



Implementing *IAQ TfS*: Proper Building Maintenance for Summer Months

July 14, 2004



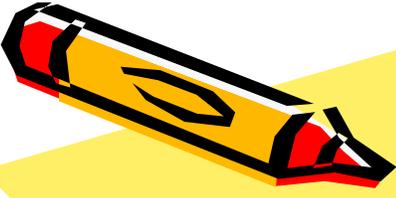
Welcome and Introductions





Agenda

- Presentations
 - Odette Mina, Director of Occupational Health and Safety Services, Spotts, Stevens and McCoy, Inc.
 - Vickie Angell, Program Management Analyst and Radon Grants Project Officer, EPA Region 7
 - General Question & Answer Period
 - Closing Remarks
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Proper Building Maintenance For The Summer Months

Presented by : Odette Mina, MBA
Director, Health and Safety Services
Spotts, Stevens and McCoy, Inc.



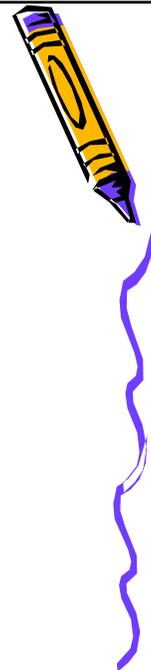
Frequently Asked Questions

- How do I get my buildings ready for the upcoming school year?
 - How do I operate my HVAC in the summer?
 - What type of HVAC cleaning and maintenance does my staff need to follow?
 - How do I evaluate my resources and prioritize my to do list?
 - Do we need to provide training?



How do I get my buildings ready for the upcoming school year?

- Existing building
- Renovated building



How do I get my buildings ready for the upcoming school year?

- Existing buildings

- Determine optimum operation and settings of HVAC to control humidity and moisture
- Develop standard operating procedures (SOPs) for cleaning HVAC and school building
- Develop standardized procedures for building envelope
- Select cleaning chemicals that are environmentally friendly



How do I get my buildings ready for the upcoming school year?

- Existing buildings

- Select cleaning procedures that minimize introduction of moisture to the building
- Provide custodial/maintenance staff with training on SOPs to ensure consistency in cleaning
- Evaluate district resources and expertise in accomplishing all the necessary tasks identified for completion during the summer months.



How do I get my buildings ready for the upcoming school year?

- **Renovated Building**

- Review Construction activities
- Review Material Safety Data Sheets
- Review new building materials
- Visual inspection of HVAC and school building



How do I get my buildings ready for the upcoming school year?

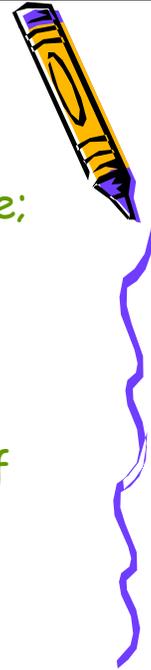
- **Renovated Building**

- Clean-up of newly constructed areas
- Clean-up of HVAC and school building
- Complete sampling/monitoring for contaminants prior to reoccupying the building.



Improper Humidity Control - Mold

- Every ventilation system is unique; important to evaluate and set criteria for operation and maintenance
- Inappropriate HVAC equipment operation - turning equipment off when building is vacant



Improper Humidity Control - Mold

- Cleaning activities - introducing moisture with improper ventilation
- Inappropriate building operation - incorrect building pressurization



Summary

- Be Proactive - Plan for your summer well in advance
- Understand your building and building systems, identifying optimum parameters for operation during all four seasons
- Identify your tasks and evaluate your resources
- Train your staff on operation and maintenance of your HVAC and building
- When in doubt, call a professional and check their credentials and references



QUESTIONS ?

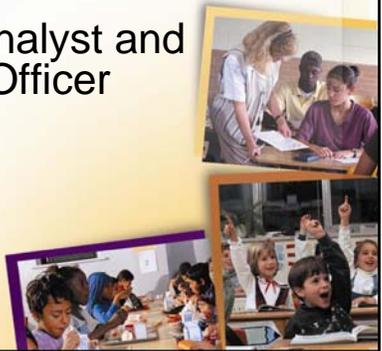




SUMMER TIPS

Presented By:

Vickie Angell
Program Management Analyst and
Radon Grants Project Officer
EPA Region 7



Why Summer?

- Best time to establish and re-evaluate cleaning and maintenance practices
- Opportunity to ensure that the fall session begins with healthy indoor air





Summer Tips Magnet

- **Developed by EPA Region 7 in 2003**
 - To promote the *IAQ TfS* Program
 - In response to increased calls and inquiries
 - To enhance outreach efforts
 - Partner groups
 - Community events
 - To reinforce messages



Summer Tips

Schools in humid climates

- Keep ventilation running during summer months
- Monitor humidity levels within the building
- Maintain humidity levels below 60%
- Conduct weekly checks for mold growth (sight and smell)





Summer Tips

Product Choice

- Proper choice of cleaners, adhesives, paints, pesticides, solvents, carpeting, equipment, and furnishings can reduce the fumes. Consider toxic-free products. Read labels.
- Always mix solutions according to label directions and store in proper containers.
- Use only recommended amounts of pesticides and dispose of safely.
- Interior painting requires adequate ventilation. Use non-toxic paints and renovation materials when possible.



Summer Tips

Maintenance Procedures

- Maintain and adjust combustion appliances and ensure proper venting to the outside.
- Check roof for existing leaks and fix properly; routinely inspect during the summer months for any new leaks.
- Replace burned-out bulbs in light fixtures and make necessary repairs.
- Develop schedule for routine filter replacement; use high efficiency filters; check for presence of fungal growth.





Summer Tips

Maintenance Procedures (continued)

- Use preventive measures to reduce lead exposure where paint is chipping and peeling (in schools constructed pre-1978).
- Replace stained ceiling tiles and eliminate the source of moisture.
- Keep water in drain traps to prevent passage of sewer gas into building.
- Maintain relative humidity below 60 percent to control dust and dust mites.



Summer Tips

Maintenance Procedures (continued)

- Check windows and doors for breaks and air leaks; repair properly.
- Consider removing carpeting around water fountains to prevent fungal growth.
- Add door mats at all entrances.





Summer Tips

Housekeeping Procedures

- Thoroughly clean and dry carpeting to avoid mold growth. (Wet Carpeting + No Ventilation = MOLD)
- Be sure all vents are cleaned and not blocked. Look for books on ventilators, plywood covering outdoor air intakes, blocked ceiling vents, etc.
- Minimize classroom clutter and store art and science supplies properly.



Summer Tips

New Equipment

- Purchase quiet, energy-efficient, and durable new equipment.
- Open windows or run air handlers on full outdoor air to reduce chemical fumes from new furnishings until noticeable odors are no longer present.





EPA Resources

Asthma Management in Schools
www.epa.gov/iaq/schools/asthma/index.html

Asthma Research Strategy
www.epa.gov/ord/htm/researchstrategies.htm#rs02

Chalk Alert
www.epa.gov/pesticides/health/illegalproducts/chalk.htm

Energy Star
www.energystar.gov



EPA Resources

Environmentally Preferred Cleaning Products
www.epa.gov/oppt/epp/cleaners/select

Healthy School Environments Web Portal
<http://cfpub.epa.gov/schools/index.cfm>

Indoor Air Quality Design Tools for Schools
www.epa.gov/iaq/schooldesign/

Indoor Air Quality Building Education and Assessment Model
www.epa.gov/iaq/largebldgs/ibeam_page.htm





EPA Resources

Mercury: State School Programs
www.epa.gov/epaoswer/hazwaste/mercury/school.htm

Mold Remediation in Schools and Commercial Buildings
www.epa.gov/mold/mold_remediation.html

Office of Children's Health Protection
<http://yosemite.epa.gov/ochp/ochpweb.nsf>

Pest Control in Schools
www.epa.gov/pesticides/ipm/brochure



EPA Resources

Radon in Schools
www.epa.gov/iaq/radon/pubs/schoolrn.html

Safe Drinking Water
www.epa.gov/safewater/kids/index.html

Sunwise School Program
www.epa.gov/sunwise

Tools for Schools Action Kit
www.epa.gov/iaq/schools/tools4s2.html





EPA Publications

National Service Center for Environmental Publications

www.epa.gov/ncepihom/ordering.htm
1-800-490-9198 or 513-489-8190
(operator Mon-Fri, 7:30am - 5:30pm EST)



Other Resources

Mercury in Schools
www.mercuryinschools.uwex.edu/

National Pesticides Information Center
www.npic.orst.edu/

American Lung Association
www.lungusa.org/

Centers for Disease Control & Prevention
www.cdc.gov/





Other Resources

Cleaning & Maintenance Management Online
www.cmmonline.com

National Education Association
www.nea.org

Occupational Safety & Health Administration
www.osha.gov



Additional Information

- Contact Vickie Angell directly at Angell.Vickie@epa.gov
- Include your mailing address if you would like to receive copies of the Summer Tips magnet



