



Long Term Care Building Conference
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PRESENTERS

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AGENDA

- 🔊 Indoor Air Quality as a public health concern
- 🔊 HVAC Systems and the “link” with IAQ
- 🔊 Standards for Indoor Air Quality
- 🔊 *Infection Control Standards – Ashley Strong-Deveau*

History...

First Call, Because We Can Do It All™

- **Environmental Services**
 - **Mould/Fungal Remediation**
 - **Asbestos Abatement**
 - **Lead Abatement**
 - **PCB Removal**
- **Residential/Commercial/Industrial HVAC Mechanical Hygiene (NADAC)**
- **Facility Restoration Emergency/Rebuild**
IICRC – Fire, Water, Odor, Mould
- **Infection Control Guidance**
 - **Atmospheric Control**
 - **Containment Barriers**
 - **Negative Pressure**
 - **HEPA Filtration**
- **Fire Stopping**



The simple presence of airborne fungal spores or fragments indoors is not a major cause for concern, unless

- ❑ The species and rank order of concentration is significantly dissimilar with outdoor samples
- ❑ Potential “high-risk” fungal species were identified
- ❑ Fungi will grow until sources of moisture or nutrients are removed
- ❑ Effective remediation requires both cleaning and moisture control.

Indoor Air Quality as a Public Health Concern

- ❶ Occupational hazards associated with indoor air quality are a recent phenomenon.
- ❷ Energy-conserving features often include windows that cannot open and thermostat controls that are not adjustable or accessible to building occupants.
- ❸ “Modern” buildings often are self-contained environments with temperature, humidity and airflow being controlled by one or more air-handling units.
- ❹ Sick-building syndrome and tight-building syndrome.

INDOOR AIR QUALITY

- ❶ Building design and building management professionals have become more aware of the indoor air quality concerns of owners and occupants.
- ❷ RESULT: *changes to improve indoor air quality and climate.*
- ❸ HOW: changes in building designs; improvements in site planning/design; ventilation systems; limit of chemical contamination of air during construction and occupancy of buildings

“Maintain to Sustain”

Indoor Air Quality as a Public Health Concern

- ❶ Energy conservation = construction of “air-tight” buildings.
- ❷ Heating, cooling, filtering and delivery of air requires consumption of energy.
- ❸ Poorly designed or improperly maintained HVAC systems cost more money to operate.
- ❹ Indoor air quality or lack of it is typically associated with the “air” and the HVAC system.

EFFECTS OF INDOOR POLLUTION

Business

- Occupants Lost
- Insurance Costs
- Sale/Rent Loss
- Productivity Losses
Dizziness
- Energy Costs
Breathing
- Maintenance Costs
- Renovation Schedules
- Workers Compensation

Humans

- * Fatigues
 - * Headaches
- * Irritations
- * Nausea and
- * Difficulty in
- * Sickness – H1N1

Types of Indoor Pollutants

Particulates

- Asbestos
- Dust
- Paper
- Fibres

Radionucleotides

- Radon

Microorganisms

- Bacteria
- Algae
- Fungi, Mould, Mildew
- Somatic & Reproductive parts





“Maintain to Sustain”

HVAC systems and the “link” with IAQ:

- ❌ There is NO direct correlation between indoor air quality test and cleanliness of HVAC Systems
- ❌ The results of the air quality test was fine, therefore, the duct system is clean – NO!
- ❌ The air quality test does not dictate interior conditions of HVAC systems nor does it determine cleanliness of systems components



ASHRAE

Advancing HVAC&R to serve humanity
and promote a sustainable world



The HVAC Inspection, Maintenance
and Restoration Association

**Standards for Indoor Air Quality
Go hand in hand!**

HVAC Mechanical Hygiene – Identifying Impacts

Potential Air Quality Impacts:

1) Mould Growth



HVAC Mechanical Hygiene – Identifying Impacts

Potential Air Quality Impacts:

2) Bacterial Growth



Potential for Legionella spore growth



Bird Droppings at Supply Intake

HVAC Mechanical Hygiene – Identifying Impacts

Potential Air Quality Impacts:

3) Interior HVAC Linings



Fiberglass Debris

HVAC Mechanical Hygiene – Identifying Impacts

Potential Air Quality Impacts:

4) Dust Accumulation



Turning Vanes



Before/After Cleaning with Brush



We are ready where and when you need us

Thank You



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