

Managing for Good Indoor Air Quality

Rob Gabris, CIH

Multnomah County Risk Management
Section

503-988-4788

robert.t.gabris@co.multnomah.or.us

What is goal of the employer? Provide goods and services, whether for-profit or not-for-profit;

Employers must investigate claims/allegations/demands made by employees. (e.g. IAQ, harassment, theft);

Employers must use relevant guidelines/standards/regulations when investigating. If none exist employers must explain their decision rationale;

Employers must act on findings and take appropriate actions. **EMPLOYERS SHOULD NOT FEEL OBLIGED TO MAKE COMPLAINTANTS “HAPPY.”**

Employers may have to defend their actions in court or elsewhere. Thus facts and a good investigative process are more important than making people “happy.”

What Begets Good IAQ?

- Clean
- Dry
- Adequate Ventilation
- Comfortable Temperature (and humidity)
- No Uncontrolled Pollutants

Multnomah County has developed an IAQ policy that principally addresses the above issues. (a flowchart handout has been provided). What we are NOT doing as part of the IAQ process is disputing, minimizing, or dismissing employee IAQ complaints. We ARE looking at the building (something we have control over) to determine if it is operating as intended.

The County IAQ policy outlines responsibilities for Facilities, Risk Management, Department Management/Supervisors, AND EMPLOYEES so that frank communication is happening.

EMPLOYEES have the responsibility of providing documented medical conditions, which would need to include a causative agent, if they continue to pursue IAQ complaints after the building has been checked out.

This policy is new ground. Effective January 2007; we'll see how it pans out.

What Makes a Quality Building?

Nikon Coolpix 8700 FS 8 1500x 17mm iso50



Rapier 1.0 f/1.8

Rated 3.5/5

See previous slide!



If you've got leaks you're going to have IAQ complaints and perhaps actual problems.

Managing for Good IAQ

- Rule Numero Uno:
- *Do NOT make more work for yourself!*
 - Integrate IAQ into existing operations.
- EPA's "Building Air Quality Action Plan"
 - Eight Steps to Better IAQ

Step 1: The IAQ Manager

- “Manager” can be a conceptual thought
 - Bigger organizations will often have space use guidelines that are effective in managing IAQ
 - Ex: No. occupants/sq. ft; no space heaters allowed; cooking policies
- Authority to deal with tenants/occupants



Many policies and directives exist at the County to address space use issue. In effect, these policies are the “IAQ Manager.”

While it sounds bureaucratic, having policies (or EXPECTATIONS) in writing up front should prevent a lot of problems.

Steps 2,3,4: Know your Building

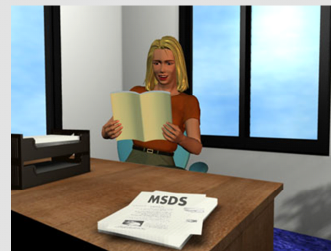
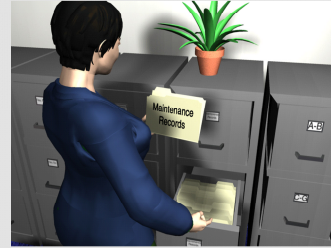
- Macro Scale
 - Net Usable Floor Area
 - Names of Tenants
 - Lease Costs
- Micro Scale
 - Do you really know what your tenants are doing??
 - No. of space heaters/coffee makers/toasters;
 - Hours of operations;
 - Visitors, clients, activities.

In BAQ Action Plan Step 2 is “Develop an IAQ profile of Your Building.” Step 3 is “Address Existing and Potential IAQ Problems.” Step 4 is “Educate Building Personnel about IAQ Management.”

All of these three steps have overlap.

IAQ Profile

- Construction of Building
 - Up-to-date As-built drawings
- Operating Systems
 - Up-to-date As-built drawings
 - Operations/Maintenance Schedules
- Maintenance Chemicals Used
 - Up-to-date Chemical Inventory
 - MSDS



As one can see, this information is necessary to manage the building let alone IAQ.
Ex: Information on Mead Bldg. Basement was sketchy. Also Hansen and SEHC.

IAQ Profile

- Knowing your building will allow you to anticipate, evaluate, and control potential IAQ problems while they are still “potential.”
- Take care of obvious stuff



Building Occupants



- **Lease agreements need to be clear on what is/is not allowed**
- **Work with tenants to prevent IAQ problems**
 - Informal channels
 - Formal training/notification
 - Regular communication

Building Occupants

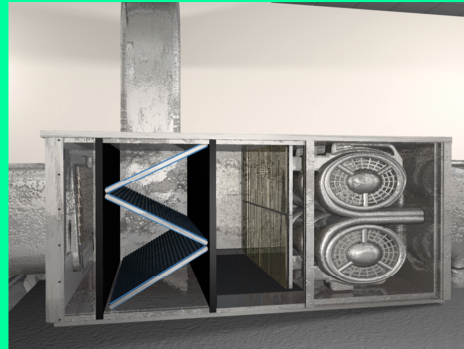
- Can **help** by:
 - Observing and reporting unsanitary conditions;
 - Reporting problems with heat/cold/drafts;
 - Reporting “suspect” housekeeping issues
 - Excessive use of cleaning products;
 - Poor cleaning and housekeeping.

Building Occupants

- Can hurt by:
 - Creating unsanitary conditions;
 - Placing food waste in wastebaskets
 - Bringing chemical products into work area;
 - Practicing poor housekeeping (clutter)
 - Especially a problem if clutter blocks vents.

Steps 5 & 6: Operations, Maintenance, Remodels

- HVAC system is the most important building system to maintain good IAQ.
- ASHRAE 62-2004



Facilities/Maintenance staff and Property Managers should have ready access to HVAC systems design and operation.

Some older buildings may not have a central HVAC system (e.g. schools often have unit ventilators in each room), or any HVAC system at all. (e.g. Hansen Bldg. has a central boiler for heating; air conditioning is via a room air conditioner or open the window).

HVAC System IAQ issues

- Is it on; and when?
- Adequate for occupancy;
- Adequate filtration;
- Heating/cooling coils clean;
- System balance;
- Leaks in system;
- Mechanically sound.



Housekeeping and IAQ

- What do you mean by “housekeeping?”
 - Dusting all or accessible surfaces;
 - Wet moping, vacuuming;
 - Trash pick up
 - How often is housekeeping performed???



Be clear with occupants what housekeeping services are provided.

Housekeeping Chemicals

- How are products obtained?
 - Products should be reviewed, and only “approved” products should be used.
- Training for custodial staff
- Product storage
- MSDS availability



Remodeling/Renovations

- Have a **process** for planning these actions;
 - Pre-Construction Risk Assessment
 - Include building occupants in the assessment
 - Address timing of activities and mitigation measures

Don't let occupants circumvent the AGREED-UPON pre-construction efforts unless they can show a tangible problem. For example, sometimes occupants are annoyed by the work (too loud, chaotic). Annoyance is not an IAQ problem.

Example of MCHD Pre-Construction Risk Assessment Form.

Remodeling/Renovations

- Attempt to do work during low occupancy periods;
- Look for least hazardous chemicals to do job;
 - Green certification doesn't mean low hazard
- Pay close attention to HVAC issues.

We've seen some Green Seal-certified aqueous products with a pH of 1 (e.g. cleaner concentrates). Disposing of unused product would be a hazardous waste.

Step 7: Communicate with Occupants

- Do we really need to say more??

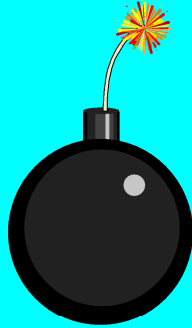


Communication

- Good communication will help alleviate or prevent IAQ and other building problems;
- Especially important when remodeling, renovations, moves are planned.

Communication is a two-way street. Don't be bullied by people alleging something they can't tangibly demonstrate.

Step 8: Respond to Complaints



- Disregard complaints at your own peril.
- IAQ complaints should be handled like other building-related complaints.

Respond to complaints, but don't be bullied. Facts and tangible evidence are important. Making people happy is NOT the goal.

Complaint Response

- Log complaints into existing work-order system;
- Prioritize (e.g. emergency);
- Get all relevant information;
- Notify Safety/Health staff if you anticipate needing their input;
- Evaluate the complaint and decide on an action.

Ex: logging complaints into a work-order system was able to dispel the claim that a tenant made “numerous” complaints over a few month period and “nothing was done.” work-order logs showed no complaints called in for a three-month period.

Complaint Response

- Take appropriate actions;
- Provide feedback to complainant on actions taken;
- Check to see if actions have been effective.