to recognize and report problems.

Technology Devices

Several technology devices that can help improve and maintain indoor air quality for schools. Such devices are;

- IAQ Monitors – These devices measure IAQ parameters, including temperature, humidity, and carbon dioxide. Real-time monitoring alerts when levels exceed recommended thresholds.
- Carbon Dioxide Sensors CO2 – CO2 sensors can trigger alarms or automatically adjust ventilation systems to increase fresh air intake.
- Humidity Sensors – Humidity sensors can trigger dehumidification systems and alert facility employees.
- Smart Thermostats – Can be programmed to optimize temperature and humidity levels.
- Water Sensors – Can alert employees when there is moisture.

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Reference Source:

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https://www.nj.gov/health/workplacehealthandsafety/peosh/peosh-health-standards/iaq.shtml

https://www.njea.org/air-quality-laws/

Questions?

Thank you