

Odors Can Indicate Incomplete Drying

By Kevin Fisher

There are several ways to know if a drying job is complete. A water loss project manager will ensure that all affected materials in the structure are back to dry standard with the use of moisture meters and documentation. All affected structure and contents should have the same, or better, appearance than before the loss occurred. And, all affected areas should be clean and free of abnormal odors.

If abnormal odors remain when the job is “done,” additional restoration services are necessary to ensure customer satisfaction and reduce company liability.

Detecting odors is easy, but can be tricky at the same time. Physically speaking, smell is the easiest of the five senses to overload. The olfactory senses in our nose can “get used” to an odor in just a few seconds. Only the strongest odors can break through an overloaded sense of smell. We may notice an odor as soon as we enter an affected structure, but our sense of smell is overwhelmed before we can find the source of the odor.

Sources of Odors in Water Losses

Wet structural materials and contents are a primary source of odors in water losses. Even though many homes are kept in a clean condition, addition of water to an older carpet and pad can bring out the history of that carpet and pad for all to smell. When a house is poorly maintained, the odor can be legendary.

Carpet cleaners have a short saying that describes the supporters of their carpet cleaning business: “kids and pets!” All that’s required to soil a carpet is the addition of a few pet accidents and spills by some kids. A tidy pet owner will have cleaned up Fifi’s mess, but most often will have only cleaned the surface. In the event of a water intrusion, the water goes all the way through the carpet, pad and into the subsurface. The water activates the sources of contamination and the odors are then reactivated.

Off gassing from microbial growth is another source of odor. When microorganisms are growing actively, they can produce a strong odor. According to the California Department of Health Services (CDHS), an *earthy or musty odor* is an indication of abnormal mold in a structure. Anyone who has smelled spoiled food recognizes that bacteria can produce a very strong odor as well.

Other sources of odors in water losses include chemicals leaching from wet building materials and contaminated water sources. Each of these sources of odor may be present at the beginning of the loss, but at completion of the restoration, the “offending” smell must be gone.

Some Odors are Normal

A review of the IICRC S500-99 reveals an interesting comment about odors on p. 8 of the Standard section:

In the latter stages of drying, minor odor problems may develop in large fabric surfaces such as carpet due to microorganism development.

The key word in this quote is *minor*. What does *minor* mean? “Lesser in seriousness” is a great definition from www.dictionary.com. This definition emphasizes how a *minor* odor problem is not a serious problem. At the same time, it would be irresponsible to ignore even a minor abnormal odor. Some customers view the word *minor* differently. If the customer is unhappy with the restoration of their structure because of a *minor* odor problem that you didn’t resolve, it can mean real trouble for your company. The S500 water damage standard (p. 8) then suggests the solution to *minor* odor problems in the carpet:

...Carpet cleaning is required at the conclusion of the restoration project. Cleaning also reduces microbiological levels and removes odorous compounds.

If your professional judgment and the customer’s opinion agree that an odor emanating from the carpet is *minor*, clean it. Proper cleaning should solve the problem. A courtesy call to the customer a couple of days later would be a good idea. This call ensures that the customer is totally satisfied and that the odor hasn’t returned.

Major Odors

As discussed earlier, *earthy or musty odors* are an indication of the presence of mold. This is especially true if there is enough moisture present to support the growth of the fungi. Remember, most *heavy odors* on water damage losses are usually the result of microbes flourishing, reproducing and digesting organic matter. Failure to address these problems may result in the client’s home becoming a Petri dish with a host of unwanted microorganisms. Allergic reactions in customers, combined with these bad structural odors, are mentioned as evidence of the presence of mold in the CDHS document. Ignoring these signs of contamination place your customer at risk, and whenever customers are at risk, your business is at risk as well.

Most business owners in the restoration industry are searching for ways to reduce their liability. Readers of *ICS Cleaning Specialist* are not typically the ones being sued and losing their businesses over microbial contamination. It’s the business owners who aren’t reading this, or who ignore these warnings who typically get sued. To reduce your liability, look at your business and ask these tough questions: “*Am I training my employees to recognize these danger signs? Or, do I put pressure on my employees just to get the job done and turn a blind eye to problems like this?*”

Tackling Major Odors

Since the EPA and other health and safety organizations have clearly stated that safety is the first priority, what should be done about major odors that continue at the conclusion of the job?

The remediation manager’s highest priority must be to protect the health and safety of the building occupants and remediators. (EPA Mold Remediation in Schools and Commercial Buildings P.8)

1. Don't ignore the problem. Ignoring bad odors is a recipe for losing your business, permanently.
2. Don't use temporary solutions. Biocides, deodorants and ozone machines all are useful tools, in their place. But using one of these tools to cover up a problem is not a panacea. The problem is still there and correcting the source is the true solution.
3. Do re-inspect the affected areas of the structure. Start with your "onboard sensor"-your nose. This will lead you to the general area of the problem. Although the restorer should have identified the affected areas at the beginning of the project, you may look for any of the following:
 - ❑ Structure and contents that are still wet
 - ❑ Extra layers of materials that may not have dried as quickly during the drying process
 - ❑ Hidden areas where water could have intruded
 - ❑ New water intrusions
 - ❑ Contamination that was missed in the initial cleaning
4. Do discuss the problem with the customer. They may be able to shed some light on the problem. Maybe there is a history to the home where a previous water intrusion has begun the microbial damage, and the presence of the water has supplied the conditions for it to flourish once again. Possibly, former mob informants are buried in the crawlspace...there's no telling what has happened in some structures!
5. Do isolate suspected contamination to help identify it. If *you* are unable to locate the odors, you may wish to isolate different areas or materials with sheets of plastic and painters tape. Leave the area for several hours. When you come back into the structure, go directly to the areas you isolated with the plastic. Cut a slit into the plastic and smell the air isolated from the rest of the room. This is one way to identify the sources of many odors.
6. Do check the HVAC system. For odors that are only noticeable at unpredictable times of the day, you may find that heating the home with the HVAC system will accelerate the off gassing of these odors, or be affected itself.
7. Do have a qualified third-party inspection if the source of odor is not found. Chapter 9 of the IICRC S500-99 discusses the process of when and how to have an evaluation completed. A third-party inspector will *ensure a healthy environment for current and future occupants*. Many Industrial Hygienists and Indoor Air Quality Professionals offer these types of re-inspection services.
8. Do remediate properly. Once the problem is found, employ proper remediation techniques to ensure that the source of odor is removed.

Make sure that every structure you restore is back to a pre-loss, dry standard condition in every way -- in moisture content, appearance and also odor. Address both *minor* and *major* odors responsibly. Inspect the structure until the problem is found, then enact a permanent solution to the problem. Your customers deserve no less.

Writer Bio:

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has been involved in cleaning and restoration since 1999. Prior to joining Dri-Eaz, he worked for a

large restoration company and has consulted on a wide variety of restoration jobs. He has developed training programs for employees, managers and owners of several restoration firms.

Kevin has a degree in Curriculum Development and Psychology. Before developing an interest in restoration, Kevin spent nine years teaching science at the high school and college level. This combination of experience and training greatly benefits those who take his class or use a manual that he has helped to develop.

As an IICRC approved instructor, Kevin teaches the Dri-Eaz Water Restoration Training (WRT) and the Applied Structural Drying Course (ASD). He is an IICRC Master Restorer and has served as a company representative to the IICRC certification board.