



**SPELL JIF**  
School Pool for Excess Liability Limits

# PRACTICAL MOLD MANAGEMENT

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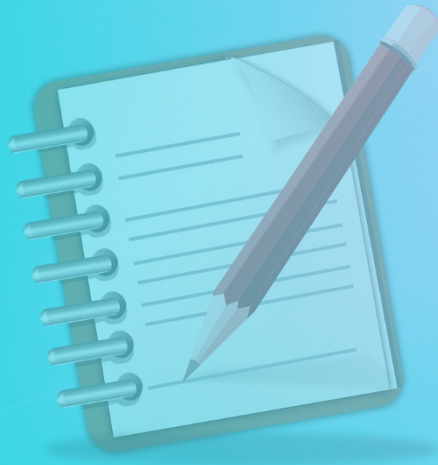
# Preamble

- Mold issues are **NOT** going away
- Contributing weather conditions are **NOT** going away
- Mold insurance coverage options may be limited, or nonexistent if losses cannot be controlled
- We need to get better at identifying issues creating mold conditions
- We need to get better at responding quickly to minimize the mold epidemic

# Prioritize Mold

- You will likely be on the front lines of any mold issue.
- You must make moisture control a priority.
- Respond promptly to complaints.
- Mold issues can spiral out of control quickly.
- Prevention and early intervention are the keys to minimizing losses.
- Failure to respond promptly can jeopardize coverage and monopolize your time.

## Develop a Plan



- Be proactive in your mold prevention activities
- Set up a work order and calendar reminder system
- Empower and train your facilities staff to seek out and identify potential problems
- Educate and communicate openly with staff and encourage reporting of suspect moisture control issues
- Identify possible problem areas and develop an action plan to control or eliminate the issue
- **Mold can occur at any time of year. Be vigilant.**

# Control the Moisture



**USEPA:** “The only way to control indoor mold growth is to control moisture.”



Look for all potential sources of unwanted moisture.



Moisture comes in many forms. Building envelope, weather, mechanical, manmade, etc.



# Control the Mold

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Outdoor humidity

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Indoor humidity

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Rainwater

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Surface water

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Ground water

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Plumbing water

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Sewer water

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Condensation/Dew Point

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Internal processes

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# Be A Weather Watcher

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Be acutely aware of weather conditions that may increase mold risks including excessive rain, high temperatures, high humidity and elevated dew points

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Monitor areas aggressively to ensure you can react quickly to changing conditions

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Higher dewpoint means higher risk of indoor condensate

# Check & Inspect



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Proper foundation drainage

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Excess water retention

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Irrigation systems

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Gutters and downspouts

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Clogged drains

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Roof leaks/Flashing

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Window leaks

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Plumbing systems

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HVAC systems

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# Find the Mold

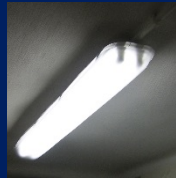


- You cannot just “look around”
- Be diligent when looking for mold
- Mold can be any color, not just black
- Look under desks, behind furniture, cardboard boxes, paper, books, closets, cabinets, above ceilings, inside air handlers, under carpet edges
- Learn to use a flashlight and train staff how to inspect

# Shine The Light On Mold



A powerful flashlight can illuminate mold on surfaces that may otherwise not be visible, especially light-colored molds



Do not rely solely on overhead lighting or natural lighting



Shine the flashlight at an angle along all the surfaces to be inspected, not directly at the surface

## Shine The Light On Mold



- If your initial inspection of surfaces does not detect mold, try turning off other lights and just using the flashlight.
- Do this for all suspect surfaces.
- It may require you to get down on the floor, up in the ceiling and behind furniture.
- **MOVE STUFF.** Mold will not always be easy to find but left alone it will get worse.

# Find the Source



Work with your Response Team to identify possible contributing factors



Inspect affected areas including walls, ceilings, above ceiling tiles, closets, cabinets, drains, sinks, under furniture and carpet



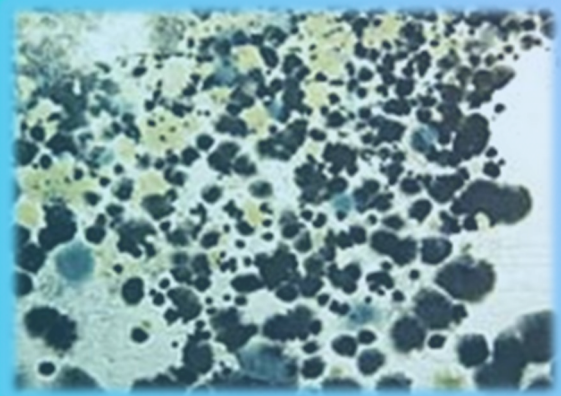
If possible, use a snake cam to inspect wall cavities



Inspect surrounding areas such as exterior, halls and adjacent rooms



# Visible Mold



- Visible mold needs to be removed and the source found
- Lab testing is usually not necessary
- Small amounts can usually be safely removed with a soap and water solution
- Larger or more complicated situations may require experts
- Always ensure removal is done in accordance with industry standards

# HVAC Involvement







**PLEASE WELCOME:**

**JOE BILUCK, JR.  
GRĀMIN CONSULTING  
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## **What this presentation will cover to help districts avoid excess moisture and mold growth...**

- ✓ Five conditions that negatively impact practices and proper responses.**
- ✓ New construction and renovation projects**
- ✓ Ventilation – proper dilution levels**
- ✓ HVAC Controls**
- ✓ SPELL-JIF Support Services**



# **The 5 Deadly Sins**

**1. Distractions**

**2. Complacency**

**3. Poor Housekeeping**

**4. Poor pre-planning**

**5. Shortcuts**



# The 5 Deadly Sins

## 1. Distractions –

There are many distractions that can take focus away from our task at hand. These distractions can be in our actual work environment, i.e. clutter, noise or a mental distraction. Mental distractions stemming from what maybe happening in our home life can serve as a huge disruption to us in getting our work down properly.

Managers should be mindful of identifying and limiting possible distractions for both themselves and their staff.



# The 5 Deadly Sins

## 2. Complacency –

Many workers perform the same tasks over and over and over for many years. Because of this familiarity with their work, complacency can set in. Complacency can lead to shortcuts or not following proper procedures. When this occurs conditions that promote mold growth can easily be missed.

~ “See something, say something” ~



# The 5 Deadly Sins

## 2. Complacency –





# The 5 Deadly Sins

## 3. Poor Housekeeping –

“Clutter is the enemy of efficiency”

Poor housekeeping practices will lead to a number of undesirable conditions. Not only is excessive clutter a potential safety and fire hazard, depending on the material, it is a breeding ground for mold. Often times mold is growing on items buried deep within the pile.



# The 5 Deadly Sins

## 3. Poor Housekeeping –





# The 5 Deadly Sins

## 4. Poor pre-planning –

While taking steps to establish conditions that control moisture and minimize opportunities for mold growth should be a priority, poor pre-planning significantly restricts your ability to properly respond to events that promote mold growth. For example, does the district own the correct equipment to respond to a flooding event? Is that equipment in good working order? Have all staff been properly trained to use this equipment?



# The 5 Deadly Sins

## 5. Shortcuts –

We've all done it. But taking shortcuts should not be standard operating procedure. Not taking the time to do the job right the first time or forgetting to go back and complete the job correctly leads to catastrophic failures.



# The 5 Deadly Sins

## 5. Shortcuts –





# The 5 Deadly Sins

## 5. Shortcuts –





# The 5 Deadly Sins

## 5. Shortcuts –





# **New Construction and Renovation Projects**



## **Some items to keep in mind when planning a capital improvement project.**

- Building operators/technicians should be part of the design discussion.
- A comprehensive discovery process of existing conditions should be conducted prior to designing any renovations, especially building technology profile and capacities, discharge location of condensate from large A/C units, compatibility of HVAC controls.
- Avoid over ventilation, over cooling conditions. Consider demand ventilation.



## **Some items to keep in mind when planning a capital improvement project.**

- Participate in the review of shop drawings and submittals.
- Ask questions. Once the designer approves the contractor's proposed equipment, changing it later may not be an option.
- Consider commissioning the entire HVAC or at least all major components and the control system.



**Some items to keep in mind when planning a capital improvement project.**

## New “Design/Build” Legislation

On April 30, 2021, the State of New Jersey enacted the “Design-Build Construction Services Procurement Act” (P.L.2021, c.71)

Interested districts should contact their solicitor for additional information and details.



## **Avoid under ventilation, over-ventilation and over-cooling**

- ✓ Introduce the proper amount of outside air based on need.
- ✓ Balance the need to provide adequate fresh air against increasing the potential for developing condensation.
- ✓ Maintain cooling set points no lower than 72-74 degrees.
- ✓ When possible, schedule cooling systems to enable

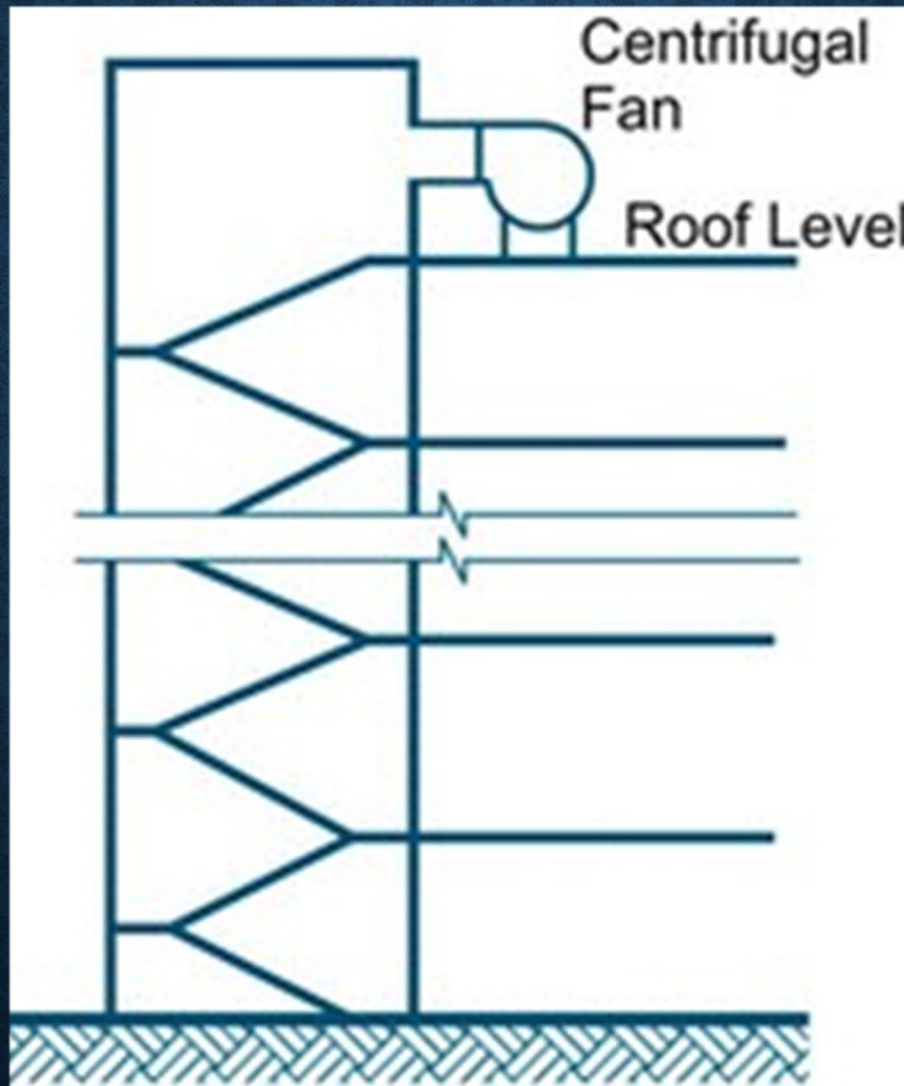


# Under ventilation





# Under ventilation – Stairwells



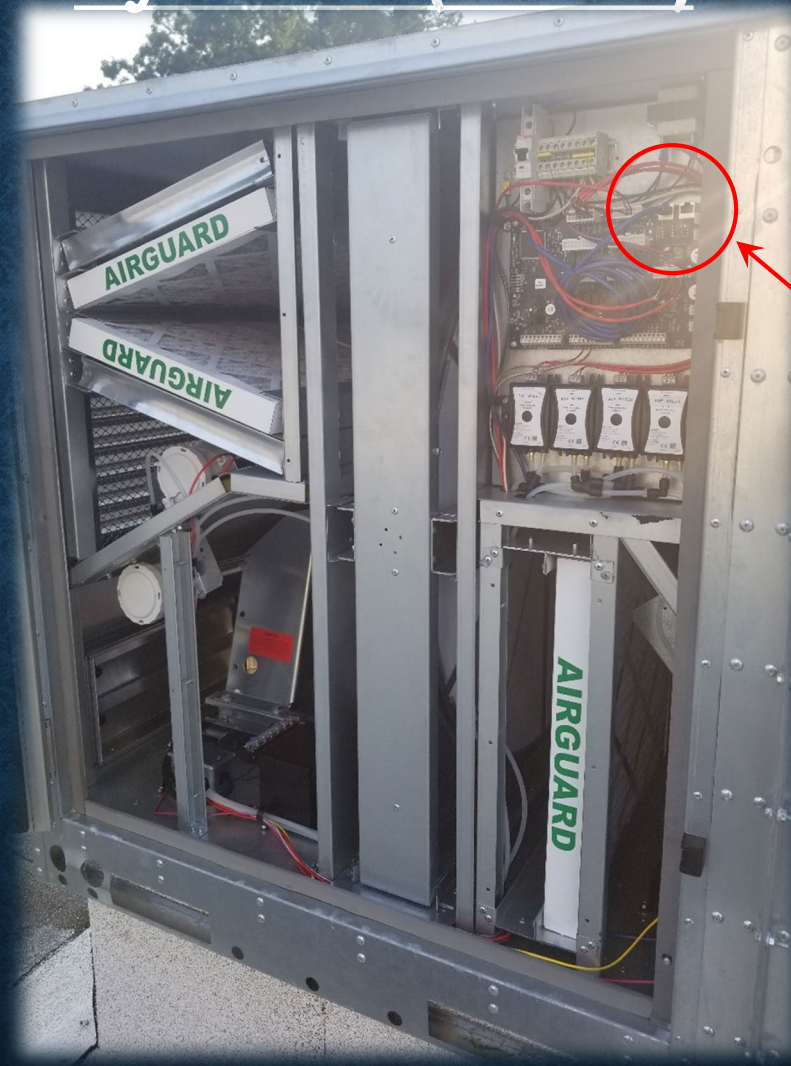


# Over ventilation – Direct Outside Air Systems (DOAS)





# Over ventilation – Direct Outside Air Systems (DOAS)



I. O. T.



# HVAC Controls





# **HVAC Controls – Common Issues**

1. Too much distance between designers/contractors and operators
2. Compatibility with existing programs
3. Integration with production networks
4. Network security
5. Inadequate training



# Moisture Management Plan

- ✓ Written performance expectations for B & G staff.
- ✓ Written inspection/response protocols.
- ✓ Remain diligent.
- ✓ Treat water leak indicators similar to an emergency response. Response actions must be robust.
- ✓ Balance instructional needs with inherent risks.
- ✓ Clearly articulate plan to all staff.
- ✓ Never dismiss a complaint.
- ✓ Ensure that all response activities are conducted in an open process and are properly documented.<sub>39</sub>



# Summer Cleaning Suggestions

- ✓ Frequent space inspections.
- ✓ Keep all room doors (including closets) & shades open at all times.
- ✓ Use dry carpet extraction when possible. Or use the least amount of water as possible.
- ✓ Windows should be closed or slightly open when the building is open for cleaning.
- ✓ Use floor fans to circulate air.
- ✓ Raise A/C set points in unoccupied areas.
- ✓ Minimize activation of mechanical ventilation systems in unoccupied spaces.



# SPELL – JIF Support Services (EHRIP)

- ✓ A voluntary, supplemental support service program intended to help SPELL-JIF member Districts “help themselves”.
- ✓ Strives to identify conditions that could contribute to the growth and spread of mold.
- ✓ Assesses a district’s capacity to effectively respond to a mold event.
- ✓ Includes facility surveys to identify possible opportunities for moisture infiltration.
- ✓ Provides a written report of the survey with possible recommendations for districts to consider.
- ✓ The report is submitted only to the District Business Administrator and/or the Superintendent. At no time is the SPELL-JIF, nor any of its administrators, provided a copy of the report.
- ✓ As the program evolves, common conditions, will be shared with the SPELL-JIF members as a means to develop “Best practices” recommendations.



**The End.**  
**Thank You!**