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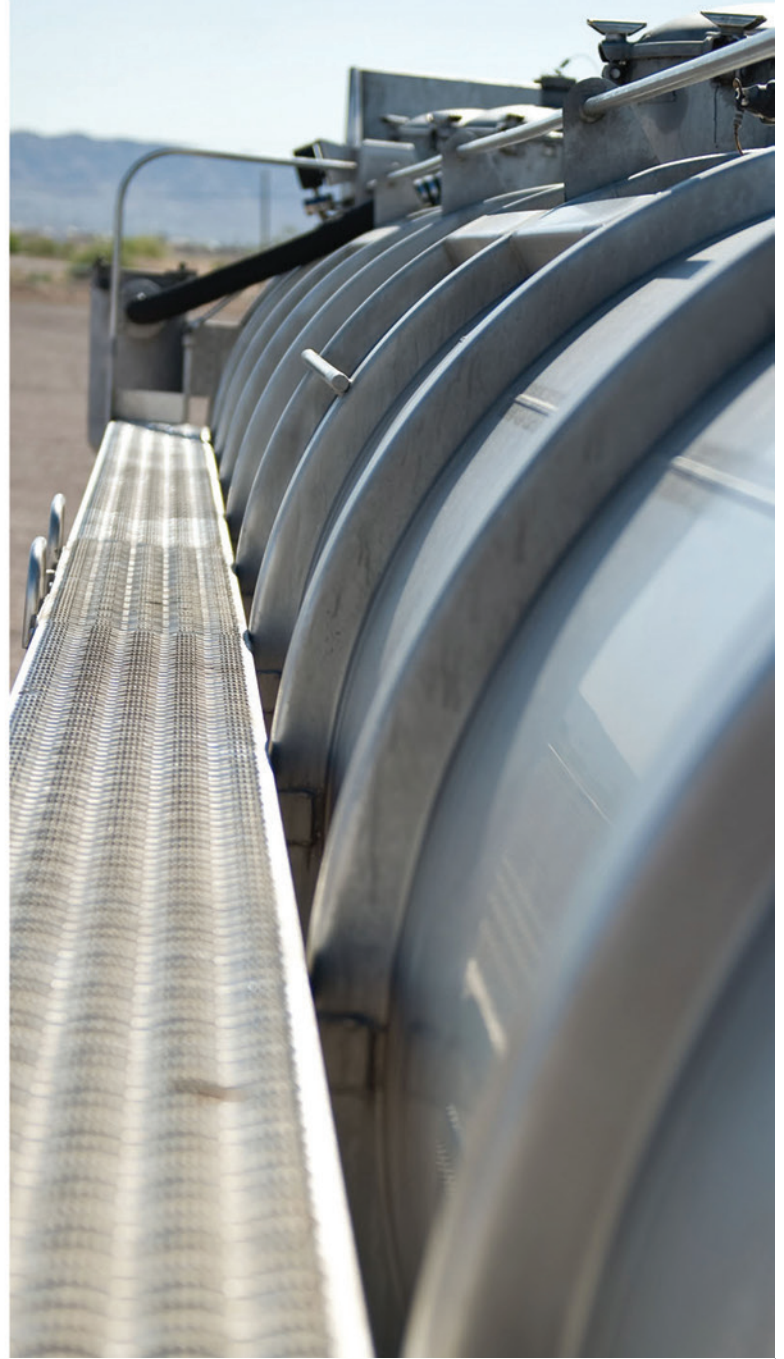
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ERGONOMICS: *IT'S PERSONAL!*

Chester Carlson worked as a patent analyzer in the late 1920's, spending long, tedious hours making multiple copies of drawings and documents by hand. He was nearsighted and his cramped posture combined with his arthritis made the work unbearable. His solution came 3 years later, when he invented the copy machine!

by Chuck Paulausky, CHMM

Ergonomics is essentially the science of fitting the work to the worker. The term comes from the Greek words "Ergo" (Work) and "Nomos" (Laws), and basically means "the laws of work."

Ergonomics, as a science, draws on many disciplines, including Biomechanics (the effects of internal/external forces on the human body), Anthropometry (body measurements), and Physiology (body functions), among others.

Some of the more familiar ergonomic concerns include Musculoskeletal Disorders (MSD's), Repetitive Motion Injuries (RMI's), and Carpal Tunnel Syndrome

(CTS), and the costs of these can be significant. U.S. employers shell out billions of dollars every year in medical costs, disability payments, and lost productivity because of workplace MSD's. Back injuries are one of the leading worker's compensation claims. Repetitive motion injuries account for hundreds of thousands of lost workdays every year.

ITEM: *Your wallet can cause sciatica! According to one report, a lawyer suffered aches and pains in his left leg, not far from where he kept a wallet that in the previous three years had been growing thick with charge cards. The patient's condition was described as "credit-carditis," but is more commonly called "back-pocket sciatica." The quick and simple remedy is referred to by doctors as a "walleectomy."*

ITEM: *Why six packs? In the 1930's, the major breweries decided that six beers were "the maximum a woman could safely carry" while grocery shopping!*

The ability to understand what ergonomics is, and how to identify some of the most common risk factors and practical solutions to use, will aid in reducing the number of ergonomic injuries.

COMMON MSD SYMPTOMS:

- Painful Joints
- Pain, tingling or numbness in hands or feet
- Shooting or stabbing pains in arms or legs
- Swelling or inflammation
- Pain in wrists, shoulders, forearms, knees
- Fingers or toes turning white
- Back and neck pain
- Stiffness or burning sensations
- Decreased range of motion and grip strength
- Inability to perform normal tasks

RISK FACTORS INCLUDE:

- Frequent manual material handling;
- Repetitive motions throughout the work shift;
- Awkward or stationary work positions;
- Unnecessary or improper lifting of heavy and awkward items;
- Using excessive force or localized pressure to perform tasks;
- Exposure to excessive vibration, extreme temperatures, and poor lighting;
- Exposures for long durations with insufficient rest periods.

SOLUTIONS TO THESE RISKS INCLUDE:

- Keep the work in the comfort zone, the area above the knees and below the shoulders.
- Keep heavy or frequently-handled materials above the knees – reaching down to lift heavy parts from the floor poses significant risk for back injuries.



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- Keep work materials and processes in line with the spine – Avoid twisting whenever possible.

- Keep materials close – Reaching for materials, or lifting them at a distance from the body increases exponentially the possibility of an injury.

- Keep the wrists in a neutral position – Bending, twisting, and skewing the wrists decreases strength and blood flow.

- Avoid holding awkward postures for extended periods – Poor postures or high forces for long periods of time are just as bad as repetition.

- Provide ergonomically-designed tools and supports that eliminate awkward hand position, weight and vibration

- Eliminate contact stress – Pressure on soft body tissue will decrease blood flow and reducing oxygen and nutrients to the muscles.

- Design the workstation for a seated or standing position, as needed. Simply adding a chair to standing workstation isn't necessarily enough. The seated position needs to be correct, ergonomically, for the work being done. The same approach works for designing a standing workstation.

- Decrease exposure to vibration – High levels of vibration can increase onset of certain musculoskeletal disorders.

- Provide ergonomic assessments for general and individual workstations.

- Provide regular training for supervisors and managers for identifying ergonomic exposures, and for the employees to implement changes and improvements, and for safe lifting.

- Don't forget Computer Workstations, which are a common source of exposure for CTS and other ergonomic conditions.

I have two final comments. (1) Ergonomics is not a one-size-fits-all approach. If you are going to provide fixes, ensure that there is enough flexibility to make adjustments for different workers. (2) Much of ergonomics is very personal. An employee's personal factors, such as age, health, lifestyle, hobbies, etc. will also have an impact. As an employer, you can put fixes in place and provide training in how to "do it right," but it can be difficult to get a worker to change lifelong habits, even if it's to the worker's best interests!

Do the best you can, and you should be able to reduce injuries and worker's compensation claims, as well as increasing productivity and providing a healthy workplace!

Stay Safe! *Chuck Paulausky, CHMM*

Chuck Paulausky, CHMM, is President of CPSE LLC, a consulting firm specializing in OSHA and EPA compliance and loss control for small to medium-sized businesses. Chuck is active with several professional and business organizations and is an AHMP Champion of Excellence Award winner. For over 22 years, Chuck has been providing safety, environmental, and worker's compensation support to companies in Arizona, Texas, California, Utah, Europe, and Asia. Chuck can be reached at: 480-694-1975, cpaulausky@cpsafety.net, www.cpsafety.net



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FROM THE EDITOR



Is attendance at industry conferences an indicator of the economic health of that particular trade sector? The apparent response seems to be yes, of course it is: attendance increases or decreases depending on the economy. As evidence, during the recent few years of "down" economy, attendance, and vendor participation, at a number of environmental management related seminars in Arizona has been somewhat lower than in past years.

The reverse, then, we could hope is also true. This spring attendance at a number of conferences has either been good, or excellent. Most recently, both SAEMS, with its 2012 SAEMS RCRA, and ASSE, Arizona Chapter, with its 4th Annual Health & Safety Summit, experienced outstanding attendance. Personally, last month at the SAEMS RCRA was the first time I ever parked in the very end section of the parking lot at the Manning House, where the event was held. I didn't even realize the parking lot extended that far back—because in previous years I was always able to park closer to the entrance.

I think this positive development sends an important message, especially to environmental service providers and consultants — if you are not at these events, you are losing out on a great opportunity to meet and network with hundreds of both current and prospective clients. You might have decided a couple years ago that participation was no longer worth your investment of time and booth rentals, however, if recent experience is an indication of what to expect at upcoming events, now is the time to get back in!

Sincerely,

Jim Thrush, M.S. Environmental Management
Editor & Publisher

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EDITORIAL Publisher & Editor: James Thrush, M.S. Env. Mgr., jimthrush@cox.net or 480-422-4430. SUBSCRIBE: chshomepage.com or 480-422-4430. RATES: FREE to qualified EH&S Professionals, others call. MAILING ADDRESS: JEMA, 3145 E. Chandler Blvd., Suite 110-641 Phoenix, AZ 85048. ADVERTISING: 480-422-4430 x42. Published 6 times/year. Copyright ©2011 by JEMA. All rights reserved. LEGAL DISCLAIMER: Information presented in JEMA originates from sources presumed to be accurate and complete. Due to the rapidly changing nature of regulations and the law and our reliance on information provided by various sources, we make no warranty or guarantee concerning the accuracy or reliability of the content of JEMA. Readers are encouraged to contact authors, agencies, and advertisers directly for verification/clarification. Content for informational purposes only, and should not be considered legal or professional advice. Consult your legal counsel or environmental consultants for advice. WARNING: Serious legal, environmental, and/or safety consequences can result from non-compliance with environmental and safety regulations and standard safety, environmental, and professional practices.

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The Journal of Environmental Management Arizona invites environmental, health and/or safety organizations in Arizona to contribute news articles about their associations. Contact the editor at 480-422-4430 x42.



WWW.AZHYDROSOC.ORG

The AHS Phoenix chapter has been hard at work planning the 2012 AHS Water Symposium: Confluences – 25 Years Bringing Water, People, and Ideas Together, September 18-21. Speakers include David Hebert, USGS, Marvin Grotfelty, Clear Creek Associates and 2012 NGWA McElhiney Lecturer, and Lee Allison, AZGS Director and State Geologist.

The call for abstracts is still open so please send us your presentation ideas. Better yet, if there's topic you'd like to see a session on please help us set it up! Abstracts will be accepted until June 30.

Sponsorship fundraising for the symposium is also in full gear. Thanks so far to Platinum Level Sponsor: Freeport McMoRan Copper & Gold, Gold level sponsor: Montgomery & Associates, Awards lunch sponsor: Central Arizona Project, Break Sponsor: Zonge International, Premium Exhibitor: US Bureau of Reclamation, Exhibitors: Aquatic Informatics, Bill Johnson Equipment, Golder Associates, Hydrogeophysics, Intermountain Environmental, & TAM International. Please join these groups in support and participation in this year's Symposium. More information on sponsorship benefits & options are available on our website at <http://azhydrosoc.org/2012Symposium/sponsors.html>. Or contact our Fundraising Chair & Society President, Mike Hulst, at 602-248-7702 ext. 318, or mhulst@ecphx.com. Thank you!



Christie O'Day
Executive Director

Arizona Chapter



American Society of Safety Engineers
AZ.ASSE.ORG

The 2011-2012 chapter year is officially in the books. I would like to thank the board for their volunteerism and commitment to the chapter. In addition, Larry Gast our newest past president, did a wonderful job, thank you Larry!

The chapter will be having a strategic planning session on July 13th at ASEC in Tempe. All members are encouraged to join us as we prepare for the 2012-2013 year.

Our theme will be, "Mentoring our Future Leaders" You can be a big part of our theme by introducing our chapter to your friends, family members, associates, students and more importantly your children. Please help us get the word out.

Enjoy the summer, drink lots of water and be safe.

Thanks!



Tim Page-Bottorff
President-Elect



WWW.VALLEYFORWARD.ORG

Two decades after Dr. Noel Brown, then the North American Director of the United Nations Environment Programme, came to Phoenix to brief us on the international accord adopted at the Earth Summit, the Rio Declaration is under fire here.

Arizona tried to pass anti-sustainability legislation

prohibiting support for any of the 27 principles adopted in the Rio Declaration. These non-binding principles include: balancing a healthy and productive life in harmony with nature, refraining from causing damage to the environment, developing equitably to meet the environmental needs of present and future generations, and cooperating in efforts to eradicate poverty.

Thankfully, SB 1507 did not pass. Phoenix is now the sixth largest city in the nation and fastest growing in the region. The green movement is mainstream and we're heeding Brown's advice of 20 years ago. Solving the world's environmental issues, he said, would require new relationships among scientists, corporate leaders, engineers, financiers, industrialists and activists worldwide.

Arizona has many collaborative milestone achievements on the environmental front: an expanding Light Rail system, a growing number of solar installations, regional planning, LEED buildings, higher education sustainability programs and more.

It's time to take politics out of the issue. We need to ensure a balance between economic prosperity and environmental quality to move Arizona forward.



Diane Brossart
President



WWW.EIA-AZ.ORG

Now that summer appears to be here to stay what a better time to head for the cool air in northern Arizona. The EIA will be hosting its free asbestos awareness seminar in Show Low on July 20th, Prescott on September 14th, and in Tucson on October 11th. The plans for the EIA Regional Environmental Conference to be held in Phoenix October 4-5, 2012 are coming together. We have a great program planned that will interest anyone who is involved or has interest in environmental issues. The conference will be at the Arizona Golf Resort located at 425 South Power Road, Mesa, Arizona. Please visit our website for additional information regarding these seminars.

Please visit our web site at <http://www.eia-az.org> or contract the organization's president Mr. Joe Palermo at palermo@ihi-env.com for information on all upcoming events sponsored by EIA-AZ and for membership and sponsorship opportunities.



Vicky Aviles
Past President



WWW.SAEMS.ORG

The SAEMS RCRA seminar on May 10th was a success, providing significant funds for the scholarship program. (See article with photos page 14). The participant evaluations showed high ratings for the speakers and their presentations, with University of Arizona continuing education units available to attendees.

The annual P2 Seminar, scheduled for September 26 at the Manning House in Tucson, also provides funds for the scholarship program. Our scholarship committee has received applications and selected the winners for the 2012-2013 school year. SAEMS members and family participated in Adopt-A-Highway cleanups in February and April. The 2012 Tucson Earth Day Festival at ReidPark was held on April 20. Half of the festival committee was comprised of SAEMS members. Ballots for election of the 2012 – 2013 Executive Committee have been emailed to SAEMS members. Monthly luncheons are held on the last Wednesday of each month with the exception of our annual meeting which was held on June 20th.

Please visit our website at www.saems.org/.

Heather Shoemaker
President



SOUTHERN ARIZONA
AMERICAN SOCIETY
OF SAFETY ENGINEERS

We had a great end of the year banquet at the miniature Time Museum. Ron McKinnon was our guest speaker. He came all the way from South Africa to speak with us on changing the paradigms that we are stuck in within our safety culture. We also honored Gerry Coley as our Safety Professional of the year. Raytheon was awarded the Community Safety award. It was a great night at the Miniature Museum.

The annual banquet was also the transition to the new board members for the next two years. Janet Gallup will step up to the past President and current Regional Vice President for Region II as Shari D'peso comes into being President of the Southern Chapter. Taking Shari's place as Vice President is Randy Rogers, and taking my place, as Secretary will be John Roads.

Our next meeting will be a Southern Arizona Safety Council meeting in August. More information will be closer to that date. We look forward to seeing you in the fall!



Alexis Westin
Secretary



WWW.EPAZ.ORG

Our June 14 meeting featured a very enlightening presentation by my colleagues Mitch and Maribeth Klein (no, they are not related!) titled "Arizona's New Environmental Audit Privilege Are You Really Protected?"

June's EPAZ mixer will be hosted by yours truly at the new Blue Hound Kitchen and Cocktails at downtown's CityScape.

July's meeting will be our last for the summer, and we will see you in September! Check the website for the full calendar: <http://www.epaz.org/epazportal/>.



Mike Ford
President



WWW.AZCHAMBER.COM

The Arizona Chamber of Commerce and Industry and the Arizona Manufacturer's Council is pleased to announce the 20th annual Environmental and Sustainability Summit will be held on August 16th and 17th, 2012 at the Prescott Resort and Conference Center, in Prescott, Arizona.

This event will consist of a golf tournament and an evening reception on August 16th, and a full day of presentations and speakers on August 17th.

Those interested in attending, sponsoring or presenting should contact me, Jeff Homer, at jeff.homer@gdc4s (480-441-6672). More information is available on our website at www.azchamber.com.

Jeff Homer
Chairman
Environment
Committee



WWW.AZAEP.ORG

The Arizona Association of Environmental Professionals (AZAEP) invites professionals, students and anyone interested in environmental management to our monthly dinner meetings. On June 26, 2012 AZAEP and Air & Waste Management – Grand Canyon Chapter are holding a joint meeting; ColleenMcKaughan, EPA Region 9 Assistant Director, Air Division, will provide an update on EPA's permitting for the Navajo Generating Station. The meeting will be held at Grimaldi's in Scottsdale.

On July 31, 2012 the monthly meeting will be in Tucson. Julie Fonseca, Environmental Planning Manager for Pima County, will discuss the upcoming Fish & Wildlife new Multi-Species Conservation Plan.

AZAEP meetings are held the fourth Tuesday of the month and the meeting fee (member \$15; non-member \$20) covers the cost of dinner. Please go to our website, www.AZAEP.org, and click the button on the left column to be added to the mailing list for announcements about AZAEP meetings, tours, and events and to register for the monthly dinner meetings.

AZAEP also sponsors NAEP webinars with nationally-recognized trainers and experts. For more information on these excellent professional development opportunities, go to our website, sign up for the AZAEP distribution list or come to a monthly meeting. On June 20th the webinar will provide a NEPA Legal and Policy Update.

Congratulations to our newly elected board officers: Ali Fakhri, President; Pat Mariella, Vice President and Dorothy Hallock, Treasurer!

Patricia
Mariella
Vice President



**AHMP
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WWW.THUNDERBIRDCCHMM.ORG

What could be better than September ... in Alaska!

Join the Academy of Hazardous Materials Professionals for the AHMP 2012 National Conference in Anchorage, Sept. 9 – 13.

Featured speakers this year are Martin Buser, finisher of 28 Iditarods and winner of 4; Bill Bronrott, Deputy Administrator of the Federal Motor Carrier Safety Administration; Timothy Butters, Deputy Administrator of PHMSA; and other regulatory, industry and academic leaders. The agenda features several facility tours, including the City of Whittier and the Whittier Tunnel – the longest joint rail-highway facility in North America and portal to 35% of Alaska's freight. The technical agenda this year features many topics from environmental, health and safety disciplines. Go to www.achmm.org for information.

Back at home, the Thunderbird Chapter is planning an EH & S Overview Course (working title) similar to our other popular installments over the years. Time will be late summer or fall and the place is to be determined. Send us an email if you need any information regarding the A H M P , Thunderbird Chapter or the course : jeff.page@phoenix.gov or rwoods@ninyoandmoore.com.

Jeff Page
CHMM
Board Member



WWW.AWMA-GCS.COM

AWMA Grand Canyon Chapter and AZAEP held a joint meeting on June 26th. Scheduled speaker: Ms. Colleen McKaughan, EPA Region 9, Assistant Director, Air Division. Ms. McKaughan spoke about permitting for the Navajo Generating Station, and discussed the complex air quality and water supply issues involved in EPA's decision-making and provide an update on the status of visibility and other permits.

Bill Jamieson
Chair



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The Alliance was pleased recently to welcome its newest member, Honeywell Aerospace! To achieve membership, Honeywell Aerospace demonstrated that it is committed to the Alliance Environmental Principles and takes its responsibility for the environment seriously. Representing Honeywell Aerospace were (see photo) Scott Haczynski (left) and Greg Bopp (right), with myself, Dan Casiraro, at photo center.



Alliance members recently participated in an Alliance Technical Facility Tour, held last month at the PING facility in north Phoenix., with Matt Conway and Rob Barnett as our hosts. These technical tours help facilitate information sharing and mentorship among Alliance members and invited guests. Non-members may request an invitation to participate — please contact our office if you would like more information, at 480-422-7392.

Have a great summer!
Dan Casiraro
Chair



READ THE ASSOCIATION PAGES

to learn what's going on in Arizona's environmental management community!

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Nicholas R. Hild, PhD.

GREEN LABELING OR GREEN-WASHING: HOW DO YOU KNOW?

It is amazing how far we have come when it comes to green labeling products and services. Everywhere you look today, you see products from 'grass fed shampoo' to 'organic engine oil,' and 'no-VOC-containing pesticides' labeled with some kind of organization's 'green label.' But, one thing that isn't so obvious is, not every green-labeling organization is forthcoming with the criteria they use to green-label a product or service, so it is really difficult for consumers to know what they are looking at when they see a product that has some kind of 'certified-green' tag attached.

Thus, it is worth taking a look at a few of the more publicized labels, just to get a sense of how far we've come in such a short time—or, better yet, what does each product or service have to do to have that green label awarded?

Today, there are as many as a hundred green-labeling-certifying organizations around the globe—most self-anointed (appointed) with qualifications ranging from third-party reviewers who, themselves, have real green qualifications or credentials, to *no*-reviewers (or *no* transparency at all) — but, it might be important to the *legitimate* green-labeling organizations out there, to be familiar with what the public is bombarded with— how are consumers to know which one's are legitimate and which are just labeling their products green to make a buck?

So, here is a short-list of green labeling organizations (at right, top of column). And, just to see what you, (the *eminently* qualified and environmentally-savvy professionals that you are), really know about these organizations and the products/services they focus on—see if you know from the first list below, what those 'services' are in the second column

with the (?) marks. And, just as important, *who* are the organizations that are doing the labeling?

Now, skip over to the second list (see next page, at bottom) and see how you scored. Based on a random trial test (hey, I gave this test to three colleagues over dinner at a green-labeled restaurant after all), it is likely that you won't have a higher score than 50% to 60%—but, read on:

ORGANIZATION	ORGANIZATION/ PRODUCTS/ SERVICES
LEED	?
Good Housekeeping Green Seal	?
Aquaculture Stewardship Council	?
EPA Lead-Safe Certified	?
Fair Trade Certified	?
Compostable	?
Rainforest Alliance	?
Green Star Certified	?
Leaping Bunny	?
USDA Bio-Based	?
Food Alliance Certified	?
Green Seal	?
Certified Carbon Neutral	?
Energy Star	?
Burn Wise	?
Better Cotton Initiative	?
Friends of the Sea	?
USDA Certified Grass-Fed	?
Certified Naturally Grown	?
Green Roads	?

The second list gives a brief description of each of the organization's green label criteria but it is left up to you to determine who the organization is that puts its label on those goods and services—this is where we need to be proactive and publicize the good organizations for the benefit of separating the scammers who are green-washing their products just to make a buck. You get the point: *only* environmental professionals will care enough to find out who these organizations are, behind these labels. And, more importantly, only you will be able to learn what the qualifications of the people within those organizations are for them to be making the label a legitimate 'green' product or service.

Think about it: consumers and industries are deluged with 'green-labeled' products and services every day and it is *our* responsibility to inform them about what they are buying—to do anything less will surely negatively impact our children's, children's, children.

Nicholas R. Hild, PhD., Professor and Associate Chair, Department of Applied Sciences and Mathematics, Environmental Technology Management program, Arizona State University College of Technology and Innovation, has extensive experience in Environmental Management in the southwestern U.S. Dr. Hild can be reached at 480-727-1309 and by email at DrNick@asu.edu.

Jason Bolen

Cell 602.739.0083
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LEED	Buildings that are built with eco-friendly materials, save water & electricity, don't unnecessarily impact the site, & have a high-quality indoor environment (yes, we know <u>who</u> this organization is...)
Good Housekeeping <u>Green</u> Seal	Consumer products that meet the <u>magazine's</u> (who? A magazine??) standard for quality and environmental responsibility
Aquaculture Stewardship Council	The industry standard for identifying seafood raised with sustainable and environmentally sound practices (<u>who</u> is this organization & what are its qualifications?)
EPA Lead-Safe Certified	Renovation and repair firms using methods and products that minimize exposure to the toxic lead metal
Fair Trade Certified	Imported foods that meet international environmental, labor and development standards (who <u>is</u> this organization & what are its qualifications?)
Compostable	Plastic products that biodegrade quickly and completely to harmless byproducts (who is this organization & what are its qualifications?)
USDA Organic	Foods produced without using synthetic fertilizers, sewage sludge, irradiation or genetic engineering
Rainforest Alliance	Products made by methods that do not add to global deforestation and environmental destruction (who <u>is</u> this organization & what are its qualifications?)
Green Star Certified	Products and services from companies dedicated to waste reduction, energy conservation, recycling and pollution prevention (who is this organization & what are its qualifications?)
Leaping Bunny	Cosmetics, toiletries and household cleaners that have been developed with no new animal testing (who is this organization & what are its qualifications?)
USDA Bio-Based	Products with a preset amount of renewable agricultural, forestry or marine materials
Food Alliance Certified	Foods from farms dedicated to sustainable farming practices (who <u>is</u> this organization?)
Green Seal	Minimal-impact products and services from renewable sources (who <u>is</u> this organization & what are its qualifications?)
Certified Carbon Neutral	Businesses fund projects that reduce the same amount of emissions they produce, neutralizing their carbon (note: there are <u>several</u> organizations 'certifying' carbon credits, including commodities listings)
Energy Star	EPA/DOE energy-certified products and and/or companies that reduce energy use
Burn Wise	EPA certifies wood-burning appliances that emit the cleanest and least amount of smoke indoors and out (who is this organization and what are its qualifications?)
Better Cotton Initiative	Fabric from growers who follow low pesticide and economically viable cotton farming practices (Note: water-use not included; who <u>is</u> this organization & what are its qualifications?)
Friends of the Sea	Seafood fished from stable populations using methods that don't impact the seabed (who <u>is</u> this organization & what are its qualifications?)
USDA Certified Grass-Fed	Meat from ruminant animals raised on a diet of 100% grass and forage
Certified Naturally Grown	Foods from small organic farms that follow USDA Organic standards but don't have the budget to apply for official status
Green Roads	Construction and building of roads and streets using practices and products that are recycled and/or less water-intensive and/or reduce carbon emissions (who <u>is</u> this organization & what are its qualifications?)

NEWS BRIEFS

ASU RESEARCH TEAM LAUNCHES ONLINE TRAINING COURSE FOR IMPROVING CAMPUS EMERGENCY RESPONSE

❖ In a recent announcement, a new online training course developed by researchers at ASU's College of Technology and Innovation (CTI) will improve the way colleges and universities across the country respond to emergency situations.

The Campus Public Emergency Communications (CPEC) project, funded by a \$1.4 million grant from the Federal Emergency Management Agency (FEMA), identified the best practices related to campus public emergency communications and developed a series of three full-length National Incident Management System (NIMS)-compliant online courses. The courses offer multimedia emergency communications training materials for campus administrators, campus communications experts, campus emergency management personnel and first responders with jurisdiction over campus safety during emergencies or disasters.

"Communication is a critical link in the chain of systems and protocols designed to protect students and the public on college campuses," said Al Brown, principal investigator for the project and director of Environmental Research Initiatives at CTI. "Our goal was to integrate best practices into a series of web-based communication training courses that would be easily available for campus emergency response communicators around the country."

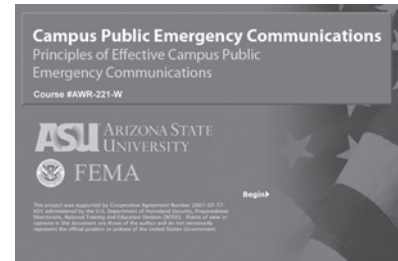
The first of the three online courses launched this month, *Principles of Effective Campus Public Emergency Communications*, provides an overview of the challenges unique to college and university campuses and a review of fundamental emergency communication concepts for practitioners and managers.

The second course, *Campus Emergency Communications: Individual and Organizational Perspectives*, will cover specific needs of those involved in emergency communications. The final course, *Emergency Communications: Best Practices and Emerging Trends*, will provide a description and assessment of the strengths and weaknesses of various

emergency communications systems and protocols that can be used before, during and after emergencies.

"The multimedia training modules offered through CPEC are more comprehensive and streamlined than previous materials used to train public emergency communicators," said Brown. "The new CPEC training materials will assist campuses with the assessment and improvement of their existing emergency communication systems."

The Campus Public Emergency Communications courses are listed in the FEMA and state Emergency Management Training catalogs and are available online at <http://cpec.technology.asu.edu/>. The first course is now available for any person to take, free of charge, by going to this website.



TURNER LABORATORIES SECURES GSA AWARD, PLANS EXPANSION TO SERVICE FEDERAL AGENCIES

❖ GSA South Carolina recently announced that Turner Laboratories Inc. (Turner Labs) has been awarded a GSA Schedule 66 contract and is now certified to provide goods & services directly to the Federal government. Acknowledging the growth in federal spending through the General Services Administration (GSA), Turner Labs will place their full-service environmental testing laboratory services on the government's electronic ordering system, GSA Advantage!®.

Turner Laboratories serves a diverse client base comprised of individuals, small businesses, large engineering firms, industry, and state and federal agencies. According to Nancy Turner, President at Turner Laboratories Inc., the company is "committed to providing clients with the highest quality of analytical services by balancing response and timely turnaround with reliable and accurate analysis."

"For environmental testing services, this schedule award will provide us with increased opportunities to service government accounts and open up significantly more markets throughout the country," stated Nancy Turner, President at Turner Laboratories Inc.. She continues, "The professional team at GSA South Carolina handled every step of the GSA documentation and were very effective at coaching and leading our company through all phases of the GSA application process, including the negotiations with government buyers; we are very pleased with the positive result."

"As the leader in GSA application document processing, we've assembled a comprehensive service-offering to businesses including advanced marketing tools that deliver unique opportunities within government procurement," explains John Warren, SBDM at GSA South Carolina, which managed the tender process on behalf of Turner Labs. Mr. Warren adds, "We are committed to assisting businesses with effective solutions that provide a competitive edge in gaining access to government spending."

About Turner Laboratories Inc.: A Woman Owned Small Business, Turner Laboratories Inc. is an advanced, full-service environmental testing laboratory with over 28 years of



Larry Olson, PhD.

IT'S ALL ABOUT CHEMISTRY

TILTING AT WINDMILLS

My daughter teaches at the University of Redlands, about 50 miles east of downtown Los Angeles, and so we make the trip from Phoenix along I-10 quite frequently. I've always wondered about the wind turbines as we pass through the San Geronio Pass just west of Palm Springs and this column gave me a good excuse to dig into it a bit.

The geographic feature that makes this area rather unique is that it is one of the few passes through the mountains that ring Los Angeles and separates it from the desert to the east. You may not realize it while driving through, but mountains rise to almost 9000 feet on either side of the highway. The cool and dense marine air flowing inland from the ocean gets pulled through this narrow pass as the warmer air in the desert valley rises, making it one of the best sites for a commercial wind energy farm, which needs an average wind speed of at least 13 mph. Better yet, the prime wind season is March through September which matches the peak electrical demand.

The turbines have been present since 1982 and San Geronio is currently the 6th largest wind farm in the U.S. The largest is the Alta Wind Energy Center in Tehachapi Pass southeast of Bakersfield with an installed capacity of 1020 MW. The total U.S. installed capacity is now 48,611 MW through the first quarter of 2012, according to the American Wind Energy Association. For comparison, each of the three reactors at Palo Verde Nuclear Generating Station is rated as 1335 MW and the Four Corners plant is 2030 MW.

In 2004, wind energy produced 1.5% of California's electrical output, but in 2011 that grew to 5%. That sounds good, but it isn't nearly enough if California

is to meet its ambitious Renewable Energy Portfolio Standard (RPS), which sets a goal of 33% of total procurement from eligible renewable energy resources by 2020.

Across the U.S., wind power was estimated to produce 3.6% of all electric power in 2012. But Denmark produces 19% of its electricity with wind and Spain (11%) and Germany (7%) have also made significant investments. Nevertheless, the U.S. power capacity represents more than 20% of the world's installed wind power and in the past 5 years, more than 35% of all new generating capacity in the U.S. has been wind. The Department of Energy envisions wind generating 20% of all electric power by 2030.

But the wind energy industry received almost \$5 billion in federal subsidies. And that's the rub. Critics of wind power claim that it is only the tax credits and other subsidies propping up the industry. The 2.2 cents/kilowatt-hour federal tax credit for electricity produced by wind turbines, biomass, geothermal, or landfill gas plants is set to expire on December 31, 2012. Mitt Romney, who has not officially taken a position on renewing this credit, in general has been dismissive of government subsidies for renewable energy sources, and the future of such subsidies is very much up in the air.

According to the EIA, the total cost of wind energy without federal tax and other financial incentives is about 9.7 cents/kilowatt-hour. But they also estimate the total cost of conventional coal without federal incentives is 9.4 cents/kilowatt-hour (http://www.eia.gov/oiaf/aeo/electricity_generation.html). The oil and gas industry has long enjoyed federal incentives as a way to stimulate domestic production. Of course, hydroelectric power is based on government built dams. The point is, all forms of energy production have been subsidized in one way or another.

The biggest advantage of wind electricity is that the cost of the fuel is zero and the supply is not diminishing or under foreign control. The technology is rapidly evolving and driving costs down. For example, larger turbines can generate more power, especially at lower wind speeds. Montana estimates its Judith Gap wind facility can generate electricity at a very competitive 4.7 cents/kilowatt-hour.

Wind has its challenges too. These include improving our understanding of the fluid dynamics around ever larger turbine blades and flow characteristics in massive wind farms, developing new, lighter and cheaper materials to construct these massive machines, understanding and then reducing turbine noise, and finding ways to reduce threats to birds.

Given our recent history of nuclear power with Fukushima Daiichi in Japan, coal with the Big Branch mine explosion, oil with the Deepwater Horizon blowout, and the still evolving questions about natural gas and fracking, the idea of expecting any form of energy production to be without technological problems or environmental threats is not realistic. It is a steep price for our energy driven way of life.

Larry Olson, PhD., Associate Professor, Arizona State University Environmental Technology Management Program. Dr. Olson holds a Ph.D. in Chemistry from the University of Pennsylvania, and is an environmental chemist with interests in remediation technologies and international environmental management. He can be reached at 480-727-1499, or by email at Larry.Olson@asu.edu

NEWS BRIEFS

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About GSA South Carolina: GSA South Carolina, a division of Federal Verification Co., Inc., is a premier GSA advisory & solutions firm. With over 800 schedules awarded to date, GSA South Carolina leverages its industry-leading experience and in-house staff of specialists to deliver professional government marketing services to businesses nationally. Visit www.gsasouthcarolina.com for more information.

MINERAL PARK, INC. AGREES TO \$1.3 MILLION PENALTY IN CONSENT JUDGMENT

❖ The Arizona Department of Environmental Quality and Arizona Attorney General's Office announced recently that Mineral Park, Inc. (MPI), a subsidiary of Mercator Minerals of Canada, has agreed to a \$1.3 million penalty in a consent judgment to resolve numerous air quality violations that occurred in Mohave County beginning in 2007.

After complaints of excessive dust in April 2009, ADEQ inspectors found that MPI was operating a large copper and molybdenum mine northwest of Kingman without the required permits. ADEQ inspectors observed several pieces of industrial mining equipment in operation, including copper and molybdenum mills, crushing systems, and ore conveyor transport systems.

ADEQ's investigation determined that MPI began construction of the facility about April 2007. Because of the mine's remote location, ADEQ only became aware of MPI's activities after the dust complaints were received.

ADEQ issued a Notice of Violation (NOV) to MPI in July 2009 for constructing and operating the facility without a permit. After requesting and receiving additional information from MPI, ADEQ determined that the violation was more severe and in March 2010, issued a superseding NOV citing the facility for beginning construction and operating a new major source without a permit.

During the course of its investigation, ADEQ also discovered record-keeping violations, violations of hours of operation limitations, malfunctioning pollution controls, and excessive daily use of explosive materials. MPI ultimately remedied the air quality violations, including obtaining an air quality permit, and returned to compliance in July 2011.

"Mineral Park Inc. constructed and operated a mine that can be a major source of air pollution if it doesn't comply with the right permit. These are serious violations," ADEQ Director Henry Darwin said.

"Mining companies need to rigorously comply with state standards to protect the environment and health of our citizens," Attorney General Tom Horne said. "That obviously was not done in this case."

According to its website, Mineral Park Mine is one of the largest milling operations of copper and molybdenum in North America with an estimated production life of 23 years. MPI also operates a solvent extraction/electro-winning system for copper

extraction at the Mineral Park Mine site.

The consent judgment is subject to court approval.

MISSION LINEN SUPPLY AGREES TO \$45,000 SETTLEMENT FOR NOT HAVING AN AIR QUALITY PERMIT FOR ITS FACILITY IN FLAGSTAFF

❖ The Arizona Department of Environmental Quality (ADEQ) and Arizona Attorney General's Office announced recently that Mission Linen Supply of Santa Barbara, Calif., has agreed to a \$45,000 settlement for not having an air quality permit for its facility in Flagstaff.

ADEQ inspected the Mission Linen Supply plant in January 2011 and inspectors found that the facility was operating a variety of equipment -- including an industrial boiler, three commercial dryer units and a steam finisher -- without a permit.

A notice of violation was issued by ADEQ to Mission Linen Supply in March 2011 for operating the facility without an air quality permit. Mission Linen Supply promptly submitted a permit application to ADEQ and returned to compliance in May 2011.

"Companies need to do the proper review of their operations to insure that they are in compliance with environmental laws," ADEQ Director Henry Darwin said. "But Mission Linen Supply came into compliance promptly after the violation was identified."

"Arizona companies must comply with the requirements that protect our air quality," said Arizona Attorney General Tom Horne. "This settlement is a reasonable resolution for a company that operated improperly."

Mission Linen Supply provides products, services, and supplies to medical and commercial facilities. The company has 52 facilities in Arizona, California, New Mexico, Texas and Oregon.

The consent judgment is subject to Maricopa County Superior Court approval.

COMPLETION OF CONTAMINATION CLEANUP ORDERED

❖ The Arizona Department of Environmental Quality and Arizona Attorney General's Office announced recently that Felton E. and Luwalia M. King of Phoenix have been ordered to complete the cleanup of contamination at the central Phoenix metal plating business they previously owned at 611 S. 15th Ave.

For several years, ADEQ made numerous attempts to work with the Kings to ensure that dangerous hazardous wastes were properly managed at the Kings' business, which specialized in various types of plating.

In November 2008, ADEQ's hazardous waste inspectors found that dangerous heavy metals like chromium and cadmium and corrosive and acidic hazardous wastes, including cyanide, were being illegally stored on the property, leading to releases in the soil. In early 2009, Felton King Co. abandoned the property, leaving large quantities of hazardous waste behind.

Given the imminent threat to the surrounding community, ADEQ worked with EPA in June 2009 to remove the hazardous waste from the site and to clean up the most contaminated soil. Additional remediation is required, however, to prevent the hazardous waste remaining in the soil from migrating into the groundwater or off site where it could pose renewed risk to the community.

To address the remaining contamination, ADEQ officials filed suit in Maricopa County Superior Court against the Kings in June 2011. On March 29, 2012, the court ordered Felton King Co. and the Kings to complete the cleanup or to place \$250,000 in a cleanup fund.

"We attempted unsuccessfully to work with Felton King Co. and Mr. King for many years to clean up this very dangerous site, which was near numerous homes," said ADEQ



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NEWS BRIEFS

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Director Henry Darwin. "However, the company's lack of cooperation forced us to seek this remedy."

"Any company handling hazardous waste needs to rigorously comply with state standards to protect the health of our citizens and our environment," Attorney General Tom Horne said.

EPA DECLARES PORTION OF WESTERN PINAL COUNTY TO BE IN NONATTAINMENT FOR 1987 PM 10 COARSE PARTICULATE MATTER STANDARD

❖ The U.S. EPA recently announced it has declared a portion of western Pinal County, Ariz. to be in nonattainment for the 1987 federal PM10 coarse particulate matter standard.

Today's redesignation is based on EPA's October 2010 proposal and recent air quality monitoring data for PM10. Based on comments in response to the 2010 proposal, EPA reduced the size of the nonattainment area, relative to its proposed nonattainment area, by about 36 percent.

Monitoring results showed widespread, frequent, and in some instances, severe, violations over the last decade. In fact, western Pinal County PM10 levels are among the worst in the country.

EPA sets national protective standards for pollutants such as particulate matter that threaten public health. Where air quality exceeds a health-based standard, the Clean Air Act requires the area to be designated as a nonattainment area for that pollutant.

Particulate matter is a serious threat to human health. Major concerns include effects on breathing and respiratory systems, damage to lung tissue and premature death. The elderly, children, and people with chronic lung disease or asthma are especially vulnerable.

The Clean Air Act requires the state to submit a plan containing measures that will reduce airborne particulate matter until the area meets the federal air quality standard. The plan is due within 18 months. EPA is working closely with the Arizona Department of Environmental Quality on the plan and expects a submission soon.

The primary causes of dust pollution in the Pinal County area are from roads, agriculture, feedlots, construction and industrial processes.

Particulate matter is the term for solid or liquid particles found in the air. Some particles are large or dark enough to be seen as soot or

smoke. Others are so small they can be detected only with an electron microscope. In 1987, EPA replaced the earlier air quality standard with a PM10 standard. The new standard focused on smaller particles that are likely responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract and includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair).



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2012 SAEMS RCRA

The Southern Arizona Environmental Management Society (SAEMS) presented its annual one-day RCRA Seminar on May 10th at the Manning House in Tucson, Arizona. The annual event includes speakers regulatory updates, vendor booths, and an opportunity for attendees to network with suppliers, service providers, consultants, and other environmental



professionals. The attendance count this year was an outstanding 167, with 160 registered attendees and 7 lunch guests.

The seminar theme was, "25 Years of Putting out Fires". This year SAEMS was also celebrating its 25-year anniversary with an after-lunch tribute to its founding members, complete with an anniversary cake (see photo, above, at right). For more information or to contact SAEMS, visit its website at www.saems.org.



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