

April 1, 2002 (revised)

MOLD IN APARTMENT BUILDINGS

Key Contacts:

Shari L. Solomon
Legislative Analyst
ssolomon@nmhc.org

Eileen C. Lee
VP of Environment
elee@nmhc.org

Clarine Nardi Riddle
Senior Vice President
cnriddle@nmhc.org

Other NMHC Staff Contacts:

Douglas M. Bibby
President
dbibby@nmhc.org

James N. Arbury
VP of Tax
jarbury@nmhc.org

David Cardwell
VP of Finance and Technology
dcardwell@nmhc.org

Kimberly D. Duty
VP of Communications
kduty@nmhc.org

James (Jay) Harris
VP of Property Management
jharris@nmhc.org

Ronald G. Nickson
VP of Building Codes
rnickson@nmhc.org

Mark Obrinsky
VP of Research and Chief Economist
mobrinsky@nmhc.org

(January 8, 2001) (May 17, 2001)
(July 19, 2001)

- In recent years, comparative risk studies performed by the U.S. Environmental Protection Agency (EPA) and its Science Advisory Board have consistently ranked indoor air pollution among the top five environmental risks to public health. Growth of molds (fungi) is a contributing factor to indoor air quality (IAQ) pollution and one that has brought new concern to the apartment industry.
- Depending on the person affected and/or the type of mold, the adverse health effects associated with exposure to molds range from mild allergies to potentially more serious conditions.
- While there are no controlling regulatory requirements for assessment and remediation of mold growth, EPA, local health departments and industry associations provide useful and comprehensive guidelines to consider.
- There are several steps available to stem liability, in terms of minimizing the likelihood of mold infestation and dealing appropriately with residents' concerns/complaints.
- If a lawsuit is filed, the property owner could be confronted with several possible legal causes of action. Mold contamination has resulted in several well-publicized lawsuits brought by residents against apartment owner/managers, claiming both personal and property damage caused by mold in their apartments. A sampling of recently published litigation, verdicts, and settlements is provided.

This document revised as of April 1, 2002. See next page for details.

© This document is intended for NMHC members only. It may not be reproduced or retransmitted electronically, in whole or in part, without permission from the National Multi Housing Council.

This April 1, 2002 update revises a number of sections, including:

- State and local legislative activities (pages 3-5);
- Recent studies (pages 9-10);
- Guidance for maintenance technicians (page 26);
- Insurance coverage (pages 27-32); and
- Recent published verdicts and settlements (pages 43-46).

Minor changes were made to other sections, including: allergic reactions to mold (pages 8-9); detecting mold – assessment and remediation (pages 10-11); and identification and correction of IAQ problems (page 25).

An attachment was added which highlights our federal policy objectives regarding mold.

Table of Contents

	<u>Page</u>
I. INTRODUCTION	1
State and local legislative activities	3
II. EXPOSURE TO MOLD	5
III. COMMON MOLDS FOUND IN BUILDINGS	5
A. Identification	7
B. Odor	8
C. Allergic reactions to molds	8
D. Recent studies	9
IV. DETECTING MOLDS - ASSESSMENT AND REMEDIATION	10
A. When should a residence be tested for mold?	11
B. Hiring a trained professional	12
C. Property inspection	12
D. Sampling	13
E. Testing costs	15
F. Property restoration clean-up procedures	16
G. Flood restoration and decontamination	18
H. How do you know when a remediation/clean-up is complete?	19
I. Remediation costs	19
V. CORRECTING CONDITIONS WHICH FAVOR MOLD GROWTH	19
A. Air conditioners	20
B. Exterior corners	20
C. Temperature	20
D. Windows	22
E. Concealed condensation	22
VI. PROTECTING YOURSELF BEFORE MOLD INFESTATION ISSUES ARISE	23
A. Due diligence	23
B. Protect your building from mold and yourself from liability	23
(1) Establish an environmental management system	23
(2) Guidance for maintenance technicians	26
(3) Insurance coverage	27
a. The "absolute pollution exclusion"	27
b. The "mold exclusion"	29
c. Bad faith insurance claims	30
d. Prompt notification to insurance carrier	31
e. Regulatory/legislative issues	31
VII. ADDRESSING RESIDENT COMPLAINTS	32
A. Notification to other building residents	33
B. Relocation of residents	33
VIII. LEGAL ISSUES	33
A. Causes of action	33
B. Potential defendants	37
C. Causation issues	37
D. Alleged injuries	39
E. Damages recoverable in mold cases	41
F. Recent published verdicts and settlements	42
IX. Conclusion	46
Attachment - Mold policy issue sheet	

MOLD IN APARTMENT BUILDINGS

Please understand that the information discussed in this guidance is general in nature and is not intended to be legal advice. It is intended to assist owners and managers in understanding this issue area, but it may not apply to the specific fact circumstances or business situations of all owners and managers. For specific legal advice, consult your attorney.

I. INTRODUCTION

In recent years, comparative risk studies performed by the U.S. Environmental Protection Agency (EPA) and its Science Advisory Board have consistently ranked indoor air pollution among the top five environmental risks to public health.¹ Despite strides that have been made in improving general air quality under the Federal Clean Air Act,² EPA studies of human exposure to pollutants indicate that indoor air levels of many pollutants, such as carbon monoxide, nitrogen dioxide and volatile organic compounds (VOCs), may be two to five times, and occasionally, more than 100 times higher than outdoor levels.³ These levels of indoor air pollutants are more likely to pose a threat to health since the average person spends as much as 90 percent of the time indoors.⁴ Poor indoor air quality (IAQ) is due, at least in part, to newer building technologies that in an effort to improve energy conservation, have resulted in tighter buildings with less air exchange; in many high rise commercial buildings there are no operational windows. Pollutants found in outdoor air, including pollen, dust, automobile exhaust, and other contaminants are often directly imported into buildings through the heating, ventilating and air-conditioning (HVAC) system and combine with VOCs, off gassing from furniture, rugs, building materials, and chemicals used in the residential environment.

Growth of molds is a major contributing factor to IAQ pollution and one that has brought new concern to the apartment industry although there are currently no federal standards regarding molds in indoor air. Property owners are seeking to understand what is required when mold

¹U.S. Environmental Protection Agency (EPA), *Office of Air and Radiation, Indoor Environments Division's Indoor Air Quality (IAQ) Site* (last modified April 1, 2002) <<http://www.epa.gov/iaq/>>.

²Clean Air Act, 42 U.S.C. ' 7401 (1972).

³EPA, *supra* note 1.

⁴Id.

contamination is discovered. The nature and extent of such contamination have resulted in several well-publicized lawsuits brought by residents against property owners and managers, claiming both personal and property damage caused by mold.

Molds, also referred to as mildew and fungi, are found throughout the environment. Many species are commonly found on the skin of healthy people as well as in air and soil. Molds can be found almost anywhere moisture is present. Molds in soil play a key role in the breakdown of leaves, wood, and other plant debris. Molds also are used for activities such as making cheese, wine, beer, and bread. Spores (the reproductive bodies by which molds propagate) are commonly present in the air. While these organisms are ubiquitous, they require favorable conditions in a building environment to flourish and create a potential threat to human health.

When water enters the building "envelope" or other situations occur, such as an improperly cycling HVAC system, which create a high relative humidity inside the building, conditions are favorable to activate the growth of any mold spores that may be present. In the residential environment, molds can be found growing in wallboard, carpets, ceiling tiles, books and papers, plywood, wooden studs, and wooden furnishings.⁵ Molds not only cause discoloration and odor problems but may actually lead to the deterioration of building materials.

Mold growth can be associated with: leaking roofs; pipe leaks; sewage backups; floods; high humidity; heating, air conditioning and ventilation systems; construction design defects in the building envelope; and water-damaged building materials.

As long as moisture is present, molds will grow; without moisture, molds cannot reproduce. It is through undiscovered or ignored water damage problems that these organisms can become a very serious IAQ and health issue. The presence of standing water is not required for mold growth to occur. High relative humidity combined with the hygroscopic properties (the tendency to absorb and retain moisture) of certain building surfaces may allow sufficient moisture to accumulate.⁶

The conditions necessary for mold growth to occur on surfaces are:

- temperature range between 40°-100° F;
- mold spores;
- nutrient base (something the organism can metabolize, such as cellulose in wood, paper and ceiling tiles, or dirt in carpets and hidden areas, paint, etc.);
- and moisture.⁷

⁵Indoor Air Solutions, Inc., *Major Causes of Poor Indoor Air Quality* (last modified Aug. 15, 2000) <http://www.stachybotrys.com/article_1.htm>.

⁶Building Air Quality, *Mold and Mildew* (visited Dec. 10, 2000) <<http://baq1.com/mold.htm>>.

⁷EPA, *Building Air Quality, A Guide for Building Owners and Facility Managers, Appendix C*, 141, EPA/400/1-91/033 (Dec. 1991).

State and local legislative activities

While there are currently no federal standards regarding molds, state legislatures have begun to address mold in apartment buildings. California is the first state legislature to pass substantive mold legislation. Other states have followed suit. Mold laws are rapidly evolving at the state and local level. The list below is a snapshot of some recently adopted state and local laws that apply to mold in addition to other applicable standards, which may exist through the building code (i.e., code provisions to address water damage).

On October 7, 2001, Governor Gray Davis (D) of California signed two bills into law dealing with mold. The Toxic Mold Protection Act (S.B. 732) requires a property owner to disclose the presence of mold to prospective and existing tenants only when (a) the owner knows or has reasonable cause to believe mold is present in that unit; and (b) that mold exceeds the permissible exposure limits, if established. The bill will not require an owner to perform a test to determine whether the permissible exposure limits have been exceeded. The bill directs the California Department of Healthy Services (CDHS) to convene a task force to provide advice to the legislature on the development of mold exposure standards. The report is expected to be due in 2003. The task force is comprised of public health officers, environmental health officers, code enforcement officers, experts on the health effects of molds, medical experts, industrial hygienists, mold abatement experts, affected consumers, which include residential, commercial, and industrial tenants, homeowners, environmental groups and attorneys and affected industries, which include, but are not limited to, residential, commercial and industrial building proprietors, managers or landlords, builders, and insurers. Property owners are not required to utilize a third-party specialist to test or remediate mold from a building, but they are required to provide a CDHS-approved mold disclosure pamphlet to tenants if mold is present on the property. Owners will be exempt from providing written disclosure if the mold is remediated according to the mold remediation standards adopted by CDHS in conjunction with the task force. These specific disclosure requirements will not be required until the time that CDHS develops the standards.

The second measure (A.B. 284) requires CDHS to establish a mold training and education program, including seminars for local government officials and an Internet site for the public. The Department would also convene a panel to evaluate fungal contamination in buildings and the health effects associated with molds.

The current extreme budgetary shortfall in California has left state agencies scrambling to fund existing programs. A new appropriation was not established to fund the work of the task force and it is uncertain when the work of this group will commence.

The San Francisco, CA Board of Supervisors amended the Health Code to include mold growth to the list of prohibited nuisances.⁸ Under the amended ordinance, Any visible or

⁸Ordinance 010269 (nuisance code revision), City and County of San Francisco (June 2001).

otherwise demonstrable growth of mold or mildew in the interiors of any buildings or facilities would require abatement and removal of the nuisance, within 30 days, by the property owner. This addition to the nuisance provision would make any mold growth in a property negligence *per se*. Under this cause of action, the plaintiff need not prove the requirements that would otherwise be necessary for recovery under the negligence standard. Recovery may be had on a theory of negligence *per se* when the harm resulting from the violation is of the type that the statute is designed to prevent, the plaintiff is a member of the class of persons sought to be protected by the statute, and the violation is the proximate cause of the plaintiff's injuries. The ordinance went into effect on July 15, 2001.

A recently enacted Texas law requires that the Board of Health (Board) develop voluntary IAQ guidelines for publicly owned or leased buildings. In establishing the guidelines, the Board is to consider such things as: the potential chronic effects of air contaminants and insufficient ventilation, the potential costs of both long-term and short-term healthcare on human health that may result from exposure to indoor air contaminants, and the potential costs of compliance with a proposed guideline.⁹

The state of Maryland enacted legislation¹⁰ addressing occupational exposure to mold in office buildings. The law establishes a task force that will make recommendations on regulations to protect workers from HVAC-related illnesses. The task force is to submit a final report of its findings and recommendations by July 1, 2002.

In May 2001, New Jersey adopted a Senate resolution¹¹ aimed at the development of educational materials for residents.

Mold legislation is also pending in other states. In New York, the Toxic Mold Protection Act¹² was referred to the Senate Health committee in January 2002. The bill directs the department of health to convene a task force to advise the department on the development of assessment and remediation standards with regard to toxic mold and directs the task force to consider the feasibility of adopting permissible exposure limits to mold in indoor environments. The department is required to report its findings to the legislature.

In January 2002, a bill was introduced in the Indiana General Assembly¹³ to establish a task

⁹TX Health and Safety Code, Tit. 5, Ch. 385.

¹⁰MD Code, Chapter 591.

¹¹S.R. 77, 209th Leg. (N.J. 2001).

¹²S. 5799, 2001-2002 Regular Sess. (N.Y. 2001).

¹³H.B. 1253, 112th Gen Assem., 2d Reg. Sess. (Ind. 2002).

force that would develop recommendations for (1) mold identification guidelines for the recognition of mold, water damage, or microbial volatile organic compounds in indoor environments and (2) indoor mold exposure limits.

In Arizona, a pending bill would create a legislative study group to consider the financial, environmental, and health-related effects of indoor commercial and residential mold contamination.¹⁴

A Pennsylvania bill, if enacted, would urge the insurance department to create a task force to study the effects of toxic mold.¹⁵

II. EXPOSURE TO MOLD

When moldy materials (i.e., wall boards and carpets) are damaged or disturbed, mold organisms and associated products are released into the air. Exposure to spores can occur through inhalation or direct contact. Some molds produce toxic chemicals called mycotoxins which may be aerosolized and contaminate a building's air space, even in areas which appear to be free of mold infestation. Inhalation of mycotoxins is a much more potent route of exposure compared with ingestion; adverse health effects have been observed in individuals who touched moldy surfaces, suggesting that the toxins can also be absorbed through the skin.¹⁶

III. COMMON MOLDS FOUND IN BUILDINGS

Molds most commonly found in buildings with water intrusion include *Stachybotrys*, *Aspergillus*, *Penicillium*, *Cladasporium*, and *Fusarium*, among others. These species can produce a wide variety of mycotoxins; *Stachybotrys* alone produces over 163 different mycotoxins. Even in low concentrations, some of these mycotoxins may cause adverse health effects including skin irritation, pathogenic disease, cancer and immune disorders. Some molds can produce several toxins while other molds produce mycotoxins only under certain environmental conditions. The presence of mold in a building does not necessarily mean that mycotoxins are present or that they are present in quantities sufficient to pose health consequences. *Aspergillus flavus*, a common indoor mold, produces aflatoxins, notoriously potent animal carcinogens. *Penicillium*, while unable to produce aflatoxin, may produce more than 100 different classes of mycotoxins.¹⁷ More than 200 mycotoxins have been identified;

¹⁴S.B. 1433, 45th Leg., 2d Reg. Sess. (Ariz. 2002).

¹⁵S.R. 171, Session of 2002 (Penn.).

¹⁶Alexander Robertson IV, *Microbiological Contamination Litigation A/k/a The Mold Monster*, 8 Mealey's Emerging Toxic Torts 23, 26 (Nov. 24, 1999).

¹⁷Id.

scientists have characterized the biological activity of very few of these compounds. According to the EPA guidance, "Mold Remediation in Schools and Commercial Buildings," more studies are needed to gain a clearer picture of the human health effects associated with exposure to mycotoxins. At this point, basic questions such as the toxic dose associated with a particular exposure route (e.g., inhalation, ingestion, dermal) have yet to be answered.

The U.S. Centers for Disease Control and Prevention (CDC) has recently retracted a 1997 report, which described a causal relationship between the presence of *Stachybotrys* in the residential environment and the development of acute idiopathic pulmonary hemorrhage (AIPH; bleeding of the lungs) in infants in Cleveland, OH.

The CDC convened two multi disciplinary working groups to research a possible connection between AIPH and the mold *Stachybotrys*, found in the victim's residential environment, prior to releasing their report. Serious questions were raised about the accuracy of the report and in March 2000, CDC issued a second report which concluded that "the available evidence does not substantiate the reported epidemiological associations between household water damage and AIPH or between household fungi and AIPH or any inferences regarding causality."¹⁸

A number of factors contributed to the CDC's conclusions that *Stachybotrys* was not clearly associated with AIPH. One of the most telling factors was that in homes classified as water damaged, and in control homes with no water damage, the presence of *Stachybotrys* was identified in similar percentages in both. Forty-three percent of control homes (no apparent water damage, no sick children) had detectable surface contamination with *Stachybotrys*. CDC further indicated that exposure to tobacco smoke in combination with exposure to *Stachybotrys* may increase an infant's risk of pulmonary hemorrhage, as case infants were eight times more likely than control infants to have been exposed to environmental tobacco smoke. Recently revealed internal CDC documents indicate that links to insecticides (a roach bomb improperly used in a child's bedroom) may have been responsible for the fatality attributed to mold.¹⁹ The CDC retraction of its original report and its subsequent failure to fully disclose the epidemiological findings related to pesticides has created considerable public confusion. Many people believe that CDC has conclusively proved the *Stachybotrys* - AIPH connection when this is clearly not the case.

This CDC report is the most recent study to conclude that *Stachybotrys* is more frequently found in indoor environments than originally believed. While the initial studies failed to

¹⁸U.S. Centers for Disease Control and Prevention (CDC), *Update: Pulmonary Hemorrhage/Hemosiderosis Among Infants-Cleveland, OH, 1993-1996*, 49 Morbidity and Mortality Weekly Report 180 (2000).

¹⁹Byron Harris, *Experts Don't Agree on Mold Study*, (Dallas/Fort Worth News, WFAA channel 8 broadcast, April 28, 2001).

substantiate a link between *Stachybotrys* and pulmonary hemorrhaging, the etiology of this cluster of AIPH cases is still unresolved. Thus, ACDC will continue to consider possible associations between AIPH and many possible etiologies, including household water damage or exposure to environmental hydrophilic fungi/molds such as *Stachybotrys chartarum*.²⁰

A. Identification

It is difficult to identify types of mold through visual inspection of a contaminated surface alone; a definitive identification requires laboratory analysis. The list of molds most commonly found in water-damaged buildings, provided below, is not intended to be a complete description of all aspects of growth.²¹ Rather, colors and certain colony characteristics that are useful for identifying some fungi are included.

\$ *Stachybotrys chartarum* (a.k.a. *Stachybotrys atra*) has received much notoriety in the media through high profile closings of both public and private buildings, schools, courthouses and hospitals.²² *Stachybotrys* is a greenish-black mold that can grow on materials with a high cellulose content that are chronically moist or water damaged due to excessive humidity, water leaks, condensation, or flooding. Common areas for this mold growth are water soaked wood, ceiling tiles, wall paneling, behind vinyl wallpaper, unpainted wallboard (sheetrock) surfaces, cotton items, cardboard boxes, and stacks of newspapers.

\$ *Aspergillus* colonies are rapid growing, woolly to cottony in appearance, typically in some shade of green, brown, or black.

\$ *Penicillium* colonies are rapid growing, flat, velvety, woolly, or cottony in appearance, initially white, becoming blue green, gray green, olive gray, or some similar color.

\$ *Cladasporium* colonies are moderately rapid growing, spreading, velvety to woolly in appearance, grayish green to olive-green shade.

\$ *Fusarium* colonies are rapid growing, woolly to cottony in appearance, flat, spreading, white, cream, tan, cinnamon, yellow, red to violet, or purple.

²⁰Id.

²¹New York City Department of Health (NYCDOH), *Guidelines on Assessment and Remediation of Fungi in Indoor Environments* (Jan. 2002) <<http://www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html>>; see also, Medical Mycology Research Ctr., University of Texas (last updated Jan 24, 2000) <<http://www-fungus.utmb.edu/mycology/thefungi.html>>.

²²CDC, *supra* note 18.

Almost without exception, an extended saturation time and/or consistently high levels of humidity are required for *Stachybotrys* to proliferate. In sharp contrast, single or sudden water damage events that occur where drying of material takes place more quickly tend to support the growth of fungi such as *Penicillium* and *Aspergillus*.²³

Hidden mold

In some cases, however, indoor mold may be growing on hidden surfaces (e.g., the backside of dry wall, wallpaper, or paneling, the top of ceiling tiles, the underside of carpets and pads) and thus less obvious during visual inspection. Hidden mold growth may be suspected if a building smells moldy but no mold growth is visible, or if the building has experienced water damage and residents have reported a off odors. Other locations of hidden mold may include: pipe chases and utility tunnels (with leaking of condensing pipes); walls behind furniture; condensate drain pans inside air handling units; porous thermal or acoustic liners inside ductwork; or roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

The investigation of hidden molds requires extreme caution since the investigation may lead to the disturbance and subsequent dispersal of mold and mold products. Personal protective equipment (such as gloves, goggles, dust masks, respirators, and disposable protective clothing) is necessary during the investigation. Thus, if you believe that there is hidden mold present, hiring an experienced professional should be considered.

B. Odor

Actively growing molds produce mycotoxins, including a wide range of VOCs, consisting mainly of alcohols, ketones, aldehydes, acids, hydrocarbons, and aromatics. These chemicals are typically what cause the characteristic musty or dank smell, which people associate with mold growth. Odor thresholds (that is the level at which a person can detect an a off odor in the air space) for some VOCs are as low as one part per trillion.²⁴

C. Allergic reactions to mold

While exposure to mold is not healthy for anyone,²⁵ not all people who are exposed to mold will have health problems. The health effects of indoor mold experienced by residents are diverse;

²³Aerotech Laboratories Inc., *IAQ Remediation* (last viewed Jan. 4, 2001) <<http://www.aerotechlabs.com/Library/iaqremed.htm>>.

²⁴Robertson, *supra* note 16, at 27.

²⁵California Department of Health Services (CDHS), *Mold in My Home: What Do I Do?* (Mar. 1998, revised July 2001) <<http://www.cal-iaq.org/mold0107.htm>>.

depending on the types of mold, the amounts of mold, the types and amounts of certain metabolites produced by the molds, and the susceptibility of an exposed individual.²⁶ Because all of these factors can vary considerably over time and from person to person, the extent and severity of health problems due to any specific indoor mold situation is unpredictable. The common health concerns from molds include allergic symptoms resembling hay fever. Certain individuals with chronic respiratory disease (including asthma) may experience difficulty breathing. People with allergies may be more sensitive to molds. People with immune suppression or underlying lung disease are more susceptible to infection by molds.

Typical symptoms from exposure to certain molds include: respiratory problems such as wheezing and difficulty in breathing; nasal and sinus congestion; burning eyes, watery, reddened, blurry vision, light sensitivity; dry, hacking cough; nose and throat irritation; shortness of breath; skin irritation; central nervous system problems (constant headaches, memory loss, and mood changes); aches and pains; fever.

D. Recent studies

While it is undisputed that certain molds cause harm to human health, scientific questions remain as to the level of harm mold exposure causes humans through inhalation in an indoor environment. While some scientists claim that high levels of *Stachybotrys*, for example, are toxic to virtually all individuals, others claim that the science does not support this finding.²⁷

Allergic reactions are believed to be the most common exposure reaction to molds. All molds studied to date have the potential to cause biological reaction in susceptible (allergic) humans. These reactions range from mild, transitory responses, like runny eyes, runny nose, throat irritation, coughing and sneezing, to severe chronic illnesses such as sinusitis and asthma.²⁸

The most cited study regarding the health effects of *Stachybotrys* following exposure to toxigenic fungi in water-damaged buildings was performed by Eckhardt Johannning, M.D., in 1996. Finding that intensity and duration of exposure were related to illness, the study concluded that a prolonged and intense exposure to toxigenic *Stachybotrys* and other atypical

²⁶Minnesota Department of Health (MDH), *Indoor Mold: Health Hazard Identification and Control* (Mar. 2001) <<http://www.health.state.mn.us/divs/eh/indoorair/mold/hazardid.html>>.

²⁷David M. Governo and Steven F. Goselin, *Avoiding And Minimizing Mold Liability: Understanding The Dynamics of Mold And Its Remediation*, Mealey's Lit. Rep.: Mold, Vol. 1, Iss. 4 (4/01) at 27.

²⁸Harriet Ammann, *Is Indoor Mold Contamination a Threat?* Washington State Department of Health (visited April 1, 2002) <<http://www.doh.wa.gov/ehp/oehas/mold.html>>.

fungi was associated with reported disorders of the respiratory and central nervous system, reported disorders of the mucous membranes and a few parameters of the cellular and humoral immune system, suggesting a possible immune competency dysfunction.²⁹

A recent report by the National Academy of Sciences determined that there was sufficient evidence to show an association between mold exposure and the aggravation of asthma in individuals who are sensitized to the disease. However, the report finds inadequate or insufficient evidence to determine whether or not an association exists regarding mold exposure and the development of asthma.³⁰

In January 2002, the CDC asked the National Academy of Sciences-Institute of Medicine to review the scientific literature regarding the relationship between damp or moldy indoor environments and the manifestation of adverse health effects, particularly respiratory and allergic symptoms. The review will focus on the non-infectious health effects of fungi, including allergens, mycotoxins, and other biologically active products. In addition, it will suggest guidelines for public health interventions and make recommendations for future basic scientific, clinical, and public health research. An international committee of experts in the areas of health, mycology, and building engineering had their first meeting on March 26 and are expected to issue a report by June 2003.

IV. DETECTING MOLD - ASSESSMENT AND REMEDIATION

In January 2002, NMHC/NAA published an *Operations and Maintenance (O&M) Plan for Mold and Moisture Control*. The document is based on best practices³¹ outlined by various national authorities, including the EPA publication, *Mold Remediation in Schools and Commercial Buildings*.³¹ Topics covered include: training; routine maintenance procedures to help prevent mold; recommended remediation and clean-up procedures; guidance on the appropriate documentation to retain in order to minimize liability from potential mold claims; and a suggested communications plan to educate residents about mold. The water intrusion/mold reference document is intended to be incorporated into the ongoing maintenance practices at apartment communities. Members are urged to distribute the document to their property managers, maintenance supervisors, and general counsels. NMHC has also collaborated with NAA to produce a video training module based on the O&M plan. The video

²⁹Johanning, E.; Biagini, R.; Hull, D.L.; Morey, P.; Jarvis, B.; Landbergis, P. 1996. Health and immunology study following exposure to toxigenic fungi (*Stachybotrys chartarum*) in a water-damaged office environment. *Int. Arch. Environ. Health.* 68: 207-218.

³⁰National Academy of Sciences, Committee on the Assessment of Asthma and Indoor Air. *Clearing the Air: Asthma and indoor Air exposures*, (Washington, D.C.: National Academy Press, 2000) (visited April 1, 2002) <<http://books.nap.edu/catalog/9610.html>>.

³¹EPA, (March 2001) <<http://www.epa.gov/iaq/molds/index.html>>.

is intended to train onsite staff to deal with service requests and other operational issues involving potential water intrusions and mold.³²

Additionally, guidelines to assess and remediate indoor fungal contamination have been established by an expert panel convened by the New York City Department of Health (NYCDOH) that included representatives of the Mount Sinai Medical Center, Department of Occupational and Environmental Medicine, NY, and the American Industrial Hygiene Association (AIHA).³³ The NYCDOH Guidelines have been used in mold remediation cases throughout the country. The NYCDOH Guidelines (last revised in January 2002) are based on research results, empirical data, and the then best available professional judgments.³⁴

For further resources: the California Department of Health Services (CDHS) provides a concise four-page fact sheet on how to remove mold growth and prevent it from returning;³⁵ the Minnesota Department of Health (MDH) provides a detailed guidance addressing everything from the health affects of mold to mitigation and prevention;³⁶ and CDC has published a question and answer document regarding *Stachybotrys* and other molds.³⁷ Several environmental consultants also recommend following the American Conference of Governmental Industrial Hygienists= document, "Bioaerosols: Assessment and Control," for assessment and remediation of mold growth.³⁸

A. When should a residence be tested for mold?

³²The Members Only document is posted at www.nmhc.org/Content/BrowseContent.cfm?IssueID=78. An order form for the NAA training video is also available there.

³³NYCDOH, *supra* note 21.

³⁴Eckardt Johanning, MD, *The Enviro Village Library Papers, Hazardous Molds in Homes and Offices: Stachybotrys atra and Others..., Assessment and Remediation* (visited Dec. 11, 2000) <<http://www.envirovillage.com/Papers/N0000100008.htm>>.

³⁵CDHS, *supra* note 25.

³⁶MDH, *supra* note 26.

³⁷CDC, *Questions and Answers on Stachybotrys chartarum and other molds* (Mar. 9, 2000) <http://www.cdc.gov/nceh/asthma_old/factsheets/molds/default.htm>.

³⁸American Conference of Governmental Industrial Hygienists (ACGIH), *Bioaerosols: Assessment and Control* (Janet Macher, ed., 1998). (The document may be ordered on-line at <http://www.acgih.org/catalog/pubshow1.asp?prod=3180>).

If mold can be seen or smelled, a mold problem exists and it is unnecessary to conduct microbiological testing to identify the mold. According to both CDC and EPA, in most cases, microbiological sample testing a residence for mold is not recommended as the first step in determining if there is a mold problem. Testing residences for mold, in most instances, is costly and usually produces results that have very little, if any, practical value. At worst, test results can be misleading. There are a number of inherent limitations to mold testing. Testing is only warranted when there is a clear objective that can only be met through obtaining sampling data. There should be a clear understanding of what specifically is to be tested for and what the results will be used for before testing is even considered. A thorough visual inspection for mold growth or signs of water damage and wetness as well as locating sources of mold odors by smell, are more reliable and cost effective methods for identifying environments needing intervention.

B. Hiring a trained professional

If it is decided that microbiological testing is necessary, it is wise to retain a qualified environmental consultant to conduct an evaluation in which samples (potentially contaminated materials and air) will be collected to assess the nature and extent of the contamination (if any). It is recommended that such measures be carried out by an experienced and trained professional with demonstrated experience in mold remediation. Environmental consultants, including certified industrial hygienists (CIHs), should be selected with care.³⁹ For example, consider whether the consultant: carries liability insurance; has experience in successfully addressing mold contamination situations; and is affiliated with accredited laboratories.⁴⁰ Any contract/agreement a property owner/manager enters into should say that work should be performed in accordance with OSHA-mandated safety programs; expect to receive a written site-specific scope of work and work plan (worker protection, containment strategies, precise procedure and its sequence, disposal, estimated time-frame, number of technicians and supervisors and their qualifications etc.) for the project.⁴¹

Prior to hiring a mold remediation specialist, it may be useful to obtain a sample copy of a redacted report that was prepared by that individual for another property. The report should: be clearly written; be understandable to a layperson; reach conclusions; and make recommendations.

³⁹The AIHA maintains a listing of all CIHs and their areas of expertise. View AIHA online at www.aiha.org. You may also check with your local health department for a list of local industrial hygienists.

⁴⁰The AIHA offers accreditation to microbial laboratories through the Environmental Microbiology Laboratory Accreditation Program (EMLAP).

⁴¹Governo & Goselin, *supra* note 27, at 28-29.

C. Property inspection

The presence of mold, water damage, or musty odors should be addressed immediately. In the case of a presumed mold contamination, a detailed visual inspection of the following areas should be conducted by trained personnel:

- \$ the basement and lower floor rooms, crawl-spaces;
- \$ any rooms that have experienced water and/or flooding damage;
- \$ window frames and carpets, including carpet backing in water-stained areas (if possible);
- \$ ceiling tiles or any formerly damp material made of fibrous cellulose (wallpaper, books, papers, cellulose-based insulation);
- \$ all heating, ventilation, and air conditioning components;
- \$ indoor spaces with exposed soil such as unfinished basements or crawl-spaces;
- \$ greenhouses and water features (e.g., decorative fountains);
- \$ attics with resident or seasonal birds, bats, or other animals; and
- \$ other areas where excess moisture may be present (e.g., sauna areas, pools, spas, bathrooms).⁴²

The use of equipment, such as a boroscope, to view spaces in ductwork or behind walls, or a moisture meter to detect moisture in building materials, may be helpful in identifying hidden sources of fungal growth and the extent of water damage.⁴³ Moisture meters may be useful in both the assessment and remediation stages of mold contamination to measure the amount of moisture content in a variety of building materials following water damage or to monitor the process of drying damaged buildings. Some meters have a thin probe, which can be inserted into the material to be tested while others can be pressed directly against the surface of the material.

D. Sampling

Through visual inspection and testing, the environmental consultant will identify the building components where mold is growing as well as materials and furnishings in which mold spores

⁴²Johanning, *supra* note 16.

⁴³NYCDOH, *supra* note 21.

have deposited and which will become a reservoir for future mold contamination of the property. Samples of affected materials (e.g., insulation, wallboard, and carpet) may be collected and submitted to a laboratory to confirm the presence of mold and identify the species of mold present.

Bulk/surface sampling

According to both the NYCDOH Guidelines and EPA, bulk or surface sampling of building materials is not a prerequisite to undertake a remediation. Remediation of visible mold contamination should proceed without further evaluation. However, bulk or surface samples may need to be collected; (1) to identify specific mold contaminants as part of a medical evaluation if occupants are experiencing symptoms which may be related to mold exposure; or (2) to identify the presence of mold if a visual inspection is equivocal (e.g., discoloration and staining).

If it is decided that sampling be done, an individual trained in appropriate sampling methodology should perform bulk or surface sampling. Bulk samples are usually collected from visibly moldy surfaces by removing materials with a clean tool directly into a clean plastic bag. Surface samples are usually collected by wiping a measured area with a sterile swab or by stripping the suspect surface with clear tape. Surface sampling is less destructive than bulk sampling. Other sampling methods may also be available. A laboratory specializing in mycology should be consulted for specific sampling and delivery instructions.

Air monitoring

According to both the NYCDOH Guidelines and EPA, air sampling for mold should not be part of a routine assessment since decisions about appropriate remediation strategies can usually be made on the basis of a visual inspection. In addition, air-sampling methods for some molds are prone to false negative results and therefore cannot be used to definitively rule out contamination.

Air sampling can test for the presence of mycotoxins, VOCs, mold spores, and fungal fragments (small pieces of the cell wall of molds). If air monitoring is performed, outdoor air samples should also be collected concurrently at an air intake, if possible, and at a location representative of outdoor air. For additional information on air sampling, refer to the American Conference of Governmental Industrial Hygienists' document, "Bioaerosols: Assessment and Control."⁴⁴

Air monitoring may be necessary if an individual(s) has been diagnosed with a disease that is or may be associated with mold exposure. Air monitoring may also be necessary if there is evidence from a visual inspection or bulk sampling that ventilation systems may be

⁴⁴ACGIH, *supra* note 38.

contaminated. The purpose of such air monitoring is to assess the location and/or extent of contamination throughout a building.⁴⁵ It is preferable to conduct sampling while ventilation systems are operating. If the presence of mold is suspected (e.g., musty odors) but cannot be identified by a visual inspection or bulk sampling, (e.g., mold growth behind walls) air monitoring may be necessary.

Personnel conducting the sampling must be trained in proper air sampling methods for microbial contaminants. A laboratory specializing in mycology should be consulted for specific sampling and shipping instructions. The analysis of samples in the laboratory generally requires a two-week incubation and analysis period. Although some recent technical advances may shorten this time-frame.⁴⁶

Identifying the type of mold

According to MDH, if significant mold growth is observed, the precise species of mold does not matter in terms of what needs to be done.

If testing for mold is performed, it is critical to know the specific types of mold in order to interpret the sampling results. For example, you must determine if the species of molds found in the indoor air samples differ from those that are normally entering the building from the outdoors. If the molds found indoors are different from those in an outdoor sample, this suggests indoor mold growth is occurring. However, in most cases there is no need to identify the types of mold present because all indoor mold growth represents a potential hazard (regardless of the type) and the solutions are the same for any mold. Thus, according to MDH, Asince correcting the cause of mold growth and removing contaminated materials are the only practical actions needed, it is recommended that testing for mold not be done in most cases.®

E. Testing costs

The estimates for an initial consultation and assessment vary widely depending on the nature and extent of the problem.⁴⁷ The time involved in the initial evaluation depends on the size of

⁴⁵AIHA, *Field Guide for the Determination of Biological Contaminants in Environmental Sampling*, 1996. (A comparison of biodiversity between indoor and outdoor air samples (taken at the air intake) is a reliable determinant of the existence of the growth of fungi in a building or growth near the HVAC air intake. The *significant* presence of fungi in indoor air not present or as a minor component of the outdoor air mycoflora is taken as unacceptable from a health and performance point of view.® (emphasis added)).

⁴⁶EPA, *EPA Scientists Develop Technology for Detection of Dangerous Molds*, EPA Press Release (May 8, 2001). <<http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/e6f7606ebe231f6b85256a4600699976?OpenDocument>>.

⁴⁷Hourly rates for industrial hygienists range from \$90 to \$200; there are additional charges for

the property and the number of observations that require sampling. Lab fees associated with the identification of the organism and the scope of the contamination may be substantial. The initial assessment may well be the most important part of the remediation process since these findings dictate the specific intervention.

F. Property restoration clean-up procedures

The measures taken to initiate the clean-up process are dependent on the extent of the problem. The EPA has prepared a useful [Checklist For Mold Remediation](http://www.epa.gov/iaq/molds/index.html) that may be accessed at www.epa.gov/iaq/molds/index.html.

According to CDC, mold can be cleaned off surfaces with a weak bleach solution. In areas where flooding has occurred, prompt cleaning of walls and other flood-damaged items with water mixed with chlorine bleach, diluted 10 parts water to one part bleach, is necessary to kill the mold. CDC cautions that bleach should never be mixed with ammonia.

Generally, the guidelines established by NYCDOH will guide you through the [remediation](#) process.⁴⁸ In many situations, the environmental consultant will specify procedures to be followed to ensure that the mold growth and contamination are removed without endangering residents or workers.⁴⁹ According to the NYCDOH Guidelines, general recommendations include (but are not limited to) the following steps:

- \$ Eliminate or correct the water problems that caused the mold growth, such as water leaks or an improperly cycling HVAC system. Carpets, rugs, furniture, and any other items with absorbent material must be removed and discarded if not thoroughly dried within 24 hours of the onset of the moisture problem. Materials that remain wet for longer periods are unlikely to be able to be restored. Maintain relative humidity below 60 percent.
- \$ Stained ceiling tiles, carpet or wallboard should be completely replaced, along with associated insulation materials. All debris should be removed from the area including corners, edges of the floors, and under and around fixtures. Use a high efficiency particulate air (HEPA) vacuum to remove and control dust.
- \$ Caution should be taken around electrical equipment and fixtures. During all clean-up activities, a tight-fitting dust mask and eye protection should be worn by personnel

sampling and laboratory analyses.

⁴⁸NYCDOH, *supra* note 21.

⁴⁹Id.

conducting the clean-up. Rubber or vinyl gloves and waterproof boots should also be worn during all phases of the clean-up. Open all windows for drying and ventilation.⁵⁰

- \$ EPA recommends that HEPA vacuums be used in the final clean-up of remediated areas once the materials have been thoroughly dried, and the contaminated materials removed. The HEPA vacuums should also be used to clean-up dust that may have settled outside the remediation area.

If air ducts are required to be cleaned as part of the remediation plan, the EPA publication "Should You Have the Air Ducts in Your Home Cleaned?"⁵¹ is a useful resource.

⁵⁰Id.

⁵¹EPA, *Should You Have the Air Ducts in Your Home Cleaned?*, EPA-402-K-97-002 (Oct.1997). (The EPA publication may be accessed at, <http://www.epa.gov/iaq/pubs/airduct.html>).

The chart below serves as a quick reference guide for various levels of mold contamination.⁵²
 For the complete guidelines, refer to <http://www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html>.

Remediation Parameter	Level 1	Level 2	Level 3	Level 4	Level 5A	Level 5B
Description	Small Isolated Areas (10 sq. ft. or less)	Mid-Sized Isolated Areas (10-30 sq. ft.)	Large Isolated Areas (30-100 sq. ft.)	Extensive Contamination (Greater than 100 contiguous sq. ft.)	HVAC Systems (Less than 10 sq. ft.)	HVAC Systems (Greater than 10 sq. ft.)
Examples	Ceiling Tiles, Small Areas on Wall	Individual Wallboard Panels	Several Wallboard Panels	Multiple Wallboard Panels		
Minimum requirements for remediation oversight**	Trained Building Staff	Trained Building Staff	Qualified Health and Safety Professional	Qualified Health and Safety Professional	Trained Building Staff	Qualified Health and Safety Professional
Respiratory Protection***	N95 Disposable respirator	N95 Disposable respirator	N95 Disposable respirator	Full-face respirators with HEPA cartridges	N95 Disposable respirator	Full-face respirators with HEPA cartridges
Gloves	Yes	Yes	Yes	Yes	Yes	Yes
Eye Protection	Yes	Yes	Yes	Yes	Yes	Yes
Protective Clothing	No	No	No	Yes	No	Yes
Remediation while unoccupied	Yes	Yes	Yes	Yes	Yes	Yes
Vacation of adjacent spaces	Recommended if occupied by susceptible groups*	Recommended if occupied by susceptible groups*	Yes	Recommended if occupied by susceptible groups*	Recommended if occupied by susceptible groups*	Recommended if occupied by susceptible groups*
Containment Required	No (However, several environmental consultants recommend using appropriate containment for any sizeable intervention.)	Critical barriers	Critical barriers	Critical barriers, airlocks, decontamination room within critical barriers	Critical barriers	Critical barriers, airlocks, decontamination room over 30 sq. ft.
HEPA Filtered Negative Air	No	No	No	Yes	No	Yes
Dust suppression	Misting	Misting	Misting	Misting	Misting	Misting
Bag contaminated materials	Yes	Yes	Yes	Yes	Yes	Yes
Post Remediation Cleaning of work area and egress	Clean with damp cloth and/or mop with detergent solution	HEPA vacuum and clean with damp cloth and/or mop with detergent solution	HEPA vacuum and clean with damp cloth and/or mop with detergent solution	HEPA vacuum and clean with damp cloth and/or mop with detergent solution	HEPA vacuum and clean with damp cloth and/or mop with detergent solution	HEPA vacuum and clean with damp cloth and/or mop with detergent solution
Clearance Testing	No	No	No	Yes	No	Yes

*Susceptible groups include infants less than 12 months old, persons recovering from recent surgery, immune suppressed people or people with chronic inflammatory lung disease (e.g., asthma, hypersensitivity pneumonitis, and severe allergies).

** OSHA Hazard Communication Standard 29 CFR 1910.1200, governs worker training. Such persons should receive training on proper clean-up methods, personal protection, and potential health hazards. A copy of the standard is available on the OSHA website at http://www.osha-slc.gov/OshStd_data/1910_1200.html.

***Respiratory protection in accordance with the OSHA respiratory protection standard (29 CFR 1910.134) is recommended. A copy of the standard is available on the OSHA Web site at http://www.osha-slc.gov/OshStd_data/1910_0134.html.

⁵²This summary of the NYCDOH Guidelines is provided by Aerotech Laboratories, Inc., an independent indoor air quality analytical laboratory located in Phoenix, AZ.

G. Flood restoration and decontamination⁵³

The most significant event that leads to building-wide water damage and, subsequently, environmental hazards associated with extensive microbiological contamination, is some type of flooding episode (e.g., heavy rain or a broken water line). Fortunately, proper techniques following an event can eliminate or significantly reduce microbial damage. Rapid response is critical. A restoration or remediation company should be on site within 8 hours of a flooding episode. The restoration company must also have the proper equipment to perform the task quickly and efficiently, including water extraction and dehumidification equipment. At a minimum the restoration company should:

- \$ remove carpet and pad;
 - \$ remove cove moldings or other moldings if water has entered wall cavity;
 - \$ drill holes in wallboard to facilitate drying inside wall cavity;
 - \$ pay special attention to built-in cabinets, remove kick plates or drill holes; and
 - \$ have special equipment for remediation of microbiological contamination, if necessary.
- If the damage is by anything other than clean water (potable water), special precautions must be taken. In sewage situations, pathogenic bacteria and viruses must be dealt with by evacuation of occupants until clean-up and disinfection has been completed. Workers entering the contaminated area must wear protective clothing and respirators.
- If clean-up and drying is not accomplished expeditiously, microbiological contamination is a concern. Clean water floods that are not dried out rapidly will require extensive demolition and removal of porous materials. Every situation is unique, but as a general rule, remediation personnel should:
- \$ equip remediation workers with protective equipment;
 - \$ contain the area in need of remediation;
 - \$ exercise extreme care when removing contaminated materials and bag them before removing them from the contaminated area;
 - \$ remove contaminated or porous organic materials and discard (e.g., drywall, ceiling material, insulation, flooring, carpet, pad, sub floor material, and cabinets with particle board bases); and
 - \$ remove spores and other fungal particulates from the air and from surfaces using HEPA filters and vacuums.
 - Use negative air containment to protect other parts of the structure during demolition; and
 - Use HEPA filters to clear the air after demolition.

H. How do you know when a remediation/clean-up is complete?

⁵³See Aerotech Laboratories Inc., *IAQ Remediation* (last viewed Jan. 4, 2001) <<http://www.aerotechlabs.com/Library/iaqremed.htm>>.

According to the EPA, remediation has been completed if:

- \$ the water or moisture problem has been fixed completely;
- \$ the mold has been completely removed. Professional judgment and common sense should be used to determine if the clean-up is sufficient. Visible mold, mold-damaged materials, and moldy odors should not be present;
- \$ the kinds and concentrations of mold and mold spores in the building are similar to those found outside, once clean-up activities have been completed;
- \$ upon revisiting the sites where mold contamination was present, shortly after remediation, no signs of water damage or mold growth are present; and
- \$ people occupy or re-occupy the space without health complaints or physical symptoms.

Ultimately, according to EPA, this is a judgment call; there is no easy answer.

I. Remediation costs

Remediation costs vary greatly depending on the nature and extent of the problem and can cost from a few hundred dollars for small, isolated areas of mold infestation to millions of dollars for contamination that is widespread throughout a building and may have compromised the structural integrity of the building. In some cases, there will be expenses associated with resident relocation while mold remediation work is in process. Some single family homes have been found to be uninhabitable and have been declared a total loss because the extensive mold infestation could not be cost-effectively remediated.

V. CORRECTING CONDITIONS WHICH FAVOR MOLD GROWTH

Controlling moisture is the key to preventing indoor mold growth. Rapid response to moisture problems is often critical. To control indoor moisture, MDH recommends: Afixing plumbing leaks, drips or Asweating@pipes; limiting sources of indoor humidity/dehumidifying indoor air; improving air movement in poorly ventilated areas; increasing fresh air ventilation when outdoor air is not humid; and warming cold surfaces where condensation occurs. To control outdoor moisture: maintain roof and gutter/downspout systems; direct runoff away from foundation by grading, drain tile, landscaping, etc.; use air conditioning and keep building closed during high outdoor humidity; prevent leakage around windows, doors, flashing, etc.; and waterproof foundation structure.@

A. Air conditioners

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), a voluntary standard setting organization, addresses the importance of avoiding the use of over-sized air conditioners (and to maintain the air pressure in the house at either neutral or positive pressure).⁵⁴ An over-sized air conditioner will not run long enough to remove the latent heat (the moisture) in the air, which results in cold, clammy air. By maintaining a positive or neutral air pressure in the house, dry conditioned air is being pushed into the wall rather than humid air being pulled in from outside.

The EPA guidance *Building Air Quality, A Guide for Building Owners and Facility Managers*⁵⁵ sets forth the following suggestions:

B. Exterior corners

The interior surfaces of exterior corners are common locations for mold growth. They tend to be closer to the outdoor temperature than other parts of the building surface for one or more of the following reasons: poor indoor air circulation in the interior; wind-washing (i.e., the wind on a building which can cause a much lower temperature on the window surface than the rest of the indoor temperature); low insulation levels; and/or greater surface area of heat loss. Sometimes mold growth can be reduced by removing obstructions to airflow (e.g., rearranging furniture). Other factors being equal, buildings with forced air heating systems and/or room ceiling fans tend to have fewer mold problems than buildings with less air movement.

C. Temperature

A temperature range from 40° to 100° F is optimal for mold growth. A set back thermostat are commonly used to reduce energy consumption during the heating season. Mold growth can occur when temperatures are lowered in buildings with high relative humidity. The amount of moisture in the room can be estimated by measuring both temperature and relative humidity (RH). If the RH is low (e.g., 30%), it is probably due to room surfaces that are too cold. Temperature is the dominating factor, and control strategies should involve increasing the temperature at cold room surfaces. If the RH is high (e.g., 50%), it is probably because the air is too moist. Humidity is the dominating factor and control strategies should involve decreasing the moisture content of the indoor air. Mold problems can also be as extensive in areas in which air treatments primarily involve cooling. The same principles apply: either surfaces are too cold, moisture levels are too high, or both.

One common example of mold growth in cooling climates can be found in rooms where conditioned "cold" air blows against the

⁵⁴ASHRAE, *1997 ASHRAE Fundamentals Handbook*, Chapter 22, Thermal and Moisture Control in Insulated Assemblies - Fundamentals, 1997.

⁵⁵EPA, *supra* note 7, at 145.

interior surface of an exterior wall. This condition, which may be due to poor duct design, diffuser location, or diffuser performance, creates a cold spot at the interior finish surfaces, allowing moisture to condense. Mold problems can also occur within the wall cavity as outdoor air comes in contact with the cavity side of the cooled interior surface. It is a particular problem in rooms decorated with low maintenance interior finishes (e.g., impermeable wall coverings such as vinyl wallpaper) which can trap moisture between the interior finish and the gypsum board. Mold growth can be rampant when these interior finishes are coupled with cold spots and exterior moisture.⁵⁶

Solutions include:

- \$ eliminating the cold spots (i.e., elevating the temperature of the surface) by relocating ducts and diffusers;
- \$ increasing the room temperature to avoid overcooling; and
- \$ preventing the hot, humid exterior air from contacting the cold interior finish by ensuring that vapor barriers, facing sealants, and insulation are properly specified, installed, and maintained.

According to ASHRAE, the proper placement of vapor barriers (vapor retardants) in particular climates remains uncertain in the industry. It is undisputed that kraft-faced vapor retardants, for most areas, should be installed toward the interior of the wall. For warm, humid climates however, the ASHRAE standards state that "the use of vapor retarders is not required in humid climates (typically southern Florida and the Gulf coast). If vapor retarders are used, they should be on the exterior (of the wall)." In these humid climates, wall assemblies must be protected from moisture from the exterior and allowed to dry towards the interior. A humid climate is defined by ASHRAE as "one in which one or both of the following conditions occur: A 67° F or higher wet-bulb temperature for 3500 hours or more during warmest six consecutive months of the year; and/or a 73° F or higher wet-bulb temperature for 1750 hours or more during warmest six consecutive months of the year."⁵⁶

The uncertainty of where to place the vapor barrier arises in warm, mixed climates. Little research has been done by the industry on the issue. Industry practices, as well as local building codes, have conflicting specifications. According to ASHRAE, depending on local experiences with moisture problems, humid-climate design criteria may also be desirable in locations that do not quite meet the conditions described above. Fringe areas include some

⁵⁶ASHRAE, *Energy-Efficient Design of New Low-Rise Residential Buildings*, Section 5.7 ASHRAE Standard 90.2-1993.

locations in the southeastern United States (notably AL, AK, GA, LA, MS, NC, SC, and east TX). Fringe locations are generally identified by one or both of the following conditions: A 67° F or higher wet-bulb temperature for 3000 hours or more during warmest six consecutive months of the year; and/or a 73° F or higher wet-bulb temperature for 1500 hours or more during warmest six consecutive months of the year.⁵⁷

D. Windows

In winter, windows are typically the coldest surfaces in a room and have water condensate on the interior surfaces.

Condensation on window surfaces has historically been controlled by using storm windows or "insulated glass" (e.g., double-glazed windows or selective surface gas-filled windows) to raise interior surface temperatures. The advent of higher performance glazing systems has led to a greater incidence of moisture problems in building enclosures because buildings can now be operated at higher interior vapor pressures (moisture levels) without visible surface condensation on windows.

E. Concealed condensation

While the use of thermal insulation in wall cavities to increase interior surface temperatures in heating climates may reduce the likelihood of interior surface mold, mildew and condensation, without a properly installed moisture barrier, moisture condensation within the wall cavity may actually increase. The first condensing surface in a wall cavity in a heating climate is typically the inner surface of the exterior sheathing.

Concealed condensation can be controlled by the following strategies:

- \$ reducing the entry of moisture into the wall cavities (e.g., by controlling the pass through of moisture-laden air);
- \$ elevating the temperature of the first condensing surface:
 - in heating climate locations: installing exterior insulation (assuming that no significant wind-washing is occurring); and
 - in cooling climate locations: installing insulating sheathing to the interior of the wall framing and between the wall framing and the interior gypsum board.

VI. PROTECTING YOURSELF BEFORE MOLD INFESTATION ISSUES ARISE

⁵⁷Id.

A. Due diligence

Indoor pollution liability is an issue that should be assessed in any real-estate transaction. In the purchase of an already constructed building, investigations for potential IAQ problems should be included as part of the general environmental due diligence review. A building inspection procedure should include a background assessment of the building, interviews of persons responsible for mechanical systems and facility maintenance, inspection of the HVAC system and measurement of the concentration levels of volatile organic compounds, and inspection for the presence of specific microbiological (i.e., mold) and other contaminants, including asbestos and radon.⁵⁸

B. Protect your building from mold and yourself from liability

Building owners and managers should take appropriate steps now to reduce the prospect of indoor air pollution claims.

(1) Establishment of an environmental management system

According to attorneys Kenneth Warren and Neil Witkes,⁵⁹ an environmental management system should be established and should include several components:

a. Corporate policy

In contrast to the command and control structure of many of our environmental laws, the standards applicable to indoor air are far less developed. According to the EPA guidance, standards or threshold limit values for airborne concentrations of mold or mold spores have not yet been set. *As of March 2002, there are no federal regulations or standards for airborne mold contaminants in the residential environment.* Thus, apart from the specific regulatory restrictions on the concentrations of radon in the residential environment, no regulatory standards for indoor air exist. Air levels of asbestos and lead, for example, are only regulated in the context of activities that disturb surfaces containing these substances. There are currently no federal laws that govern mold infestation. However, local laws on habitability may apply.

⁵⁸Cynthia Weiss Antonucci, *Indoor Air Pollution, Sick Building Syndrome/Building Related Illness An Overview*, Mealey's Sick Building Litigation Conference, 303, 309 (West Palm Beach, FL, Nov. 8-9, 1999).

⁵⁹*Avoiding Indoor Air Quality Claims: Advice for Building Owners*, IEQ Strategies- Managing Risk in the Indoor Environment: A Practical Handbook, 26, 27-29 (Carlton Vogt ed., Cutter Information Corp., 1998).

In most localities, building owners are "only" required to comply with what a jury, with the benefit of hindsight, will find to be reasonable. At a minimum, a building owner or manager should identify and comply with any applicable regulations under local and state law as well as the ASHRAE standards⁶⁰ (e.g., HVAC operation should meet air exchange rates specified in the current ASHRAE standard⁶¹). The operations and maintenance (O & M) plan for a building should address IAQ.⁶² Maintenance personnel should be informed of proper air exchange settings and maintenance schedule of HVAC, and have sufficient funds available for compliance.

b. Proper maintenance procedures

Maintenance procedures may be established by the property owner/manager that can minimize, if not eliminate, IAQ problems. These include:

- \$ having the building inspected regularly by an environmental professional so that potential problems may be discovered and corrected before they become widespread;
- \$ using appropriate HVAC settings per the manufacturer recommendations, even when the building is not occupied;
- \$ changing or cleaning air filters (according to the manufacturer's recommended schedule);
- \$ cleaning air conditioning coils according to the manufacturer's recommended schedule or at least annually;
- \$ eliminating sources of air pollution (e.g., garbage receptacles, idling cars or loading docks) from air intake equipment; and
- \$ developing maintenance guidelines based on manufacturer's specifications and incorporating these into the O & M plan for the property.⁶³

⁶⁰Id at 29.

⁶¹ASHRAE 62-1989, Ventilation for Acceptable IAQ, provides a minimum of 15 cubic feet per meter (cfm) of outdoor air per person and 20 cfm in office spaces. Up to 60 cfm/person may be required in some spaces (such as smoking lounges) depending on the activities that normally occur in that space. Revisions to this standard, which would require the multifamily property owner to install kitchen exhaust fans and continuously running fans in bathrooms, are expected in the next 2-3 years.

⁶²See information on the *NMHC/NAA O&M Plan for Mold and Moisture Control* in Sec. IV on page 10.

⁶³Antonucci, *supra* note 58, at 309-310.

c. Identification and correction of IAQ problems

The building O & M plan should address how potential IAQ problems will be identified and corrected, and how information will be conveyed to residents. It is prudent to keep a record of all IAQ complaints received from residents and the steps taken to address the problems.⁶⁴

d. Training of employees to operate the building according to the established procedures

Employees should receive appropriate training to maintain the building and its systems. Personnel should have clearly defined responsibilities and delineated reporting obligations, and receive performance evaluations that are based at least, in part, on compliance with these identified standards and procedures.⁶⁵

e. Notification by resident to property owner/manager

Specific language should be included in the lease,⁶⁶ which advises residents to notify the property owner/manager if water intrusion or mold growth has been observed.

(2) Guidance for maintenance technicians

⁶⁴See information on the *NMHC/NAA O&M Plan for Mold and Moisture Control* in Sec. IV on page 10.

⁶⁵Warren & Witkes, *supra* note 59, at 28.

⁶⁶See, for example lease language provided in the *NMHC Operations and Maintenance (O&M) Plan for Mold and Moisture Control*, **Mold and Mildew**: Resident acknowledges that it is necessary for Resident to provide appropriate climate control, keep the Apartment clean, and take other measures to retard and prevent mold and mildew from accumulating in the Apartment. Resident agrees to clean and dust the Apartment on a regular basis and to remove visible moisture accumulation on windows, walls and other surfaces as soon as reasonably possible. Resident agrees not to block or cover any of the heating, ventilation or air-conditioning ducts in the Unit. Resident agrees to immediately report to the management office: (i) any evidence of a water leak or excessive moisture in the Apartment, as well as in any storage room, garage or other common area; (ii) any evidence of mold- or mildew-like growth that cannot be removed by simply applying a common household cleaner and wiping the area; (iii) any failure or malfunction in the heating, ventilation, air conditioning systems or laundry systems in the Apartment; and (iv) any inoperable doors or windows. Resident further agrees that Resident shall be responsible for damage to the Premises and Resident's property as well as injury to Resident and Occupants resulting from Resident's failure to comply with the terms of this Paragraph. @

Maintenance professionals should be alerted to water intrusion and the presence of mold if they should come across it during routine repair and use appropriate practices to limit human exposure and the possible spread of the contamination. The maintenance professional should evaluate the extent of the water damage and mold problem. The decision of whether trained in-house staff can treat the problem varies between the NYCDOH and EPA. According to NYCDOH, if it is a small discrete area (total surface area affected is less than 30 square feet), it may be treated by trained building staff as described above in Section IV. F. If the mold is associated with a larger problem (total surface area affected is more than 30 square feet), such as substantial water damage, structural damage is possible and will require a more involved treatment. The EPA, however, does not prescribe when a professional should be hired but suggests using professional judgment, taking into consideration the potential for remediator/resident exposure and size of the contaminated area. If the mold has contaminated a large area, maintenance workers should not disturb the contaminated area as it can create even bigger clean-up challenges and may pose a threat to unprotected workers. In such a situation, the maintenance staff should cease work in the area and report to a supervisor or property manager. A qualified environmental specialist should be retained to assess the problem and develop a plan of remediation.

(3) Insurance coverage

The best time to review your insurance coverage is before a situation, which may result in a claim, develops. Whether or not a mold claim is covered by a standard form general liability policy depends upon both the jurisdiction and the specific policy.

a. The "absolute pollution" exclusion

In recent years, the "absolute pollution exclusion" that began appearing in general liability policies in the mid-1980s has been used by some carriers to deny claims resulting from mold damage.⁶⁷ Despite the insurer's insistence that the "absolute pollution exclusion" covers mold claims, courts are split on whether the exclusion bars coverage. The case holdings tend to be fact specific, with different outcomes arising out of only slightly different sets of facts. A court's decision may also vary depending on the exact language of the pollution exclusion provision in the insurance policy. There are few cases that have been litigated on the issue of whether the "pollution exclusion" bars coverage for mold infestation. The case holdings have varied from state to state.

⁶⁷The customary pollution exclusion provides that the insurance does not apply to "bodily injury or property damage arising out of the actual, alleged, or threatened discharge, dispersal, release, or escape of pollutants at or from premises you own, rent, or occupy." Pollutants are generally defined as "any soluble, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste."

The Wisconsin Court of Appeals held that the "absolute pollution exclusion" clause did not apply because the mold or pollutant had not been "released," and, therefore, coverage existed. In this case, occupants of a prefabricated home brought action against the insurer, alleging their homes retain excessive moisture on their exterior walls, promoting mold, fungus, and other toxins.⁶⁸ The court concluded, because the growth of the microorganisms was the result of water vapor trapped in the wall, the contaminants were not released within the meaning of the policy, "but rather formed over time as a result of environmental conditions."

Similarly, in *Stillman v. Travelers Insurance Co.*,⁶⁹ the court entered final summary judgment in favor of the insured, holding that the "absolute pollution exclusion" provision did not apply. In this case, employees of a Florida bank allegedly sustained injuries as a result of high levels of fungi, mold, and yeast found in the building following construction improvements on the building.

In *Stoney Run Co. v. Prudential-LMI Commercial Insurance Co.*,⁷⁰ the U.S. Court of Appeals for the Second Circuit, interpreting New York law, held that the release of carbon monoxide due to a faulty heating and ventilation system at an apartment community, and where bodily injury occurred, was not the type of environmental pollution contemplated by pollution exclusion clause. While the court never specifically addressed whether carbon monoxide was a "pollutant" as defined by the policy, the court held that the pollution exclusion should be interpreted in light of its general purpose to exclude coverage for environmental pollution. Since the exclusion was ambiguous and a reasonable policy holder may not consider this circumstance to be environmental pollution, the court found that coverage existed.

However, other courts have decided to the contrary. In Texas, a federal court ruled that mold contamination at an apartment complex was the result of contaminants "dispersed" within the covered properties and therefore coverage was excluded under the policy's pollution exclusion clause even though the mold damage might have been caused by a covered event.⁷¹ While the initial water damage was caused by a roof leak, the court agreed that the coverage for the loss fell within the policy's Pollution and Contamination Exclusion, which excludes loss or damage caused by, resulting from, contributed to or made worse by actual, alleged or threatened release, discharge, escape or dispersal of contaminants or pollutants, regardless of whether it directly or indirectly contributed to or was caused by a covered damage. Thus, while it seemed generally true that, in cases where the water damage was covered by the

⁶⁸*Leverence v. United States Fidelity & Guaranty*, 158 Wis.2d 64, 462 N.W.2d 218.

⁶⁹No. 92-1949-CIV (S.D.Fla.1992).

⁷⁰47 F.3d 34 (2d Cir. 1995).

⁷¹*Lexington Insurance Company v. Unity/Waterford BFair Oaks, Ltd.*, 2001 WL 694562 (N.D. Tex. June 14, 2001).

insurance policy, the resultant damage, mold, would also be covered, recent court decisions, such as this, have held differently. In light of these cases, insurers may be less willing to cover the cost associated with remediation of the mold damage.

In another case, the New York Supreme Court case held that the underlying claims for bodily injury caused by SBS were within the scope of the exclusion and thus refused to limit the scope of the Absolute pollution exclusion.⁷²

In *West American Insurance Company v. Band and Desenberg*, the building's employees claimed that air-borne contaminants in the building's air, which was spread throughout the building due to a poorly designed air conditioning system, caused them to suffer a series of symptoms collectively referred to as SBS. The court denied coverage by concluding that the language of the pollution exclusion was unambiguous. "Under the clear language of the policy, there is no coverage for bodily injury due to a release or dispersal of contaminants...into the air supply of the building."

b. The "mold exclusion"

Very recently the insurance industry has begun to specifically exclude mold from coverage in comprehensive general liability (CGL) policies. This "mold exclusion", which began appearing in CGL in 1997 and 1998, is now included in many CGL policies covering multifamily properties. It is essential to review a copy of your present CGL policy, before a problem arises, to see if this mold exclusion exists. However, simply because a mold exclusion exists does not necessarily mean there is no coverage, as the law is still unsettled with respect to the outright "mold exclusion" and varies between jurisdiction. The case holdings below, for example, are in direct conflict.

In March 2002, the Minnesota Court of Appeals upheld a Minnesota trial court's finding that a "mold exclusion" in a homeowner's policy precludes coverage for mold-related damage.⁷³ In this case, the plaintiff sought coverage under a State Farm Fire & Casualty Insurance Co. homeowner's policy that provided coverage for the dwelling, personal property, and unlimited coverage for loss of use. The policy had a two-year claims-filing deadline from the triggering occurrence and contained a mold exclusion. In June 1998, storms damaged the plaintiff's home. State Farm issued an initial payment the following month. In early 2000, the homeowners discovered a significant mold problem in the home. Subsequently, State Farm agreed to pay \$37,917.31 to help reduce the mold. By December 2000, the family left the home because of the mold, claiming numerous physical injuries. State Farm denied all of the

⁷²*Advanced Healthcare Resources Inc. v. Merchants Insurance Co. of New Hampshire, Inc.*, No. 97-1677 (N.Y. Sup. Ct., Suffolk Cty. 1997).

⁷³*Jeffrey Scott Sather, et al. v. State Farm Fire & Casualty Insurance Co.*, No. C301-1268, Minn. App. (Mar. 12, 2002).

plaintiffs= claims for mold-related damage and injury, even though it did make the June payment. Plaintiffs sued for breach of contract, fraud/negligent misrepresentation, negligence, bad faith, and Minnesota Consumer Fraud Act violations. The Hennipen County District Court granted summary judgment for the insurer, dismissing all claims. On appeal, the plaintiffs unsuccessfully (1) argued that the policy should cover mold, construction cost estimates and financing expenses; (2) disputed that fact issues and procedural defects preclude summary judgment; and (3) argued that its tort, bad-faith and consumer fraud act claims are viable.

In *Home Insurance Co. v. McClain*,⁷⁴ a Texas appellate court found coverage in a toxic mold coverage dispute, despite the existence of a mold and fungi exclusion in the homeowners-policy. In this case, a roof failed, allowing water to seep into a house. The owners cleaned up the water and repaired the roof. Unbeknownst to the owners, the leaking water had collected and soaked stud areas behind the house's interior walls and had damaged walls, ceilings, and sub-floors. A few months later, the owners discovered that the rainwater had caused mold and fungus infestation. The damage made the residence uninhabitable. Despite the "Homeowners" property insurance policy at issue, which contained a clear exclusion for loss caused by "mold or other fungi," the court held the exclusion inapplicable and awarded coverage to the owners based on a provision for coverage for "ensuing loss caused by...water damage.@

c. Bad faith insurance claims

While the majority of cases have been brought against insurance companies for failure to provide coverage under the absolute pollution exclusion, suits alleging other causes of action, including fraud and bad faith by the insurance company, have also been successfully litigated.

On October 31, a Texas state judge affirmed a \$32.1 million jury award in a case involving extensive mold damage to a single-family residence.⁷⁵ The jury held that Farmers Insurance Exchange failed to adequately cover repair costs for the original water-damage mold claim and committed fraud in the handling of the claim. Despite the judge's preliminary ruling that medical testimony on the health effects of mold could not be introduced due to a Texas Supreme Court decision mandating a level of scientific proof that had not been reached, the jury awarded the Texas family \$6.2 million in actual damages, \$12 million in punitive damages, \$5 million for mental anguish, and \$8.9 million in lawyers' fees. The ruling to exclude medical testimony on the health affects of mold squashed the personal injury aspect of Ballard's claim. Alleging the mold growth caused the family health problems, including neurological damage to her husband and son, the plaintiff is considering an appeal of the decision to exclude the medical testimony. Farmers Insurance is also considering an appeal of the verdict.

⁷⁴No. 05-97-01479-CV, Texas Court of Appeals, 5th District, Feb. 10, 2000.

⁷⁵*Mary Ballard, et al. v. Fire Insurance Exchange, et al.*, No. 99-05252, Texas Dist., Travis Co.

In *Daniel Hatley et al. v. Century National Insurance Co.*,⁷⁶ an Arizona family sought coverage for mold contamination from their insurance company. Significantly, the defendant denied the coverage citing a mold exclusion in the policy. However, the plaintiffs argued that the exclusion did not apply because the water damage, which resulted in the mold growth, was a covered loss. The carrier additionally argued that the water and mold damage predated the policy. On November 26, 2001, an Arizona jury awarded the Hatley family \$237,000 in compensatory damages and \$4 million in punitive damages for the breach of the implied warranty of good faith and fair dealing. Although the personal injury claims were rejected at the summary judgment stage, the court allowed arguments on personal injury claims involving mental anguish. The mental anguish claims arose because the Hatley's son, who has cystic fibrosis, was hospitalized and diagnosed with high levels of aspergillus mold in his lungs.

On October 3, 2000, a California jury ordered Allstate Insurance to pay a policyholder \$18.5 million in a coverage dispute over mold in the plaintiff's home in Placerville, California.⁷⁷ Claiming bad faith, the plaintiff's successfully alleged that Allstate maliciously handled water and mold damage claims under her homeowner's policy. The award included \$500,000 in compensatory damages and \$18 million in punitive damages. The trial judge reduced the award to \$3 million. The case is being appealed.

d. Prompt notification to insurance carrier

Once a mold claim arises, an owner/manager should immediately contact the general liability carrier. Policies commonly include a provision that permits the carrier to disclaim coverage if the claimant fails to notify the carrier immediately after an IAQ claim arises. Thus, it is imperative that property owners/managers notify their insurance carriers as soon as they become aware of a mold contamination claim.⁷⁸

Consideration should be given to submitting a claim to the general liability carrier who covered the building or project in question in years prior to making the claim, based on the presumption that the situation that resulted in the development of mold was likely to have existed at some prior point in time. For example, the California Supreme Court held that where a CGL policy is written as an "occurrence policy," a "potential for coverage" exists in environmental or

⁷⁶No. CV 2000-006713, Ariz. Super., Maricopa Co. (April 10, 2000).

⁷⁷*Anderson v. Allstate Insurance Company*, Nos. 01-15145, 01-15246, 01-15307 & 01-15330 (9th Cir. 2000).

⁷⁸Mark Diamond Esq., *What to Do If You Get Sued: Minimizing Your Exposure*, IEQ Strategies Managing Risk in the Indoor Environment: A Practical Handbook, 42, 46 (Carlton Vogt ed., Cutter Information Corp., 1998).

construction defect claims from the date the loss could have occurred.⁷⁹ In this situation, it may mean when the mold first began to grow until the time of the filing of the claim. This ruling can be significant if it is found that the present policy contains a carved-out mold exclusion. Most policies written prior to 1998 do not have such an exclusion and thus a potential for coverage may exist under the prior policy.⁸⁰

e. Regulatory/legislative issues

Recent actions by the Texas State Insurance Commission to require mold coverage under homeowners' policies have resulted in insurance carriers opting not to write new policies in that state. (Texas leads the country in insurance claims for mold, followed by California). Legislation is under consideration in California, which may require insurers to offer mold coverage. The real estate industry is currently working with the sponsor of that legislation to develop a workable solution to the matter.

Since insurers will likely respond to these various court decisions by revising their general liability policies to exclude IAQ claims, it would be imprudent to continue to rely upon these policies if such coverage is desired. "Pollution buyback" policies specifically tailored to provide these types of coverage are available.⁸¹

As a further precaution, the property owner should also verify that contractors providing services on their property are appropriately insured. It may be prudent to have all vendor/contractors sign indemnity agreements and agree to list the property owner/manager as insured under their CGL insurance policy. This contractual agreement should specify that there are no mold exclusions in the policy.⁸²

VII. ADDRESSING RESIDENT COMPLAINTS

If, despite all efforts aimed at prevention of mold contamination, a resident files a complaint with the property owner/manager alleging mold or other IAQ problems, a property owner/manager may still be able to avoid a lawsuit. All complaints do not necessarily turn into lawsuits if the property owner/manager responds appropriately. It is of the utmost importance

⁷⁹*Montrose Chemical Company v. Superior Court*, 6 Cal.4th 287 (1993).

⁸⁰John C. Manly Esq., *Mold and Insurance Coverage: General Liability Policies May Not Cover Mold*, California Perspective Magazine, 40 (April 2001).

⁸¹A sample policy may be viewed at <http://www.ins-site.com/roughnotes/isoforms/glforms/cg0039o3.htm>.

⁸²Manly, *supra* note 80, at 42.

to keep the lines of communication with the resident open when responding to the complaint. According to attorney Mark Diamond, it is also important to:

(1) mitigate the problem by eliminating or correcting the water or other problem that caused the mold growth, such as water leaks or an improperly cycling HVAC system;

(2) notify insurance carriers of any claim. It is common that a policy includes a provision that permits the carrier to disclaim coverage if the property owner fails to notify the carrier immediately after it becomes known;

(3) retain a qualified environmental consultant to conduct air quality measurements. (See Section IV.A. above for additional information.);

(4) contact and retain competent legal counsel early to assist in coordinating all professionals necessary to address the IAQ complaint; and

(5) gather all records that pertain to the particular apartment as well as the building maintenance procedures, prior complaints, and how and when the complaints were remedied.

A. Notification to other building residents

Mold contamination may be widespread as a result of mold products that have been disseminated through the air throughout the property, or the contamination may be exclusive to a specific unit. Thus, it is advisable to discuss with the environmental consultant conducting the assessment if notification to other residents is necessary in light of the remediation steps underway. If it is agreed that notification to residents is recommended, you may wish to consult an attorney to devise the notification.

B. Relocation of residents

There may be some circumstances in which the relocation of residents during remediation may be necessary. According to the EPA guidance, the decision to relocate residents should be based on the size of the area affected, the extent and types of health effects exhibited by the residents, and the potential health risks associated with debris and activities during the remediation project.

VIII. LEGAL ISSUES

A. Causes of action

There are numerous potential causes of action available to a claimant filing an IAQ claim due to mold contamination. Each of these causes of action are generally explained below;

however, note that there may be state by state variations in interpretations, as well as other elements, of each cause of action.

(1) Negligence

Negligence, a legal theory by which an injured party can seek monetary damages for injury suffered by the action or inaction another, is the most common cause of action asserted for mold contamination. This theory has four elements that a plaintiff must prove in court to prevail: (1) Duty. The person/entity causing the harm must have owed the injured party a duty; (2) Breach of that duty. That is, the person/entity causing the harm must have failed, by act or omission, to prevent injury to the plaintiff; (3) Proximate cause. The act or omission of the harm caused must have resulted in the injury claimed by plaintiff; and (4) Injury. The plaintiff must have sustained some injury as a result of the duty and action or omission alleged.⁸³

Regarding the first of the four elements, duty, in addition to any specific obligation contained in a lease, a property owner/manager owes a common law duty to building occupants to make necessary repairs, take steps to ensure that the property is fit for human habitation, and ensure and maintain that the quality of air inside the building is reasonably safe for the residents and other lawful occupants.⁸⁴ Thus, because this is a very broad and ill-defined duty, it is often difficult for owners/managers to avoid the necessity of defending what may be marginal claims.⁸⁵ A plaintiff does not need to show that the defendant intended the injury. Similarly, it is typically of little value to defendants that they did not realize an injury would occur. A plaintiff must merely prove that a reasonable person in the defendant's position, using reasonable intelligence, could have foreseen that an injury would occur to someone at some time.⁸⁶ Hence, according to attorney Mark Diamond, although the ASHRAE Standard 62-1989 does not have the force of law, it would be prudent to adjust professional practices to incorporate that standard as well as other trade standards (e.g., NYCDOH Guidelines discussed in Section IV above), government regulations (e.g., OSHA's proposed IAQ rule, should it become law⁸⁷), and opinions (see case law discussed below in Section VIII. F.). Reasonable

⁸³William L. Prosser, *the Law of Torts*, 143 (4th ed. 1971), Restatement (Second) of Torts, sec. 281 (1991).

⁸⁴Robertson, *supra* note 16, at 24.

⁸⁵David M. Governo & Lisa A. Hack, Attys., *IAQ Problems: The More You Look, the More You Find!*, IEQ Strategies-Managing Risk in the Indoor Environment: A Practical Handbook, 36, 37 (Carlton Vogt ed., Cutter Information Corp., 1998).

⁸⁶Diamond, *supra* note 78, at 44.

⁸⁷U.S. Occupational Safety and Health Administration (OSHA), Indoor Air Quality, 59 Fed. Reg. 15968, 16039 (1994).

compliance with these standards may constitute sufficient foresight to protect yourself from any negligence liability claims.⁸⁸

(2) Strict liability

Strict liability, while often confused with negligence, is different. To prove strict liability, a plaintiff must show that a defendant: (1) engaged in an unusually dangerous activity; (2) designed or manufactured a product that is unsafe; or (3) failed to give an adequate warning of the dangers of a product and how to avoid attendant risks.⁸⁹ Strict liability imposes liability even though the defendant acted with due care and had no knowledge that a condition was dangerous, or even that it existed. Many parties may be vulnerable to strict liability; a builder who used unsafe materials and methods during construction; a lender who failed to warn purchasers about an unsafe condition; and an owner who allowed occupants to be exposed to an unsafe condition.⁹⁰

(3) Breach of contract

In a breach of contract claim, the plaintiff, if an employee, may claim that the building owner or manager breached a collective bargaining agreement provision specifying the nature and duration of potential toxic exposures.⁹¹ In a breach of lease/contract claim brought against an owner/manager, a plaintiff may allege that clauses in the lease state what can or cannot be introduced into the building environment.⁹² Additionally, the resident may file an action stating that the IAQ problem has caused the resident to be unable to use the leased space as provided in the lease.⁹³

(4) Breach of warranties

Implied warranties generally exist under the law even if the owner/manager makes no affirmative representation of them orally or in writing. Unlike expressed warranties, which can be freely disclaimed, most states do not permit the implied warranties of merchantability or habitability to be disclaimed. The implied warranty of merchantability states that a party who trades goods to another automatically represents that those goods are fit for the particular

⁸⁸Diamond, *supra* note 78, at 44.

⁸⁹Id.

⁹⁰Id.

⁹¹Governo & Hack, *supra* note 85, at 37.

⁹²Id.

⁹³Id. at 38.

purpose for which they were sold or leased (e.g., when purchasing a pair of shoes the seller makes an implied warranty to the buyer that the shoes will be fit for walking). The implied warranty of habitability may require an owner/manager to provide safe premises to the lessee and other occupants. It will undoubtedly be argued that leasing space which is determined to have poor IAQ could be construed as a breach of habitability.⁹⁴

(5) Constructive eviction

In some states, when a property owner/manager breaches an implied covenant of habitability, or covenant of quiet use and enjoyment, a constructive eviction may also occur. The owner/manager's breach of covenant may entitle the resident to recover monetary damages from the property owner for a constructive conviction.⁹⁵

(6) Failure to disclose

Any person who sells or transfers title or has a possessory interest in residential real estate, owes a common law duty to disclose all facts that materially affect the value or desirability of the property.⁹⁶

(7) Fraud and misrepresentation

Fraud and misrepresentation occur when a person is injured by another person's intentional, reckless, or negligent concealment of a material fact that is not readily observable. In some jurisdictions, giving a bad opinion, not just a statement of fact, to someone who relies upon that opinion and could not reasonably have discovered its falsity may be actionable.⁹⁷

(8) Battery and assault

Battery and assault take place when one person who has not consented is touched or otherwise contacted by another person or thing. One commentator posits that exposing someone to volatile organic compounds, such as certain types of mold, might be construed as an assault or battery.⁹⁸

⁹⁴*Call v. Prudential Insurance Co. of America*, No. SWC 80813 (Los Angeles County Super. Ct., Cal. Oct. 1990).

⁹⁵*See Barkett v. Brucato*, 264 P.2d 978 (Cal. Ct. App. 1953).

⁹⁶Robertson, *supra* note 16, at 25.

⁹⁷Diamond, *supra* note 78, at 45-46.

⁹⁸*Id.* at 46.

(9) Trespass

Trespass is an improper physical interference with one's person or property that causes injury to health or property.⁹⁹

(10) Nuisance

Nuisance is an invasion of one's use or enjoyment of property, even if the defendant is not physically present on the property.¹⁰⁰

The list of potential causes of action is long and the potential damages are large. However, while the above is an exhaustive list of possible causes of action a resident may use to sue his property owners/manager; negligence, constructive eviction (breach of warranty of habitability), and breach of contract are most commonly used.

B. Potential defendants

There are often several defendants involved in a legal action arising from mold contamination. For both personal injury and property damage claims, residents may sue property owners, managers, and contractors. Architects, engineers, construction managers and supervisors, contractors, sub-contractors, and suppliers of the building's materials may all be implicated when the source of the problem proves to be a building's design or HVAC system.¹⁰¹

In turn, it is wise to involve other potentially liable parties with whom to share the ultimate costs, should this be necessary in the end. The owners may need to sue architects, engineers, contractors, sub-contractors, and building product suppliers and manufacturers for the cost of any needed repairs and renovations.¹⁰²

C. Causation issues

⁹⁹Id.

¹⁰⁰Id.

¹⁰¹John C. Childs & Marc G. Whitehead, *Establishing Causation In a Sick Building Case: the Plaintiffs' Perspective*, Mealey's Sick Building Litigation Conference, 315, 320-321 (West Palm Beach, FL, Nov. 8-9, 1999).

¹⁰²Id. at 321.

Regardless of what legal theory is relied on in an IAQ lawsuit, causation will be the most difficult element to prove.¹⁰³ The question at issue being whether the defendant's breach of duty actually caused the claimed injury. It is difficult for a party to prove or disprove this causal connection. Under the general standards of the rules of evidence, medical expert testimony offering an opinion as to causation will only be admissible if the opinion is rendered to a reasonable degree of medical or scientific certainty.¹⁰⁴ There are two tests courts typically apply to test for the admissibility of scientific expert testimony.

The case of *Daubert v. Merrell Dow Pharmaceuticals Inc*¹⁰⁵ established the test for admissibility of scientific expert testimony in the federal courts. To establish whether expert testimony constitutes scientific knowledge, the court will look to the following factors:

- \$ whether the theory has been subjected to peer review or publication;
- \$ whether the theory can be or has been tested;
- \$ whether there is a known, acceptable rate of error; and
- \$ whether the theory is generally accepted.¹⁰⁶

However, since most mold cases will be filed in state courts, the standard of admissibility that is generally applied was established in *People v. Kelly*.¹⁰⁷ However, a number of state courts have adopted the *Daubert* standard. Therefore, it is important for counsel to determine which standard, *Daubert* or *Kelly/Frye*, the court considering the mold case relies upon. Often referred to as the *Kelly/Frye* standard, new scientific evidence is only admissible on a showing of scientific reliability demonstrated by substantial agreement and consensus in the scientific community. The factors the courts look to are:

- \$ whether the new scientific method is shown to be reliable;
- \$ whether the witness is qualified as an expert in the field; and
- \$ whether the theory or method in question was implemented according to proper scientific procedures.¹⁰⁸

Thus, the success of any mold contamination case will unquestionably depend on the admissibility and credibility of the expert witnesses. Experts may include mycologists, microbiologists, industrial hygienists, neuropsychologists, immunologists, and toxicologists.¹⁰⁹

¹⁰³Governo & Hack, *supra* note 85, at 37.

¹⁰⁴Id.

¹⁰⁵509 U.S. 579 (1993).

¹⁰⁶Robertson, *supra* note 16, at 31.

¹⁰⁷17 Cal.3d 24 (1976).

¹⁰⁸Robertson, *supra* note 16, at 31.

Due to a recent holding by a Delaware state court¹¹⁰, the federal standard for expert witnesses may now start to be applied in state court and it now may be more difficult for plaintiffs to sue under a SBS or multiple chemical sensitivity (MCS) cause of action. The plaintiffs in this case claimed to have contracted MCS and SBS from the defendant's building. The court granted the defendant's motion to exclude the plaintiff's expert testimony based upon precedent established in *Daubert* that scientific expert testimony must be generally accepted by the scientific community for it to be admissible. Here, the court agreed with the defendant that medical science does not recognize MCS or SBS and, as such, they cannot be validly diagnosed as medical conditions. The plaintiffs settled the case soon after the motion was granted. This decision will likely be cited and serve as precedent in subsequent IAQ mold contamination cases.

D. Alleged injuries

Lawsuits arising from mold and other indoor air pollution typically involve both personal injury and property damage components. Personal injuries caused by indoor air pollution generally fall into three categories: building related illnesses (BRI), MCS, and SBS.¹¹¹ Other illnesses such as Chronic Fatigue Syndrome (CFS), Fibromyalgia (FM), Reactive Airway Dysfunction Syndrome (RADS), Reactive Airway Initiated Dysfunction Syndrome (RAIDS), and Toxic Encephalopathy (TE) have also been cited by plaintiff residents as injuries caused by the building and thus the building owner/manager.

ASBS is used to describe situations in which the building occupants experience acute health and comfort effects that appear to be linked to time spent in a building, but no specific illness or cause can be identified.¹¹² It is acknowledged that there is no universally accepted clinical

¹⁰⁹Robertson, *supra* note 16, at 30. Definitions: A mycologist specializes in the study of fungi; a microbiologist has a general background in the study of bacteria, viruses, and yeasts and may specialize in a particular area; an industrial hygienist studies technical safety work identifying, evaluating, and controlling occupational health and safety hazards; a neuropsychologist deals with the relationship between the nervous system, especially the brain, and cerebral or mental functions such as language, memory, and perception; an immunologist studies the processes and substances associated with the resistance of humans to infections and diseases; a toxicologist studies the toxic effect of chemicals.

¹¹⁰*Minner v. American Mortgage & Guaranty Co.*, 2000 WL 703607 (Del.Super.Ct. Apr. 17, 2000).

¹¹¹Robertson, *supra* note 16, at 23.

¹¹²EPA, *Indoor Air Facts No. 4 (revised)- Sick Building Syndrome* (last modified Feb 19, 2002) <<http://www.epa.gov/iaq/pubs/sbs.html>>.

definition of SBS and no adequate theory for its occurrence.¹¹³ Thus, because the medical community has not accepted SBS as a medically valid diagnosis, it does not meet the *Daubert* standard. Most courts have excluded the diagnosis.¹¹⁴

ABRI is used when symptoms of diagnosable illness are identified and can be attributed to airborne building contaminants.¹¹⁵ It is still uncertain whether the scientific community and thus the courts recognize BRI. In a 1997 article published by the New England Journal of Medicine, researchers noted that there is little convincing, direct evidence to implicate specific causative agents for BRI.¹¹⁶

MCS is neither defined nor widely accepted as an organic entity by mainstream medicine.¹¹⁷ Most courts have not recognized the diagnosis of MCS as a scientifically valid diagnosis.¹¹⁸ Thus, most courts have agreed with the recent Delaware court that held that MCS as a disease has not reached the threshold of reliability needed to survive a *Daubert* inquiry.¹¹⁹

CFS is defined by the CDC for research purposes as: A persistent or relapsing fatigue lasting greater than six months that is unexplained by any other physical disorder....@It is accepted as a scientifically valid diagnosis by the medical community. However, the causal link that a sick building can cause a person to acquire CFS does not have a valid scientific foundation.¹²⁰

¹¹³Carrie A. Redlich, Judy Sparer & Mark Cullen, *Sick-building Syndrome*, 349 *The Lancet* 1013 (Apr. 5, 1997).

¹¹⁴*See Minner, supra* note 110.

¹¹⁵EPA, *supra* note 112.

¹¹⁶Dick Menzies & Jean Bourbeau, *Building Related Illnesses*, 337 *The New England Journal of Medicine* 1524 (Nov. 20, 1997).

¹¹⁷Ronald E. Gotts & Tamar D. Hamosh, *Multiple Chemical Sensitivities: A Symposium on the State of the Science*, 18 *Regulatory Toxicology and Pharmacology* 61, 62 (Aug. 1993).

¹¹⁸*Coffey v. County of Hennepin, D.Minn.*, 23 F.Supp.2d 1081, 1086 (1998) (citing *Brown v. Shalala*, 8th Cir., 15 F.3d 97, 100 (1994); *Collins v. Welsh*, 678 N.Y.S2d 444 (N.Y. Supr. 1998); *but see, Creamer v. Callahan*, 981 F.Supp. 703, 705 (D. Mass. 1997) (remanding case to ALJ because the Social Security Administration recognizes MCS as a medically determinable impairment).

¹¹⁹*See Minner, supra* note 110.

¹²⁰The Management of Chronic Fatigue Syndrome; A Statement for the Advisory Board of the American Association for Chronic Fatigue Syndrome (visited Dec. 14, 2000) <<http://www.aacfs.org/html/management.htm>>.

Thus, the courts have been unable to allow a CFS cause of action to stand in a sick building case.¹²¹

FM is associated with chronic pain and dysregulation of neuroendocrine function and of sleep. The medical community, as well as courts, recognizes that FM is a diagnosable condition. However, there appears to be a consensus by the medical community that no known cause of FM has been established.¹²² Thus, courts have also acknowledged that the cause of FM is still unknown. The U.S. Court of Appeals for the Fifth Circuit noted that “[e]xperts in the field conclude that the ultimate cause of FM cannot be known and only an educated guess can be made based on the patient’s history.”¹²³

RADS is a valid scientific diagnosis with known causes of the illness.¹²⁴ RADS appears to be triggered by the sudden onset of asthma following a high-level irritant, gas, vapor, or fume exposure.¹²⁵ However, thus far, RADS has not been raised as an injury in a mold infestation building case. Therefore, it is not known if this will be deemed to be a successful cause of action in the courts.

RAIDS, which is defined as a condition...whereby asthma symptoms appear to be initiated by low-or-moderate-level exposure to an irritant substance or material in the workplace or environment, and is characterized clinically by the development of asthma symptoms and physiologically by the finding of an atopic status and the presence of non-specific airway hyperresponsiveness.¹²⁶ Like RADS, RAIDS has also yet to be litigated in a mold building infestation case.

¹²¹See e.g., *Mitchell v. Eastman Kodak Co.*, 113 F.3d 433, 443 (3d Cir. 1997) (Athe disease...has no known etiology.®).

¹²²The Physical Medicine Research Foundation, *The Fibromyalgia Syndrome: A Consensus Report on Fibromyalgia and Disability*, 23 *Journal of Rheumatology* 3 (1996) (illustrating that data regarding the causality of FM are largely absent).

¹²³*Black v. Food Lion Inc.*, 171 F.3d 308, 313 (5th Cir. 1999).

¹²⁴See *Minner*, *supra* note 110.

¹²⁵Stuart M. Brooks et al., *The Spectrum of Irritant-Induced Asthma*, 113 *Chest* 42 (Jan. 1998) (concluding that preexisting allergic/atopy and/or preexisting asthma were significant contributors to the pathogenesis of not-so-sudden, irritant-induced asthma).

¹²⁶Stewart M. Brooks, *Reactive Airway Syndromes*, 215 *Journal of Occupational Health and Medicine* 1 (1992).

Chronic TE is defined as an acquired mental impairment, affecting intellect, memory, emotions, and personality.¹²⁷ It is recognized by the medical community as a scientifically diagnosable condition.¹²⁸ However, there is a disagreement among the scientific community that mold in a building can cause TE. Robert Feldman notes that organic solvents can cause TE.¹²⁹ However, he also states that it may be difficult to identify a specific causative agent in the workplace and further states that chronic solvent exposure can be associated with cognitive changes in an individual.¹³⁰ Hence, while TE did meet the standard of admissibility under *Daubert* in a recent Delaware case, the case was settled before fully litigated. Thus TE has not yet been successfully litigated in a mold infestation building case.

E. Damages recoverable in mold cases

The general principles for recovering damages vary from state to state. In most states, the general principle governing the measure of damages entitles an injured party to recover full compensation for losses proximately caused by a wrongdoer's act or omission.

On personal injury claims arising from mold related illness, depending on state law, the types of damages sought by plaintiffs include: (1) pain and suffering; (2) past, present and future medical care; (3) future medical monitoring; (4) lost wages; and (5) loss of earning capacity.¹³¹ In cases where fatality is alleged to have occurred as a result of exposure to molds, a wrongful death claim can be made by the surviving family members for (1) loss of love, companionship, comfort, affection, society, solace or moral support; (2) any loss of enjoyment or sexual relations; or (3) loss of physical assistance to a spouse in the operation or maintenance of the home.¹³² Survivors can also recover for lost financial support from the decedent.¹³³ Although in the context of the mold cases litigated to date, no award has been made for wrongful death.¹³⁴

¹²⁷World Health Organization & Nordic Council of Ministers, *Chronic Effects of Organic Solvents on the Central Nervous System and Diagnostic Criteria* (reprinted by the U.S. Department of Health and Human Services, Public Health Service, 1985).

¹²⁸*See Minner, supra* note 110.

¹²⁹Robert G. Feldman, *Neurotoxic Disorders*, Handbook of Occupational Medicine 179, 186-87 (Robert J. McCunney 1988).

¹³⁰Id.

¹³¹Information provided by Sheri Mullikin, Kathleen Sullivan, & Sky Woodward, Attys., of Miles & Stockbridge P.C. in Baltimore, MD.

¹³²*See Peaspanan v. Board of Education*, 669 N.E.2d 284 (Ohio Ct. App.1995).

¹³³*Supra*, note 131; *see also* California Jury Instruction BAJI Nos. 14.50-14.52.

¹³⁴*See for example* Phipps Plaza case discussion on page 43.

Prejudgment interest can also be recovered in some states to compensate the plaintiff for the loss of use of his money or property.

Punitive damages may be also justified in a mold contamination case when the evidence establishes that the defendant was aware of the probable dangerous consequences of his conduct (i.e., the mold condition on his property) and the defendant willfully and deliberately failed to act to avoid those consequences (i.e., fails to remediate the dangerous condition).¹³⁵

Emotional distress damages may also be recoverable in cases involving personal injury. However, emotional distress damages cannot be recovered where the injury is confined to property damage.¹³⁶

F. Recent litigation, verdicts, and settlements

The rise of mold contamination cases being reported in the media and medical journals has led to published verdicts and settlements in legal publications. However, because most of these cases involve a recovery for both property damage to repair and to remediate the defective conditions, as well as for personal injury, it is difficult to extract an amount paid for each category of damage. Nonetheless, below is a representative sample of recent litigation involving mold infestation.

In 1999, approximately 140 lawsuits were filed against two New York City apartment building owners seeking \$60 million per plaintiff, for a total of \$30 billion in compensatory and punitive damages for personal injuries allegedly sustained from exposure to mold contamination.¹³⁷ The list of alleged personal injuries, ranging from respiratory disease to death include, but are not limited to, chronic fatigue, swelling joints, skin rashes, heart palpitations, and respiratory problems including short-term memory loss, nosebleeds, breathing problems, wheezing, and, in five cases, hastened death. The residents alleged that the toxic mold outbreak was due to water leaks that plagued the 28-year old building. In November 2001, the case reached settlement. While deemed confidential, news authorities report that the settlement was for \$1.18 million, to be divided between the 500 residents, according to their injuries. News authorities also report that after subtracting expenses, including expert witness testimony, each of the 500 individuals received, on average, \$200 each.

In a precedent-setting California case, a judge finalized a \$2.7 million award for a toxic mold

¹³⁵*Penner v. Falk*, 200 Cal.Rptr. 661 (Cal. Ct. App. 1984).

¹³⁶*Erlich v. Menendez*, 71 Cal.Rptr.2d 137 (Cal. Ct. App. 1998).

¹³⁷*First of Mold Lawsuits Seeking \$30 Billion from Landlord Is Set for Trial*, 13 IAQ Strategies 11, Nov. 2000. (*Davis v. Henry Phipps Plaza South*, No. 116331, N.Y. Sup. N.Y. Co.).

case based on health claims made by plaintiffs.¹³⁸ The plaintiffs claimed that they had been exposed to mold for several years as a result of a leaking toilet in an upstairs apartment. The plaintiffs alleged that defendants improperly responded to their complaints by failing to address the mold problem arising out of the toilet leak. The family originally asked the apartment property to reimburse them for their belongings and moving expenses, but filed suit when the property refused. In court, plaintiffs successfully alleged that the husband suffered respiratory injuries and the son suffered from canker sores and serious gastrointestinal problems as a result of the mold exposure. Until now, courts have generally excluded personal injury aspects of mold claims, ruling that science has not reached the level of proof required to prove mold causes health problems. In this most recent case, however, the jury felt the science was sufficient to find that toxic molds are very harmful to people. An appeal is pending and NMHC/NAA intend to file an *amicus curiae* motion.

On November 9, 2001, a Maryland jury awarded \$219,000 to a family in a case against the property management company for personal injuries and property damage caused by mold.¹³⁹

In this case, the plaintiffs claimed they reported to the property manager that they heard water running from a vacant unit above them. Plaintiffs claimed to have complained to the management company numerous times over the next 10 days. When the management company finally investigated the vacant unit, mold growth on the walls and ceilings was found. The plaintiffs brought suit, alleging that the management company negligently, recklessly, and carelessly ignored their complaints and failed to repair and maintain the premises in a prompt and timely manner. Plaintiffs claimed that their five-year-old son developed a mold allergy, asthma, and liver problems due to his exposure to molds in their unit. The mother also alleged that she developed problems with her tonsils due to the mold in the unit. The jury awarded \$20,000 for injuries to the son's liver and \$25,000 for his asthma; \$20,000 to the parents for medical expenses they incurred on behalf of their son; and \$154,200 in property damage.

In September 2000, a group of apartment residents sued the building owners and others for negligence, negligence per se, breach of implied warranty of habitability, public nuisance, intentional misrepresentation, negligent misrepresentation, and unfair business practices, claiming they were exposed to hazardous conditions while living in the apartment.¹⁴⁰ Most significant in this case was the judge's decision to deny certification of the class, finding that class treatment was inappropriate given the lack of a well-defined community of interest on issues of liability and causation. The judge noted that the plaintiffs-class representative must adequately represent all class members and the plaintiffs must demonstrate that a causal

¹³⁸*Darren Mazza v. Raymond Schurtz*, Sacramento County Superior Court No. 00AS04795 (2001).

¹³⁹*Kathryn Nicholson, et al. v. Metro Property Management Inc., et al.*, No. 03-C-00-005586, Md. Cir., Baltimore Co. (2001).

¹⁴⁰*Sharon R. Wheeler, et al. v. Avalonbay Communities, et al.*, No. BC 237274, Calif. Supr., Los Angeles Co. (2000).

connection exists between the defendants' alleged negligence and each class member's alleged injuries.

In May of 1999, a Delaware Superior Court ruled that an apartment owner is liable to a resident whose health was damaged from exposure to toxic molds on the property.¹⁴¹ The resident claimed that by failing to repair leaky roofs and defective bathroom plumbing, the property owner caused the resident's exposure to harmful mold, fungi and other toxic substances. This exposure was alleged to have left the resident with severe asthma attacks; mental and emotional injuries requiring ongoing medical care; and sustained cognitive deficiencies. Although the plaintiff was a cigarette smoker with a history of childhood allergies and asthma, the jury awarded the plaintiff approximately \$780,000 in damages. The court denied a motion by the property owner asking for relief from the jury verdict because the damages award was speculative and so excessive that it should shock the judicial conscience. In making the denial, the court held that a jury could reasonably conclude that the plaintiff noted a worsening of her asthma symptoms after exposure to the environmental conditions found on the property. On appeal to the Delaware Supreme Court in May 2001, the Court affirmed the lower court's decision in favor of the resident. The Court held that "the Landlord Tenant Code imposes a duty on landlords to maintain the leased premises in a safe, sanitary condition and that an injured tenant may recover for personal injuries sustained as a result of landlord's negligent failure to do so."¹⁴² The Court also upheld the lower court's decision to admit expert testimony on causation. The property owner had argued that the experts failed to establish a baseline from which to compare the mold levels in the resident's unit and failed to eliminate other possible causes of resident's medical complaints. In response, the Delaware Supreme Court stated, "[t]he foundation for an expert's causation opinion need not be established with the precision of a laboratory experiment," thus supporting the lower court's decision to admit the causation opinions.

In California in 1999, a family collected a nearly \$525,000 settlement after they sued the apartment owner and managers over health problems caused by exposure to molds.¹⁴³ The family alleged that the property owners and managers knowingly rented out an apartment in which exposure to dangerous fungi caused severe allergies. They contend the apartment management repeatedly ignored their complaints of musty odors and mold growth in the

¹⁴¹*Stroot v. New Haverford Partnership*, No. 95C-05-074-HLA, 1999 WL 753916 (Del. Super. Ct. May 11, 1999).

¹⁴²*New Haverford Partnership v. Stroot*, 2001 WL 493216 (Del. Supr.).

¹⁴³Bill Callahan, *Suit Over Mold in Apartments is Settled*, San Diego Union-Tribune, Jan. 9, 1999.

apartment and failed to inform them of the prior history of complaints regarding that and other units within the 700 unit building.

In 1998, a California woman was awarded a jury verdict of \$495,000 after suing her condominium association for failure to repair repeated water intrusions.¹⁴⁴ As a result, mold growth occurred in which she claimed damages for the development of a mold allergy, necessity for continued medical care, pain and suffering, emotional distress, and the cost of repair. Along with the monetary award, the association was also ordered to make the necessary repairs.

In April of 1996, an Indian River, FL, jury awarded Martin County \$11.45 million against a construction manager and three surety companies for SBS and construction defects. In the largest published verdict of its kind, a \$14.2 million judgment was recently affirmed by the Florida Court of Appeals against the contractor of the Martin County Courthouse in *Centex-Rooney Construction Co. Inc., et al. v. Martin County*.¹⁴⁵ The county alleged it was forced to evacuate two buildings in December 1992 because the buildings suffered from construction defects, resulting in leaks to the building's exterior skin and problems with the air conditioning. Water intrusion and high humidity encouraged the growth of mold and mildew in the buildings. The jury verdict only dealt with property damage and did not include any personal injury claims, which were the subject of separate cases. The trial judge reduced the jury's award by \$2.75 million, reflecting the amount received by the county in pre-trial settlements with other defendants. The court entered an amended final judgment for \$14.2 million, including \$8.8 million in damages and \$3.4 million in prejudgment interest.

The affirmation by the court on the causation issue is the most significant portion of the appellate decision. The appellate court upheld the trial judge's admission of expert testimony by two doctors who suggested the existence of a health hazard stemming from the presence of toxic molds in the buildings. The court of appeal held that the county met its burden of proof under *Frye v. U.S.*¹⁴⁶ noting that both experts testified about numerous publications accepted by the scientific community recognizing the link between toxic mold exposure and adverse health problems.¹⁴⁷

¹⁴⁴*Moller v. Atherton Homeowners Ass'n*, No. BC 161 657 (L.A. County Super. Ct., Cal.).

¹⁴⁵7 Mealey's Litigation Report: Emerging Toxic Torts 21 (Feb. 5, 1999); 706 So.2d 20 (1998).

¹⁴⁶54 App. D.C. 46, 293 F. 1013 D.C. Cir (1923).

¹⁴⁷*Centex-Rooney Construction Company Co. et. al. v. Martin County*, 706 So.2d 20 (Fla. Dist. Ct. App. 1998).

IX. CONCLUSION

The list of potential plaintiffs and defendants seems almost limitless. Residents/occupants have sued building owners and managers, the owners and managers have sued designers, architects, contractors, surety companies, and just about everyone connected with the design and operation of the building. The legal landscape is fraught with danger over IAQ issues. There are no controlling federal regulations concerning IAQ or exposure to molds. As the issue of mold in the residential environment captures the public's attention, the suits in this area are bound to increase.¹⁴⁸

In order to avoid liability due to mold contamination, property owners/managers should institute appropriate maintenance protocols. If a mold complaint does arise, you may still protect yourself from a lawsuit by properly responding to the complaint while preparing to protect yourself from liability should the complaint move into litigation. It is best for both the property owner/manager and the residents to be prepared to address mold infestation problems immediately. The expense and publicity of a lawsuit can be costly and damaging to all parties involved.

¹⁴⁸Carlton Vogt, *Ignoring the Indoor Environment: An Invitation to Trouble*, IEQ Strategies-Managing Risk in the Indoor Environment: A Practical Handbook, 5, 6 (Carlton Vogt ed., Cutter Information Corp.,1998).

MOLD

Mold growth in schools, courthouses, libraries, office buildings, hotels, and all types of residential dwellings is receiving increased public attention. Molds comprise approximately one fourth of the world's biomass and are everywhere in the environment. In the presence of moisture, mold spores can germinate and thrive on many food sources including wood, paper, paint, fabric, plant soil, and dust.

A matter of considerable importance is an understanding of the health effects associated with exposure to mold. Some susceptible individuals may experience an allergic reaction to mold. Other health effects ranging from neurological impairment, memory loss, and sometimes death have been alleged but are unsupported by current medical research. It is a largely unsettled matter as to which molds at what levels pose a threat to human health. The U.S. Environmental Protection Agency (EPA) has testified that additional basic scientific research is necessary before health-based indoor air standards for mold can be established and has indicated that there is insufficient scientific/medical data to establish guidelines for which molds cause disease and at what levels. In order to protect the public health, it is important that any standards developed in this area be based upon sound science. Legislation has been adopted in several states to establish health-based exposure standards for mold in indoor air.

NAA/NMHC Position:

NAA/NMHC continue to work at both the state and federal level to advance a legislative agenda on mold, which is reasonable and based on sound science. NAA/NMHC urge Congress to step up the pace and expand the scope of research on this public health issue. NAA/NMHC support the work underway at the National Academy of Sciences' (NAS) Institute of Medicine and support the development of indoor air quality (IAQ) standards based on sound science.

To that end, specifically:

(1) Congress should charge the NAS National Academy of Engineering to convene an expert panel of persons with relevant experience in design, engineering, and construction to examine building practices and modern materials and develop guidelines to prevent excessive moisture in the built environment. Although mold affects both old and new built spaces, anecdotal evidence seems to point to mold as increasingly a problem associated with newer construction that is built tighter to conform to desired goals of energy efficiency.

(2) The Department of Housing and Urban Development's Office of Healthy Homes was established to "develop and implement a program of research and demonstration projects that would address multiple housing-related problems affecting the health of children" including "preventive measures to correct moisture and mold problems " (P.L. 105-276). This program has received \$10 million in annual appropriations in FY 99, 00, 01, and 02 and has awarded its first round of grants in late 2001. This office needs to step up the pace of research and education in its response to this issue. NAA/NMHC urge increased Congressional oversight.

(3) The upward trend in the incidence of pediatric asthma has been documented but it is unclear why this is so. Research on the environmental factors that may be involved in this matter needs increased attention by the appropriate federal agencies. To that end, NAA/NMHC support the research aims of the Asthma Awareness, Education and Treatment Act (H.R. 2288).

Additional Background:

- The Centers for Disease Control and Prevention have asked the NAS Institute of Medicine to review the scientific literature

regarding the relationship between damp or moldy indoor environments and the manifestation of adverse health effects, particularly respiratory and allergic symptoms. The review will focus on the non-infectious health effects of fungi, including allergens, mycotoxins and other biologically active products. In addition, it will suggest guidelines for public health interventions and make recommendations for future basic scientific, clinical, and public health research. NMHC/NAA have long called for such a study to identify the known health affects associated with mold and to determine what research gaps need to be filled before IAQ standards can be established.

- While the guidance contained in the recent EPA publication *Mold Remediation in Schools and Commercial Buildings* explains how to address mold growth in a building, there is no federal guidance on what constitutes unhealthy IAQ with regard to mold. NAA/NMHC participated in a working group convened by the Office of Indoor Air Quality of EPA to prepare a pamphlet on mold in the residential environment. The pamphlet, entitled *A Brief Guide to Mold, Moisture, and Your Home*, is expected to be posted on the EPA web site in March. Using the EPA guidance, NAA and NMHC have prepared Operation and Maintenance Plans for addressing moisture and mold in multifamily properties for its members.
- An increasingly aggressive plaintiffs' bar is pursuing thousands of complaints nationally. The sharp increase in mold claims has resulted in some insurers designating mold as a pollutant and then excluding mold from coverage under general liability policies.

March 1, 2002

For further information on this issue please contact Eileen Lee, Vice President of Environment. E-Mail: (elee@nmhc.org). National Apartment Association/National Multi Housing Council Joint Legislative Program, 1850 M Street, NW, Suite 540, Washington, DC 20036. Telephone: 202/974-2326, Fax: 202/775-0112.