



IEQ Consulting for a Living & Texas Electric Nightmare: The Indoor Environmental Aftermath Travis West

Travis West is the President of Building Air Quality, a Houston, Texas consulting firm. As an indoor air quality consultant, Mr. West has worked for 31 years on many kinds of indoor air quality issues and concerns. His primary business involves environmental investigations in commercial buildings. He has worked for the owners of multi-tenant office buildings, educational facilities, and medical buildings. For the past 15 years, he has also worked across the Southern United States on environmental health and safety issues for the regional office of the Federal Occupational Health, U.S. Department of Health and Human Services – investigating building failures in government leased buildings. Thanks to Ice Storm Uri, Travis has kept busy chasing water damage from some of the most unusual sources he’s seen in his many years of investigations.

Nuggets mined from today’s episode:

You have been successful doing IEQ work for over 30 years now how did you get started in the business?

I was drafting for an engineering firm in Houston ... doing tenant buildout drawings for air handlers and ductwork in commercial buildings. I got bored and tired of erasing and redoing. I called ASHRAE and asked what else there was. They said “well, IAQ is up and coming.” So I looked around, found Dr. Shaughnessy offering training to the NADCA members in Texas, and started following him to educational conferences. After about a year, I went out on my own. That same year, CAD drawing programs came to the engineering world.

You go to IAQA and Summer Camp and you know many of the top people in the industry. How are other IEQ consultants doing? Is mold still a big part of many IAQA members income?

I always say that Texas is a “weird bird” when it comes to mold. We experienced the “MOLD RUSH” here in 1999-2001 or so ... and then regulation in 2005. For a time, I saw that it “drove the IAQ market” and it still does to some degree. There are a lot of consultants here in Texas who say they do IAQ. But when you talk to them or look at their websites, they really only do mold. So there are still a lot of folks who get into this industry to focus on mold. If you are going to talk about IEQ, you should know what it is? Through the IAQA Chapter program, I have met a bunch of really competent folks in the Houston area who actually understand the impact that particles, chemicals, and biologicals play in occupant health. They don’t focus on mold. The focus on talking, listening, and developing a plan of action. They don’t just have a single tool in their toolbox ... like a lot of the Texas mold consultants do. I’m sure my peers in Florida, Oklahoma, California, Pennsylvania, and other states see the same thing.

Do you think it would be a good time to go into the IEQ consulting business?

No! Honestly! Regardless of my time in the industry, I still find it hard to get through the clutter and misinformation being sent out by myriad folks. Sorry. I guess I’m pretty negative at times. Sure, you can come in with good training, exceptional personal skills (speaking and writing), an honest work ethic, and all the right insurance coverage, but that doesn’t mean you’ll get the work. Obviously, you have to do the work! Let me give you an example: I wrote an article about particle counters in one of my direct-mail newsletters a couple of years ago. It was well received. Then, one of my past clients called me to ask what I was using to capture all of that direct-read particle data. I told him. Then I asked if he was having any issues. He said “yes, but I’m using someone else.” I asked “Who?” He told me, and I didn’t recognize their name. Then he went on to say that they were doing particle counts in his building, but that they would take the sample and return it to the lab for analysis. He said that when he needed to test several offices on one floor, he spent a “couple of thousand dollars.” He was just calling to ask the name of my equipment to provide to HIS IAQ consultant. I wonder why THAT guy didn’t know enough to purchase or rent the appropriate equipment?

I notice you do not have any initials after your name, what are your thoughts on certifications?

I think that certifications are necessary, provided that they're monitored or qualified. I do have two certifications. CIEC with the American Council for Accredited Certifications. And the Texas Mold Assessor's license. The CIEC helps me with my commercial building clients. The Texas mold license helps me with any situation involving water damage or mold. You do a lot of interesting work.

Let's talk a bit about please tell listeners about some of the Proactive IAQ surveys you do in high-rise buildings?

We have been doing proactive IAQ surveys high-rise office buildings for 25+ years. When we started, I don't think it was well understood. In those days, I told building managers that it was like the air testing that buildings do when they have asbestos. They sample periodically to ensure that none of the asbestos is being loosed into the air. If they do get called into court for an asbestos case, they can show the data and say "hey, we've been monitoring it. Maybe it did get high one time but we are trying to ensure the very best outcome by regular testing!" So I used that same approach to commercial buildings. It also helps that I'm dealing with owners and managers with DEEP POCKETS who don't want to get sued and want to do the right thing! We started by walking ½ of a building every year. That meant that after 2 years, we'd sampled the entire building. One day I got a call from a building manager who said "We need to meet about a complaint one of our airline clients has lodged." They said 3 women were complaining about air quality in their office area. We met with the HR department, the legal department, the facility manager, and the 3 ladies. The property manager brought along our copy of the report discussing this tenant. They shared that with them each year. As we were discussing what we had done and tested, one of the 3 ladies exclaimed – oh my gosh! My name is in this report. We all turned to the page and read "Jackie's office is a mess. There are boxes, files, and folders scattered all around the floor. The custodians won't be able to vacuum. The personal plants on her desk are overwatered and there is mold on the plant soil. The custodians can't get in to clean the area and the plants will release spores into the office areas. The report went on to say "and the cubicles on either side of her are in the same condition." If these areas aren't cleaned and organized then the occupants will likely complain of coughing, sneezing, itchy eyes and skin, and upper respiratory concerns. If any of them suffers from allergies to mold then they too could react!

With that, the HR, Legal, and Facility manager all stood up, thanked us for our time, and said “well, it looks like we have some issues to address” and left.

Now, you have to picture this very proper and reserved building manager who turned to me, smiled a big smile, and then gave me a high-five! She was ecstatic! 1 year later that building manager became the Director of Operations for 13 buildings ranging from 34 – 50 stories in downtown Houston. She directed that every floor of every building would be walked every year ... I now have 28 buildings in the Houston area that let us visit on an annual basis to do this kind of sampling. It’s fun, it’s easy, and it’s very profitable.

You also do a lot of reactive investigations (IAQ) in a variety of buildings. Can you tell our audience or show them an example of this type of project?

Reactive investigations occur when an occupant complains about an unknown IAQ issue and the building owner wants us to find the source.

- Strange odors – often caused by custodial products – Glade Plug-in’s – personal care products (perfumes).
- Elevated particles causing coughing, sneezing, upper respiratory concerns – caused by cluttered offices – office work practices – personal printers on desktops.
- Suspect mold blamed on the building – personal plants that are overwatered or underwatered – wet surfaces from coffee or drink spills – leaky window seals – etc.

You also do something I forgot existed: what are forensic reviews of federally occupied buildings?

Wow! I have a ton of those in my experience – starting in 2004 (17 years ago)

- 38 separate SSA offices
- 46 separate projects in Federally owned or leased spaces in Houston
- 125+ DEA, FBI, CBP, IRS, US Census, USAF CIS, USCG, Army Corp of Engineers, US Fish and Wildlife, USDA, Federal Courthouse or other Federal Buildings,
- LBJ Texas White House

- Administrative offices for US Fish and Wildlife in “Nowhere, Arkansas – along the Mississippi River”
- Marijuana holding facilities
- Border crossing stations
- USDA buildings at Border crossing stations

What are your thoughts on the future of the IEQ profession? Is it something you would suggest young people get involved in?

IEQ, yes. But don't think that doing mold inspections makes you an IAQ or an IEQ professional. I see lots of “newer people” in the industry who start with mold and build up their business doing that, then try and transition to commercial clients who need so much more. Without the proper education, they are doing a disservice to the client. And some of them are misdiagnosing IAQ issues as mold ... When all you have is a hammer, everything looks like a nail!

Please tell listeners about what you have seen following Ice Storm Uri?

- Residential – Anecdotally, I've heard about thousands of folks who lost power, and then their pipes (in the attic space) froze, causing flooding in the house. “I have hundreds of calls each week from people who are worried about mold because they had water flooding their house.”
- Commercially – I have been involved in many – initially to do thermal imaging, then follow-up on the drying services that were provided. Commercial clients haven't had many concerns for mold since they hire water-restoration contractors immediately.
- 30 floor hotel – Downtown – Water lines froze on 25 and water leaked down to 20. They fixed the pipe leaks and reenergized the system ... not slowly either. Then leaks occurred on 20 and went down to the first floor.
- 3 story empty medical building – Fire sprinkler froze under the soffit. Water leaked back into the building flooding several thousand feet on each floor – accumulating in the basement.
- 1st floor health club (in a large medical tower) – A 10” chilled water line for their equipment that was run on the outside of the building, broke, and flooded a small section of the first floor. But then it put 6” of water throughout the basement in the gymnasium, dance-floor area, locker

rooms. 18,000 sf that got wet and nobody bothered to dry it for 2 weeks. Now it's all mold and has to be gutted.

- 5th floor Federal lease – A water sprinkler broke in a server room. Flooded that room and the entire 8,000 sf lease. Videos showed workers in boots using a squeegee to move 4-6" of water to the stairwells.

Are there enough people to handle all the water damage, mold and reconstruction?

The CAT teams for the larger companies were good in responding but I did talk to some building managers who knew they had leaks. They hired me to do thermal imaging, and they were told that equipment would be there in 5-7 days. So I guess NO, there wasn't enough equipment for some of the commercial clients.

What is the landscape like for doing mold surveys in Texas right now?

- Despite the state's mold rules, it's still the "wild west" out there. The state's resources are limited (few people doing oversight) and there's really no "standard" for the quality of the work being done.
- Legislation was more about knowing the Texas Mold Rules and abiding by them – primarily focusing on who is licensed and who is not. The rules didn't have any real guidance on the details of the work being done.
- There is a new stipulation that says you "must" place a list of the approximate square footage involved with mold into your scope of work. There is no specific guidance on closeout inspections, protocols, etc. That is all left up to the individual Mold Assessment Consultant, and most of those folks aren't at IAQA, AIHA, ASHRAE, or other association meetings. I don't know where they're getting their guidance.

Have you seen any scams people should be worried about?

- There is even one company that manufactures and sells a spray that guarantees that you can use their product and never have to touch a stud, rafter, or roof sheathing. They are a Texas firm that advertises pretty heavily to the water-restoration and remediation market. What's up with that?
- IAQA had exhibitors and presenters talking about their product that "amazingly removes MVOCs and mycotoxins from the air" at the last in-person conference. I missed the presentations and didn't stop by their

booth, but folks that I respect came out of there literally pissed off! What they were saying and selling was misleading and ... Well let's stop at that!

- You know that I really appreciate Bud Offerman's perspective on IAQ issues. His experiences in this industry have driven me to be better for years. In particular, Bud's recent article about the "smoke and mirrors" being employed to address COVID exposures has really hit home. In fact, just yesterday, I was doing a reactive investigation on 3 floors for a client. In this instance, I am working for the tenant, not property management. As we reviewed the 2-year-old HVAC systems, the engineer made a point of his new COVID-19 preventative strategy. Each AHU had newly installed Needlepoint bi-polar ionization units installed upstream of the evaporator coil. That's 3 AHUs per floor, in a 30 story building. And this is one of 13 buildings on the property. Eek! I'm sure wish they'd read Bud's article first!

How is this different from other water damage events you have seen over the past 30 or so years?

- Weather predictions and hurricane warnings allow national catastrophe response teams from across the US time to travel to areas where heavy damage is predicted. With Uri there was no warning, no one expected the prolonged power failure to occur.
- Texas is a warm client, many homes are built slab on grade, plumbing pipes often run through ceiling voids.
- Some of the issues were similar to hurricane and tropical storm issues, but we can see those coming ... and we know how to deal with those ... BUT ... Most people did NOT know how to prepare for this series of events – Lots of folks who had water leaks often didn't have power for several days to a week after the event. The problems were compounded by the fact that no one was prepared for the issues that lead up to the leaks. Cold weather (we aren't prepared for it getting THAT cold); Loss of power (This is Texas, the Energy State damn it!); the inability to travel (roads were frozen); watching TV, you could hear desperation in the voices of many people who were interviewed. The level of anxiety sounded a lot different than hurricane pleas.
- Many large buildings did not have auxiliary power.

- The general public was furious when they experienced power outages while seeing downtown office buildings lit at night.
- Many renters remain displaced while their apartments are being repaired.

Is there anything you would like to add?

- I have to say that through sheer DUMB LUCK I have survived 31 years in this business.
- I made a commitment to my continuing education early on and that has really helped me to keep the doors open. Then I made a commitment to my client's education on IAQ issues. That has really given me a unique standing in this market. In December 1991, the EPA published "Building Air Quality; A guide for building owners and facility managers". That's how I chose my company name! Dumb Luck!
- Shortly after it was published, I attended a 4-hour presentation at my local BOMA on the book. Joe Lstiburek was the presenter. I introduced myself and gave him a ride back to the airport. That's how I got to know him. And every time he was back in Houston, he would call me to have a drink. Again. Dumb luck!
- When the BOMA presentations were done, the EPA put the book and training program back on the shelf since they didn't have funds to do anything else with it. I purchased that training program and decided to offer it to Building owners and facility managers. I decided to become a "state-licensed provider of continuing education" to the state's real estate agents since commercial building CEU courses were very hard to find at the time. I then had the BAQ program approved for CEUs with the state real estate board, BOMA, and IFMA. Then I had to market it. And I marketed the heck out of it! On the day of the first presentation (in Houston) I had 135 attendees who each sat through a 4- hour program, and each received a copy of the manual. I put the manual into a 3-ring binder that had all of my contact information in it ... I also provided a certificate of training for every person in attendance. Besides Houston, I gave the same presentation in Austin, San Antonio, and Dallas. To this day, I still run into folks who mention attending one of those four seminars. Dumb luck! I still meet building engineers who have the certificate hanging on their wall. Dumb luck! Similarly, I have offered training to building owners and managers

using Joe Lstiburek as the speaker. Joe put together a full day of Building Science for commercial owners, contractors, and architects. (Joe took that idea started to offer it nationwide ... after seeing how successful we were at it.) And I did the same thing with the EPA's book on mold published in March of 2001. While my peers were making thousands of dollars from the insurance industry, I was training building owners and managers about mold prevention. That's given me a pretty unique standing in my market. Again. Dumb luck! I provided the training and my contact information for future needs ... and they call. It's all dumb luck!

Can you comment on any noteworthy mistakes others have made?

Most of the mistakes I've seen have been from clients (owners or managers) that thought they knew what they were doing, but they didn't. In those instances, I can see the results of their mistakes when I do my investigation. I've never "called them on it" in a major way because I want them calling me back. And I consider it a "training moment" for the building engineer or property manager. Unfortunately, I have trained myself out of a job many times in the past. That's okay though. I'm staying busy.

Three months preparation for a thirty second event.

A building a few feet away from Houston's largest surgical cancer center was to be imploded. Travis was hired to measure airborne particulate before, during and after the event. In addition to the particle counters he had and could borrow; he needed 25 more. For Travis, the hardest part was finding 25 more particle counters. He worked out a creative solution whereby the manufacturer made 25 instruments, rented them to Travis for a week and then sold them at a discount. While the particle counts were elevated by the concussion waves of the blast, they went back to normal within an hour.

Have you done any IEQ work following fire damages?

I have not done any IEQ work following fires. We experienced some very bad wildfires in my part of Texas 5+ years ago. But it's not really that common here. Maybe with global warming - and the projected drought for this year - things may change.

Following winter storm URI, it is apparent that there was insufficient manpower and equipment to handle the large volume of claims resulting in buildings being under-dried and problems showing up later. Are you encountering these issues?

- I do believe that many buildings were under-dried. In most instances, I think that was done by smaller building owners, owners from out of state, or Class B & C building owners.
- I did one review for an attorney just 2 weeks ago. His client's 4,000 sf. warehouse had 6" of water but the owner's response was to wet vac the water and place fans in the offices. They didn't pull any cove base or drill and dry the wall cavities.
- Over the course of 90 minutes, I reviewed the lower walls throughout and although they were dry, when I pulled back the cove base, it exposed *Stachybotrys* and myriad other molds in all offices. They just put fans in the rooms to dry the exposed walls surfaces.
- I do think that these kinds of things occurred a lot and will lead us to mold concerns in the coming months.

Closing thoughts:

- Always work with Class A properties: they are concerned about exposures, have a budget and are operated & run by building professionals.
- If you are going to put IAQ on your business card, you should know about air quality.

Z-Man signing off

Trivia Question:

Name the meteorological term defined as: synoptic scale low-pressure systems that occur in the middle latitudes (i.e., pole-ward of about 30° latitude), often contain a cold front and have length scales of the order of 500-2500 km?

Answer:

Extratropical Cyclones

Answered By: Susan Valent