



Beyond Compliance

*Promoting Environmental Stewardship, Safety & Health at all
University System of Georgia (USG) Institutions*

"Creating a More Educated Georgia"

Volume 2, Issue 1

***We are confronted
with insurmountable
opportunities. - Pogo***

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From the Board of Regents' Office of Environmental Affairs

2004 will bring a fresh round of challenges and opportunities in environmental and safety management at USG institutions. Student enrollments are up and budgets are down; we have more work to do and fewer resources to do it with.

But the good news is that adversity also brings opportunity. In 2004, we will have more opportunities to learn from our knowledge and best practices, and more opportunities to work together to find efficient, smart solutions to the new environmental and safety issues that will inevitably crop up during the year.

We publish this newsletter for two reasons. First, to

share news from the world of environmental and safety management, and to provide you with information to help you manage the specific technical issues you currently face on your campus. In this issue, you will find several articles on managing mold – a hot topic at many campuses around the country – as well as general articles on storm water permits, EPA news, and P2AD's new Partnership Program.

The second reason we publish this newsletter is to provide a mechanism for sharing best practices and lessons learned, both good and bad, with each other. Over the next year, we will encourage you to submit items that you think would help your peers at other USG institutions, or suggestions for articles that would help you do your job more effectively.

In lean times, these reasons for publishing this newsletter take on new significance. "Beyond Compliance" does not mean blindly spending more money on "souped up" environmental and safety programs. Rather, it means moving away from managing environmental and safety issues strictly through yes/no checklists and overly detailed specifications that don't always fit our operations. It means keeping our focus on the outcome – excellent environmental and safety performance throughout the USG – and making our everyday decisions about how to manage environmental and safety issues good business decisions.

Good times and bad, we are all in this together. See you around campus....

**Visit us on the
Web!
www.usg.edu/ehs**

**This newsletter is
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OUR MISSION:

TO SUPPORT THE BOARD OF REGENTS' MISSION OF "CREATING A MORE EDUCATED GEORGIA" THROUGH TEACHING, DISCOVERY, OUTREACH AND PUBLIC SERVICES BY PROVIDING LEADERSHIP AND SERVICES TO PROMOTE ENVIRONMENTAL STEWARDSHIP, SAFETY AND HEALTH AT ALL UNIVERSITY SYSTEM INSTITUTIONS.

Who is P2AD?

P2AD is a non-regulatory division of the state Department of Natural Resources. For 10 years, it has offered free, confidential, technical assistance to businesses, institutions, and other organizations within the state.



Areas of P²AD's expertise include waste reduction, energy and water conservation, reuse and recycling, equipment modifications, house-keeping and maintenance improvements, and inventory control. Check out their web site at www.p2ad.org.

Coming Soon!

Mercury Reduction Grant Opportunity!



We are currently in the process of finalizing the details on a \$30,000 grant with P2AD for mercury reduction efforts at USG institutions. Stay tuned for more details on what the grant requires, as well as how your institution can apply!

P2AD Program Encourages Sustainable Campuses

Colleges and universities throughout Georgia are recognizing that environmental stewardship not only protects our future, but it makes good business sense.

Through the new Pollution Prevention Assistance Division (P²AD) Partnership Program, Georgia's institutions of higher education will be recognized for the progressive steps they are taking to protect our environment.

By signing up as a P²AD Partner, your institution will have access to P²AD's staff of pollution prevention engineers and specialists – who, combined, have more than 130 years of experience in environmental issues. P²AD Partnership is free and open to any institution in Georgia. Colleges and universities should apply under the Government/Institution category. The other categories

are Large Business/ Industry, Small Business/ Commercial, and Agriculture.

Within each category are three increasingly challenging Partnership phases: the Yellow, Red, and Blue Ribbon levels. As Partners move up through the levels, they will receive greater benefits, including possible regulatory flexibility beginning at the Red Ribbon level.

Other benefits of joining can include cost savings due to more efficient use of natural resources, increased employee job satisfaction and retention due to improved indoor environment, positive publicity in your community, and recognition at P²AD's annual awards program.

The Board of Regents has also established a formal partnership with P²AD to

encourage and support the adoption of sustainable practices by all 34 institutions in the University System. One role of the BOR/ P²AD collaboration is to help the institutions join and advance in the P²AD Partnership Program.

Applications for the Partnership program will be available online after Nov. 1. The first enrollment period is Feb. 1 – April 30. The next chance to enroll is Aug. 1 – Oct. 31.

As colleges and universities nationwide move toward creating sustainable campuses, Georgia institutions can take a leadership role – and P²AD can help. For more information, visit www.p2ad.org or call (404) 651-5120.

A Mold Primer

As environmental managers, we continually strive to ensure that all of the buildings on our campuses comply with applicable regulations. But when it comes to managing mold within our buildings, there are no established regulations against which to measure our efforts. As a result, we must adopt a different measure of performance.

The number of mold complaints received from build-

ing occupants is an important indicator of the performance of a campus' mold management program. Buildings that generate no complaints are the ultimate goal. But with older buildings, Georgia humidity, aging mechanical equipment, and possibly tens of thousands of species of mold living in our environment, how can you possibly achieve this goal?

This article will help you on your way to minimizing mold complaints on campus by pro-

viding you with an overview of the potential health effects of mold exposure, the four conditions that cause active mold growth, and what to do when mold growth occurs inside your buildings.

Health Effects of Mold Exposure

There is plenty of speculation and available information on the potential human health effects of exposure to mold, but little scientific consensus.

continued on p. 3

A Mold Primer *(continued from p 2)*

Current evidence indicates that a small percentage of people may be sensitive to molds, and that these people can exhibit allergic reactions upon exposure. Symptoms of mold exposure vary widely, and can range from nasal stuffiness, eye irritation, and wheezing to more serious symptoms such as fever and shortness of breath.

Active Mold Growth

Active mold growth, whether in outdoor or indoor environments, requires four factors:

1. Mold Spores: Molds are microscopic fungi, and reproduce through lightweight, durable spores. These spores can be carried in air or water, entering buildings through doorways, windows, and HVAC systems. Some spores can attach themselves to objects, such as insects, shoes, and

clothing. For that reason, almost every indoor environment contains mold spores that are carried in from outside.

2. Temperature: Generally, molds can grow in temperatures ranging from 32 to 140 degrees – which means temperatures inside buildings are conducive to mold growth year-round.

3. Food Source: Molds do not contain chlorophyll, and cannot generate their own food. Instead, they rely on other food sources. Organic building materials and furnishings, such as ceiling tiles, drywall, insulation, wood, and carpet are perfect foods for hungry molds.

4. Moisture: Molds thrive in areas with a relative humidity above 60%. Not surprisingly, most of Georgia has high potential for mold growth based on precipitation and humidity.

Controlling Mold

Of the four factors that promote active mold growth, the last one - moisture - is the one that building managers can control most easily. Most moisture problems can be identified and solved by a good, proactive program of preventive maintenance. The box below contains tips for managing mold by reducing the risk of excessive moisture.

If preventive measures fail and mold remediation becomes necessary, keep in mind that the primary objective of any mold remediation project is to protect the health and safety of building occupants and cleanup personnel. EPA's document titled "Mold Remediation in Schools and Commercial Buildings" provides useful remediation guidelines based on the area and type of material damaged by mold.



Tips for Reducing Mold in Buildings

- Perform regular building / HVAC inspections and maintenance as scheduled.
- Fix leaky plumbing and leaks as soon as possible.



- Design HVAC systems to handle excess humidity, particularly from interior moisture sources such as pools or laundries.

- Ensure that renovations do not use wetted construction materials or allow water intrusion.
- Maintain roofs and plumbing systems to minimize the risk of leaks.
- Watch for condensation and wet spots. Fix source(s) of moisture as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing humidity. To increase surface temperature, insulate or increase ventilation (if outside air is cold and dry), or dehumidify (if

outdoor air is warm and humid).

- Keep rain water out of facilities during construction or renovation activities.
- Keep HVAC drip pans clean, flowing properly, and unobstructed.
- Maintain low indoor humidity, below 60% relative humidity, if possible.
- Don't let foundations stay wet. Provide drainage and slope the ground away from the foundation.
- Remove and discard any wet, porous materials that show evidence of mold growth.

Mold Myths: True or False?

1. A building should never contain mold.
2. Most molds are toxic.
3. Everyone is allergic to mold.
4. There is no such thing as a good mold.
5. To kill mold, you must use expensive biocides.
6. Reducing moisture is not enough to stop active mold growth.
7. The only reason to control mold is to stop people from complaining.

For answers, turn to p. 4

References & Further Reading on Mold:

Mold Remediation in Schools and Commercial Buildings, EPA 402-K-01-001, March 2001. (This document can be accessed through the USG EH&S website at www.usg.edu/ehs/hot/)

"Adverse Human Health Effects Associated with Molds in the Indoor Environment", American College of Occupational and Environmental Medicine, October 27, 2002.

Mahoney, Daniel P. and Jerome E. Spear, "Mold Risk Assessment & Remediation". Professional Safety, August 2003, pp. 20-26.

Gots, Ronald E., Nancy J. Layton, and Suellen W. Pirages, "Indoor Health: Background Levels of Fungi", AIHA Journal, July/August 2003, pp. 427-438.

Molds in the Environment (CDC), available at www.cdc.gov/nceh/airpollution/mold/moldfacts.htm

AIHA website, www.aiha.org/SplashPages/html/topic-mold.htm

Did you know....

Molds can be white, green, black, brown, or orange.

All molds are fungi, but not all fungi are molds.

The term "toxic mold" is meaningless. Molds themselves are not toxic, but a small number of molds can produce toxic metabolic by-products called mycotoxins.

Mold Myths Debunked

- 1. False.** It is impossible to completely eliminate mold spores from indoor environments.
- 2. False.** There are a few molds that produce mycotoxins, which are secondary metabolites, but molds themselves are not toxic.
- 3. False.** An estimated ~5% of individuals have some allergy symptoms from mold over their lifetime.
- 4. False.** Penicillin, blue cheese...
- 5. False.** Visible mold growth can usually be removed from nonporous surfaces with water and detergent, or with a dilute solution of water and bleach.
- 6. False.** Moisture is the primary reason for active mold growth within a building... and the easiest factor to control.
- 7. False.** Mold also damages the building materials upon which it grows, is unsightly and can smell bad.

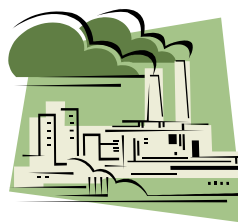
Ozone Season Ends, But Particle Pollution Goes On

Most people think of ozone and warm weather when they think of smog, but there is another type of pollution that contributes to smog year-round.

Particle pollution is pollution that is comprised of tiny particles that can be absorbed into body tissue or the bloodstream when breathed in. This type of pollution comes from a number of sources, including cars and trucks, industry, fires, and power plants. It is linked to serious health problems, including increased hospital admissions and premature death from heart and lung disease.

In February of 2004, particle

pollution in Georgia will get a lot more attention, as EPD will give the US EPA a list of those Georgia counties that do not meet the federal health standards for particle pollution.



To help educate the public about particle pollution, Georgia EPD has scheduled informational hearings to be held throughout the state in November and January. The meetings will discuss what particle pollution is,

where it comes from, how it affects human health, how it is monitored, and the steps EPD is taking to determine which areas have a particle pollution problem.

More information about these meetings and particle pollution in general can be found on EPD's website at www.dnr.state.ga.us/dnr/envIRON.

EPA also now provides daily, year-round information on particle pollution for 100 cities, including Atlanta. Forecasts, health information, and maps showing real-time particle levels are available on EPA's AIRNow website, at www.epa.gov/airnow.

Mold Sampling: What You Need to Know First

Even the best attempt at managing moisture can fail, particularly given a combination of older buildings and Georgia's high humidity environment. If a building on your campus is causing mold complaints, here's what you need to know before you commit to sampling:

Be Cautious

Many companies offer mold sampling services, but sampling is frequently unnecessary. All molds should be treated the same with regard to potential health risks, so knowing what type of mold you have is most likely not as important as removing the mold quickly. If there is visible mold growth in a building,

removing the contaminated materials and identifying the cause of the mold growth may solve the problem without the need for sampling.

When Is Mold Sampling Justified?

There are times when sampling can be helpful. This includes cases involving potential litigation, serious health concerns, or where the source of mold contamination is unclear. Sampling before and after extensive mold remediation projects is also useful for verifying the remediation has been successful.

What's the Question?

Before you sample, know what purpose the sampling should serve. Sampling can help distinguish molds from other nonfungal contaminants, such as soot. Sampling can also help identify mold species that originate inside the building, rather than being brought in from outside. This can help identify any unusual sources of contamination. Sampling can also show whether certain molds that are present in the outside environment are being amplified inside the building envelope.

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Save Time on the Web!



Did you know that the Initial GEPA Evaluation and Environmental Checklist can now be completed and printed online? Find the forms at www.usg.edu/ehs/guidelines/gepa.phtml, and spread the word!

The NIOSH Pocket Guide to Chemical Hazards is online! You can find the link at www.usg.edu/ehs/msds/.

New Leadership at EPA and EPD

On October 28, the U.S. Senate confirmed Utah Governor Mike Leavitt as the next Administrator of the EPA. Leavitt, who has a bachelor's degree in economics and business from Southern Utah University, was a member of the Utah State Board of Regents prior to his election as governor in 1992.

Georgia Governor Sonny Perdue has appointed Carol Couch as the Environmental Protection Division's (EPD) 4th director since the division was started in 1972. Ms. Couch, who is the first scientist and first woman to hold the job, has a bachelor's degree from Georgia Tech in health systems engineering, and a doctorate in ecology from the University of Georgia. She currently works for the US Geological Survey in Reston, Virginia.

New NPDES Storm Water Permits in Effect

In August, the Georgia Environmental Protection Division (EPD) issued three new storm water general NPDES permits. The objective of these new permits is to authorize the discharge of storm water runoff from certain construction activities.

EPD first issued a general storm water permit for construction activities in August 2000. This permit regulated construction activities that disturbed between 5 and 250 acres of land.

With the new permits, coverage is expanded to include construction activities that disturb **1 or more acres of land**. This brings Georgia in line with the requirements of the US EPA's federal Phase II storm water regulations, issued in December of 1999.

Each of the three new permits addresses a distinct types of construction activity (see box below.) To gain coverage under one of these permits, owners and/or operators must submit a Notice of Intent (NOI) to EPD.

Effective January 31, 2004, EPD will also collect a fee of \$80/acre for each permitted project.

For USG construction projects that require permit coverage, the General Contractor responsible for site disturbance will be expected to complete the NOI form as the "operator", to submit the required fees, and to maintain "best management practices" (BMPs) for storm water runoff as specified in the general NPDES permits.

The storm water guidance for USG projects is currently being updated to reflect the new permit requirements, and will be available online at www.usg.edu/ehs/guidelines/npdes.phtml.

The new permits are in effect until July 31, 2008.

GAR 100001—Storm Water Discharges Associated with Construction Activity for Stand-Alone Construction Projects

GAR 100002—Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Permits

GAR 100003—Storm Water Discharges Associated with Construction Activity for Common Developments

EPA News and Trends

EPA Proposes Raising Civil Penalties

EPA has proposed a rule to adjust the civil monetary penalties for inflation. This rule, if it becomes final, would increase the maximum civil penalty amount for certain violations of the Toxic Substances Control Act, Resource Conservation and Recovery Act, Clean Air Act, or Clean Water Act to \$32,500 per day, per violation. The current maximum for such penalties is \$25,000.

Columbia University Affiliate Fined

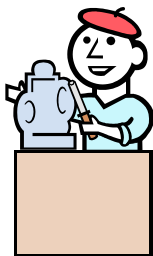
On September 29, US EPA announced it had fined an Oracle, AZ laboratory \$30,745 for hazardous waste storage violations. The Biosphere 2 Center, a nonprofit educational and research affiliate of Columbia University, was fined for storing hazardous waste without a permit and for improperly storing lead acid batteries, some of which were cracked or uncapped.

EPA Stays Focused on Homeland Security

Since September 11, 2001, EPA has made several organizational changes to increase emphasis on homeland security issues. The latest change, which occurred on September 10 of this year, involved the forming of a new Water Security Division. The creation of this Division is yet another of the steps EPA has taken to further protect and safeguard the nation's drinking water and wastewater systems from terrorist acts.

Help SHAPE This Newsletter!

Please help us keep this newsletter full of articles that are timely and relevant to the day-to-day issues on your campuses. Share your ideas, thoughts, and comments with us by sending an email to Sandra.neuse@usg.edu or by calling (404) 656-2249.



Safe Reading?

According to a recent ASSE survey, here are the top journals and periodicals used by safety professionals:



American Industrial Hygiene Association (AIHA) Journal

Compliance Magazine

Industrial Safety and Hygiene News

National Fire Protection Association (NFPA) Journal

Occupational Hazards Magazine

Occupational Health and Safety Magazine

OSHA Reporter (Bureau of National Affairs)

Professional Safety Safety and Health

Source: www.asse.org/bok_wpapers6-03.doc

Mold Sampling: What You Need to Know First *(cont. from p.4)*

Know the Limits

Mold sampling can provide you with a snapshot of the types and quantities of mold spores present in an area at a specific time. The results may not represent ongoing conditions and spore dispersal activities. The number and types of spores present in an area can change considerably in a few hours, particularly if work activities take place in the area, the weather changes, or the sun rises or sets. Molds that release spores in dry weather are more likely to be dispersed during the day, whereas molds that release spores during wet weather are more prevalent at night. High humidity, fog, dew, and rain can also cause the spore composition in an area to change.

Similarly, the sampling method that is used may emphasize particular types of molds. For example, the use of mold plates only identifies those spores that have enough mass to settle out of the air and onto the plate. Lighter spores that remain in the air may not be detected.

I've Got Mold. Now What?

Finally, you should have a plan for how to interpret and act on the sampling results *before* you have them. Molds can be detected at very low levels, but there are no uniform guidelines for acceptable levels of molds in indoor ambient air. Similarly, there is no consensus on the part of health professionals as to what level of mold may pose a threat to human health. Consequently, sampling results cannot give you a definitive answer as to

whether you are "in" or "out of compliance." Instead, you must interpret the results qualitatively, rather than quantitatively. For example, are there differences in mold diversity between the sampling results from inside the building versus outside, or between non-complaint and complaint areas? Are there a few kinds of dominant molds indoors that are not present outdoors, indicating contamination from within the building?

When done correctly, sampling can be an important tool for identifying and controlling mold problems in a building. By understanding when mold sampling is appropriate, and by beginning any sampling effort with the end in mind, you will be well on your way to conquering the mold on your campus!

Upcoming Events:



- November 15—America Recycles Day
- November 18-19—Board of Regents' Meeting, Atlanta
- November 20-22—NREP Annual Conference, Orlando, FL
- November 27—Thanksgiving
- December 25—Christmas