



IAQ RADIO

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**Rich Crim, PE, LEED AP BD+C
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Reactive to Proactive IEQ; GHP's Unique Process Encourages a Paradigm Shift

Good Day, on this week's episode of IAQ Radio+, we welcomed Rich Crim, VP, Project Operations and Ken Garza, CIH VP, Director of Texas Operations to discuss the GHP story and their emphasis on Proactive vs Reactive IEQ. After many years working with large companies, hotel chains and others, GHP is laser focused on changing client's paradigm and focusing on IEQ issues proactively. This week we learned more about their unique approach.

Rich Crim, PE, LEED AP BD+C as GHP's Vice President, Project Operations, Rich's project experience is comprehensive of every aspect of mechanical and plumbing systems, from design to forensic investigation and everything in between. Rich has a Master of Science in Mechanical Engineering from Vanderbilt University and Bachelor of Science in Mechanical Engineering from the University of Mississippi.

Kenneth Garza, CIH, MS is GHP's Vice President, Director of Texas Operations. With client experience in a variety of industries his work has taken him around the globe, including Dubai, Chile, Guyana, and the Caribbean islands. Ken's Master of Science is in the Environmental Science and Management from the University of Texas at San Antonio and his Bachelor of Science is in Biology, Minor in Chemistry is from St. Mary's University.

Nuggets mined from this week's episode:

Rich Crim and Ken Garza- GHP began when an architect Ron Gobbell and Steve Hays a chemical engineer/CIH formed a business partnership in 1977. The firm is passionate about providing architectural, environmental, and construction services. The firm considers how buildings impact occupants and owners. The firm's headquarters is in Nashville, with satellites in Texas, California, Florida & Colorado. The firm is now a woman owned business lead by President, CEO Dominique Arrieta, AIA.

Ken Garza- Reactive means there is an issue in a building and we need to fix it or tell the client how to fix it. Proactive means that we want to get ahead of issues before they become problems. It's better to spend some money now and keep track of expenditures and savings rather than spending much more money later.

Rich Crim- A good percentage of our clients seek LEED certification for their buildings while others prefer to use LEED as a template or design standard and not opt for certification. We are seeing growth in other building certification programs such as WELL Building as owners of LEED certified buildings seek additional certifications for their buildings. WELL Building and LEED are complementary as LEED focuses on efficiency and WELL Building focuses on the building occupants.

Ken Garza- Co-wrote with an attorney a white paper titled "Toxic Mold Litigation: Perspectives on Excessive Mold Growth in Hotels"

Ken Garza- Many of our clients are in the hospitality sector. When we examine a building, we look at both the interior and the exterior. We have opportunities to collect a lot of information which we chart onto spreadsheets. Data is crunched resulting in a grade for each indicator. Indicators tracked include: moisture management (grading and drainage), moisture intrusion, windows, odor sources near fresh air intakes, etc.

We look for: malodors, closed shades, condensation on windows, mold growth on metals, mold growth on nonmetals, staining behind vinyl wall covering.

When we look at Air Handling Units (AHUs) we look for: dirty filters, microbial growth, corroded drain pans, improper piping insulation, duct joint sealing, soiling near AHUs, use of deodorizing products in AHUs.

The Key Driver in guest rooms is malodors which negatively correspond to variations in overall room grades.

Rich Crim- We provide 3rd party water proof consulting, which may begin in the building design phase. Specification of methods and products for water proofing features such as flashing, water tightness of windows, material supply and storage, structural drying prior to installation of wooden framing, drywall and other porous materials. Water testing of windows and window installation including chamber testing.

Ken Garza- It's common for hospitality buildings to undergo periodic refreshes or upgrades of soft goods and wallcovering every 15 years. These refreshes can result in IAQ problems when existing finishes are removed revealing fungal staining or shortcuts are taken such as installing new vinyl wallcovering over existing wall covering. We can advise the client what we recommend be done, however clients may disregard our advice for aesthetic purposes.

The biggest problem areas in hotels are: vinyl wall covering, HVAC, façade. A combination of these issues exacerbates the problem.

Rich Crim- added, it's not just vinyl wallcovering. Vinyl doesn't let gypsum breathe or dry. Building envelope and negative pressure issues. We don't do much blower door testing we do test and balance HVAC systems. Covid has increased the demand for client requests for retrofitting existing buildings with negatively pressurized isolation rooms. This can have unintended downstream consequences.

Ken Garza- *What was your worst asbestos litigation?* All asbestos litigations are bad. Asbestos is a known carcinogen. We always recommend conservative solutions- "if I were you I would quickly solve the problem."

Rich Crim- "An ounce of prevention is worth a pound of cure." We recommend routine HVAC system maintenance, suitable filter upgrades and sensor checks.

Rich Crim- *Do you perform HVAC commissioning?* No, we subcontract this service.

Round Up-

Ken Garza- We received many Covid calls. In retrospect, much of the Covid efforts were focused on contact surface cleaning. A better solution was ventilation (dilution solution), upgrading filtration and engineering controls.

Rich Crim- We push the Proactive IEQ Approach in healthcare facilities where mold can be devastating.

Ken Garza- Clients see value in facility engineering team training to be prepared to respond to problems such as a sprinkler head break or frozen pipes by knowing where and how to turn off the valve. Valves should be periodically checked to ensure they are operational.

Rich Crim- Following Hurricane Ian we did moisture mapping, worked with building operations and restoration contractors to get everything addressed and to avoid leaving wet area behind.

Ken Garza- We rely on our noses to investigate odor problems. We can smell high humidity odors upon entering some buildings. We use a qualitative approach; we document what we smell: musty, food, chemical, fragrance, etc. We compare odors in guest rooms and common spaces. Stinky rooms often equate to stinky common areas. Air freshening systems in lobbies or attached to HVAC systems may be covering-up an odor problem.

Rich Crim- Agrees with Ken about odor diagnosis. A bathroom leak may be noticeable immediately while an HVAC or window leak may take time to notice.

Z-Man signing off

Trivia-

Name the problem solving principle that states: when you are presented with multiple competing hypothesis for a phenomenon, or explanations for an event, you should start by selecting the simplest and most likely one, the one that makes the fewest assumptions.

Answer: Ockham's Razor

Answered by: Bob Spielvogel