THE NON BOLER ISER SEE OF THE SEE ABORNUL MELCUMES OURNAL OF Environmente Managemen **ARIZONA**

actical and Current information for Environmental, Heal th and Safety Professional s

MANAGING YOUR COSTS CHUCK PAULAUSKY, CHMM pg 8

ALSO INSIDE: NEWSBRIEFS. **ASSOCIATION PAGES**, COLUMNS, & MORE !

LEED EB: ADD VALUE TO YOUR BUILDING

DURING TOUGH ECONOMIC TIMES JENNIFER L. AISTON pg 16

EPA PESTICIDE EXEMPT RULE OVERTURNED

PROSPECTING:

"NO-BID" HAS NEVER BEEN MORE TOUGH! JOE C. HOLMES pg 22

CAP AND TRAD PERMITS TO POLLUTE

NICHOLAS R. HILD, PHD pg 13

CARBON CAPTURE AND STORAGE LARRY OLSON, PHD pg 13

> **DIA** piepuete



"Introduction to Environmental, Health & Safety Regulations & Compliance"

Presented by: Thunderbird Chapter – AHMP Dates: November 9 - 12, 2009

Location: Tempe, Arizona

This 4-day course is offered in 2 sections for an intensive review of environmental laws, regulations and health and safety principles for Environmental and Safety professionals with responsibility for Hazardous Materials Management. The *"Introduction to EHS Regulations & Compliance"* course is valuable to EH&S professionals to satisfy training requirements, enhance competence, and obtain information regarding the rules and regulations on a wide variety of topics. Course instructors typically include practicing EH&S professionals who have been selected from business, industry, academia, and government agencies.

"Introduction to EHS Regulations & Compliance" topics are offered as two 2-day sections, and you can register for one or both sections:

 Days 1 & 2 - EHS Basics Environmental Laws and Regulations Chemical and Physical Properties of Hazardous Materials Resource Recovery and Conservation Act (RCRA) Clean Air Act (CAA) OSHA Requirements for Hazardous Materials Managers Waste Minimization and Pollution Prevention Hazardous Materials/Hazardous Waste Transportation Clean Water Act (CWA) Storm Water Discharge Regulations and Oil Pollution Prevention Act Industrial Hygiene Emergency Planning and Community Right- to-Know Act (EPCRA) Safe Drinking Water Act (SDWA) 	 Days 3 & 4 – Special Topics Environmental Assessments National Environmental Policy Act (NEPA) Groundwater Contamination and Hydrology Toxicological Principles Sampling and Laboratory Analysis of Hazardous Materials Radiation Principles and Mixed Waste Management RCRA Corrective Action and Treatment Technology Selection Guidelines Toxic Substances Control Act (TSCA) Underground Storage Tank (UST) Management Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) HAZWOPER and Emergency Response Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Management Systems and Tools
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Are you considering CHMM Certification?

The **CHMM** is one of the most widely-recognized certifications in the industry. Environmental programs are vital to public health and safety. The management of hazardous materials requires proven skill and competence. Professional certification has proven to be an excellent vehicle for establishing high standards in technical professions, and is more valuable than ever for programs managing issues of national importance. Both sections of this course, taken together, should cover many of the topics you can expect to find on the CHMM certification exam.

The registration deadline for *"Introduction to EHS Regulations & Compliance"* is October 9, 2008 For details, applications, and course fees: <u>www.thunderbirdchmm.org</u>, or contact Chuck Paulausky@480-694-1975 or <u>cpaulausky@cpsafety.net</u> Note: Registration for this course is separate from the IHMM exam application process. Phone: 520-745-4523 Fax: 520-790-9926

P.O. Box 19149 Tucson, AZ 85731-9149

Locally owned and operated for over 20 years We pay top \$\$ for used oil Fleet of trucks, including vacuum tanker service Transformer oil & mineral oil recycling service Spent antifreeze and oil filter recycling service Wastewater recycling service Tank cleaning service 24-hour emergency response Multi-state service Fully insured

Arizona Waste Oil Service Inc.



PSC provides nationwide industrial services, environmental services, transportation and container services, delivered by thousands of skilled and committed professionals throughout North America.

www.PSCNow.com



PSC is the single source for industrial cleaning services:

- Hazardous Waste Disposal
- Labpack
- Household Hazardous Waste Services
- Soil Excavation/Remediation/ Decontamination
- Vacuum Tankers
- Roll-off and Vacuum Bins
- Super Suckers and Jet Rodders

What does PSC stand for?

People, Service and Commitment. As the industry leader, we don't just promise these qualities. We live them every day.

PEOPLE. PERFORMANCE. PRIDE. PROMISE. THIS IS PSC NOW.

PSC 2003 W. McDowell Phoenix, AZ 85009 602.252.1186



Designed to Blend; Built to Last

The world over, ARCADIS is known for designing sustainable solutions that harmonize infrastructure with environment to provide life's necessities.

Now and into the future.

As a partner, we are committed to generating sustainable, environmentally responsible solutions that improve the quality of life for everyone. As an industry leader, we balance needs with nature; providing total facility management services that protect and enhance the human habitat today...and tomorrow.



www.arcadis-us.com

Scottsdale, Arizona: 480.905.9311 Phoenix, Arizona: 602.438.0883



Pollution Prevention Seminar 2009 SUSTAINABILITY TOOLKIT

Manning House - Tucson

This seminar is designed to show you ways to use pollution prevention methods to maximize resource productivity, improve corporate citizenship, save money and reduce your regulatory burden. Maximum resource productivity is an essential component to creating competitive advantage in today's local and global markets. You will learn basic and advanced elements of an effective pollution prevention program and ways to reduce your company's environmental footprint through sustainable programs. Please join us for this informative event.

Speakers and Sponsors are Welcome!

To be a speaker please contact: Pamela Beilke at (520) 720-2114 To be a sponsor or for information contact: Heather Shoemaker at (520) 770-1789 or Syndee Wundrock at (520) 694-7475



7 Terminals throughout the Western states

More than remediation.

Asbestos, Lead and Mold Assessments Property Condition Assessments LEED[™] Services Industrial Hygiene Services Geotechnical Engineering Construction Materials Testing

PHONE: 480-894-2056



www.atcassociates.com

MP ENVIRONMENTAL SERVICES, INC. Years of Environmental Excellence

> Hazardous/Non-Hazardous Transportation Environmental Remediation Services Waste Management Emergency Response Services - 24 Hrs



3045 South 51st Avenue, Phoenix, AZ 85043 602-278-6233 800-833-7602 Fax: 602-278-2884 www.mpenviro.com

2009 Environmental & Sustainability

September 10 & 11, 2009

Phoenix Convention Center

Topics include:

Meet the New ADEQ featuring Director Ben Grumbles Greenhouse Gas Emissions Reporting and Reductions

of Commerce and Industr

RIZONA

OUNCIL

zona Businesses

vancing Sustainability

Corporate Governance of Sustainability

The Metrics of Corporate Sustainability Efforts

For more information or to register, visit http://www.azchamber.com

Jointly hosted by:

Arizona Hydrological Society

American Institute of Hydrology

2009 Annual Water Symposium

MANAGING HYDROLOGIC EXTREMES

August 30-September 2, 2009 | Westin Kierland Resort & Spa | Scottsdale, Arizona

PLENARY SPEAKERS:

Terry Fulp, Ph.D., Deputy Regional Director of Reclamation's Lower Colorado Region Miguel A. Medina, Ph.D., Duke University and President American Institute of Hydrology David V. Modeer, General Manager, Central Arizona Project Jonathan T. Overpeck, Ph.D., Co-Director, Institute for Environment and Society, UofA David Salisbury, President and CEO, Resolution Copper



REGISTER AT WWW.HYDROSYMPOSIUM.ORG

From the Editor



Several organizations are hosting environmental conferences and seminars in Arizona this fall. Be sure to read all the advertisements in this issue for information on: the P2 Seminar 'Sustainability Toolkit' (September 30th); the Introduction to EHS Regulations and Compliance course (November 9 to 12); the 2009 Environmental & Sustainability Summit (September 10 & 11), the

2009 Annual Water Symposium, Managing Hydrologic Extremes (August 30 to September 2); and the Maricopa County Annual Air Quality Conference (October 20).

Do you have reusable materials you plan to discard? Treasures 4 Teachers is a non-profit organization that can make good use of many types of materials. Read about how you can help schools and get a tax deduction. *See page 12.*

For some companies summer is a slow period — if this applies to you, you may want to consider using some of your time to author an article for the Journal. Share your experiences and knowledge with readers, and help yourself and your company by increasing your professional exposure.

Sincerely,

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



Journal of Environmental Management Arizona EDITORIAL Publisher & Editor, James Thrush, M.S. Env. Management. Email: jimthrush@cox.net or call 80-422-4430 v42 COLUMNISTS Regulatory Developments Michael C. Ford. Bryan Care LLP: Sustainable Development. Nicholas R. Hild, PhD., ASU; It's All About Chemistry: Larry Olson, PhD., ASU; Prospecting: Joe C. Holmes, ATC: SUBSCRIPTIONS Subscribe at ehshomepage. com or call 480-422-4430 v42. RATES FREE to Qualified EHS Professionals. Others, call 480-422: 4430. MAILING ADDRESS Journal of Env. Management Arizona, 3145 E. Chandler Blvd, Suite 110-641 Phoenix, AZ 85048. Phone & Fax: 480-422: 4430. ADVERTISING Call 480-422: 4430 v42: The Journal is published 6 times a year. Copyright© 2009 by the Journal of Environmental Management Arizona. All rights reverved.

Call 480-422-4430 x42. The Journal is published 6 times a year. Copyright © 2009 by the Journal of Environmental Management Arizona. All rightnesserved. LEGAL DISCLAIMER. Information presented in the Journal of Env. Mgmt. AZ originates from a variety of sources presumed to be accurate and complete. However, 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 orreliability of the content of the Journal. Readers are encouraged to contact authors, agencies, advertises, and companies directly for verification and/or clarification. Material is for informational purposes only, and should not be considered as legal or professional advice. Consult your own legal sons or environmental consultants with questions regarding your safety or environmental compliance matters.

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.



Tools of the trade

We've built our reputation on a foundation of strong professional capabilities, honed project coordination and communication skills, and extensive statewide experience.

Our environmental services are a key part of that foundation and include:

- Regulatory compliance/permitting
- RCRA/CERCLA/NEPA
- · Technical consulting/expert witnessing
- RI/FS/remediation
- · Groundwater monitoring and restoration
- · Contaminant transport modeling
- · Site assessments and property transfers

CLEAR CREEK ASSOCIATES Practical Solutions in Groundwater Science

Phoenix area:

6155 E. Indian School Rd., Suite 200, Scottsdale, Arizona 85251 (480) 659-7131, (480) 659-7143 fax

Tucson:

221 N. Court Ave., Suite 101, Tucson, Arizona 85701 (520) 622-3222, (520) 622-4040 fax

www.clearcreekassociates.com

Offering comprehensive, hydrogeologic services in five integrated areas:

Hydrogeologic Investigations Environmental Services Mining Support Groundwater Modeling Groundwater Development

JOURNAL OF Environmental Management

ARIZONA

August / September 2009

Volume 7 Number 4

FEATURES AND ARTICLES

- 8 MANAGING YOUR WORKERS' COMP COSTS CHUCK PAULAUSKY, CHMM
- 12 TREASURES 4 TEACHERS
- 16 ADD VALUE TO YOUR BUILDING: LEED EB JENNIFER L. AISTON
- 18 EPA PESTICIDE EXEMPTION RULE OVERTURNED

ED LATIMER, PHD, PE, CPSWQ

COLUMNS

- 13 SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT CAP AND TRADE: WRITING PERMITS TO POLLUTE *NICHOLAS R. HILD, PHD.*
- 14
 IT'S ALL ABOUT CHEMISTRY

 CARBON CAPTURE AND STORAGE

 LARRY OLSON, PHD.
- 22 PROSPECTING: FOR ENV. BUSINESS "NO-BID" HAS NEVER BEEN MORE TOUGH! JOE C. HOLMES, ATC ASSOCIATES

DEPARTMENTS

- 6 FROM THE EDITOR
- 20 News Briefs
- 10 Associations Pages



Pesticide Exemption Rule Overturned Pg. 18



Managing Workers Comp Costs Pg. 8

Change of Address?

If you have recently changed jobs or job location, or would like to have your subscription mailed to your home address, please let us know!

Update your subscription online at: www.ehshomepage.com or call us at 480-422-4430 x42



COVER IMAGE: FARMER SPRAYING CORNFIELD. SEE RELATED ARTICLE ON PAGE 18, "EPA RESTICIDE EXEMPTION RULE OVERTURNED".

Contents



"Joe was hardly an ideal worker. He had been laid off 5 times in 4 months. Shortly after starting a new warehouse job, he lost control of a forklift and drove it off the loading dock. His boss told him that he'd have to withhold 10% of Joe's wages to pay for \$5000 in repairs. "What a relief!" exclaimed Joe. "Tve finally got job security!""

by Chuck Paulausky, CHMM

nsafe employees can really impact your bottom line, through production and equipment losses, retraining, and workers compensation costs for injured employees.

In Arizona, Workers Compensation insurance is required for all companies with one or more company employees, whether

REMEDIATION | TRANSPORTATION & BIN SERVICE



Photo courtesy of FEMA. Photographer: Win Henderson

those workers are part- or full-time, minors, aliens, or family members. This insurance is not required for contract workers, casual workers or workers not part of the employer's usual business. Note: Uninsured employers can be assessed a first-time \$1000.00 penalty for failure to provide insurance. The amount of the fine can increase over time for repeat offenses.

The insurance is designed to pay for the medical costs and compensation for lost wages due to workplace injuries. According to the Arizona Corporation Commission, "Workers' Compensation is a "no-fault" system in which you (the injured worker) receive medical and compensation benefits no matter who caused the job-

> related accident." There are some exceptions, however. For example, an employee is not entitled to workers' compensation benefits for injuries that are "purposely self-inflicted." For more information about these requirements, contact the Arizona Corporation Commission or your insurance carrier.

> The cost of Workers Compensation insurance is based on several factors, including, the number of employees, payroll, type of work (risk) involved, and a number of other things. The calculations are based on a system of worker classification established by the National Council on Compensation Insurance (NCCI). Almost all states use this system. Note: Misclassification of your employees can impact your WC costs, so make sure your employees are properly classified.

> Once your <u>basic insurance rate</u> is established, another factor comes into play. This is the "Experience Modification Factor" or E-Mod. The E-Mod looks at the cost of your workers compensation claims over a previous 3-year period, and compares it to similar industries, as established by NCCI. The average for your industry is 1.0. If your claims have been less than the industry average, your E-Mod will be <1.0. If you have had higher than average claims, your Emod will be >1.0.

> The E-mod directly impacts your insurance premium because your basic insurance rate is multiplied by your E-mod. For example, let's compare two identical companies. Company A does

a good job of reducing injuries and keeping WC claims down. Company B has had more injuries and higher costs:

Basic Insurance Rate:	<u>COMPANY A</u> \$100.000	<u>COMPANY B</u> \$100.000
Experience Modifier (E-Mod):	0.8	1.2
Modified Premium:	\$80,000	\$120,000
Difference:	\$40,000	

Difference:

As you can see, reducing workers compensation claims will reduce your insurance premiums. There are several ways to do this:

1. Early-Return-To-Work (ERTW)

There are two basic types of claims, Medical-Only and Indemnity or Lost Time. Medical-only claims are just that; claims involving medical costs without lost time. Indemnity claims are claims in which the injured employee has lost time from work. The insurance company pays the injured employee for a percentage of the time lost. The cost for lost time is usually much more than the medical costs. When the E-Mod is calculated, only 70% of the medical costs are factored in, but 100% of the indemnity costs are included. So minimizing lost time makes good "cents".

Establish an ERTW program. You can only return an employee to work if the physician on the case allows it, but make sure the doctors know what the injured employee's job entails and what their limitations are, then find tasks that the employee is capable of performing. Finding temporary light-duty or alternate work for injured employees is easier than you think. Look at the employee's regular job. Are there tasks or functions that the employee can still do? Consider cross-training or temporary job-trading to allow the employee to work until completely recovered. I've even heard of employers who donated their paid employee's time to non-profit organizations to get them off the insurance books.

Also, make your ERTW Program a part of the written company policy, and make sure the employees know about it.

2. Active CI aims Management

Maintain close contact with the insurance company to ensure that the claims are being managed on their end, and that your E-Mod and employee classifications are correct. Be sure to find out if overtime should be included in the reported payroll (not required in some states). Report any business changes to the carrier that might affect your coverage.

Require your employees to report injuries as soon as possible, and report the claims immediately. Early reporting can help keep costs down, start the management process, can prevent litigation, and return the injured worker to full duty.

If you feel that a claim should be closed, follow up. Too often, communication is not well-maintained, allowing claims to stay open and on the books. Amounts that are still in reserve (unused) on the claim will count as costs, until the claim is closed.

Keep in touch with the medical provider for each claim to ensure



that the medical treatment is being followed. If an employee fails to do prescribed therapy or misses appointments, the claim can be contested.

Stay in contact with the injured employee. Make sure their recovery is progressing and encourage them to stay on track with therapy and other treatment.

Watch for fraudulent claims. Employees may be tempted to get a personal injury covered under workers compensation, or "extend" their time off for an injury. If you suspect that a claim may not be legitimate, indicate this on the industrial injury reporting form and let your insurance carrier know.

Decide where the employee goes for initial treatment. This will give you some control over the direction of the claim. However, the injured employee has the right to chose further treatment. Stay in contact with this new physician, as well. Directing initial treatment is allowed in Arizona, but not in all states.

3. Reduce Injuries

This is really the place to start. Anything you can do to prevent your employees from being injured in the first place will keep your workers compensation costs down. The means having an effective Safety Program. This program needs to include:

- Written Safety Policy
- Management commitment & Supervisor accountability
- Evaluation of your company's operations and risks
- Safety training
- Safety Committee
- Personal protective equipment
- Accident investigation, including causes, corrective actions and follow-up
- Drug and Alcohol policy- The US government estimates that the cost to businesses each year from drug and alcohol abuse is 100 Billion dollars! You should have a written policy that includes, at a minimum, postaccident testing. Make sure the policy is properly worded to include specifics of what is prohibited, types of testing, enforcement and penalties.

How much can one accident cost a company? It's more than the cost of Workers Compensation insurance. You have to factor in things like lost time for other workers and supervision, loss in team efficiency, new worker training, equipment downtime, etc. Consider an accident with a combined cost of \$5000 for a company that operates on the 5% profit margin. The company must generate \$100,000 in additional sales to cover that cost! Managing your Workers Compensation program is one step in reducing the cost of injuries. And developing an effective Safety Program will help keep employees like Joe from driving off the deep end, and taking your company with him!

Chuck Paulausky, CHMM, is President of CPSE LLC, a consulting firm specializing in OSHA and EPA compliance and loss control for small to mediumsized businesses. Chuck is active with the Thunderbird Chapter-AHMP, and is an AHMP Champion of Excellence Award winner. For over 19 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.



Associations Pages

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.



 ${
m A}$ lthough I have been acting SAEMS president for the past several months, I am looking forward to the upcoming 2009-2010 year. I am pleased that Kristie Kilgore (President-Elect), Craig Boudle (Vice-President) and John Barr (Treasurer) remain on the executive board, and I am excited to welcome brand new board members Jeremy Lite (Secretary) and Ritchie Bump (Communications Coordinator). Despite the hardships many of us are facing with the current status of the economy, I see the upcoming year as one full of opportunity. This is my 12th year as an active member of SAEMS, and my 4th year on the executive board. For as long as I have been involved the group has been a source of knowledge, networking and opportunity and has remained a solid part of the Southern Arizona environmental community. I look forward to building on the existing foundation of the group while making changes that will benefit both the organization and the community. We will be holding new events such as the reception welcoming ADEQ Director Benjamin Grumbles and exploring new fundraising opportunities such as a golf tournament. In addition, I'm excited that Pamela Beilke has agreed to bring back the Legs and Regs Committee after a hiatus of several years. I hope that these activities will encourage increased member participation, as well as give us the funding opportunities to continue to grant academic scholarships and additional environmental outreach events. For information on becoming a member of

the organization or on upcoming events please visit our website or contact me at (520) 351-5933 or ssillman@ globalsolar.com.





www.seshaonline.org

hope you and your families had a safe and Lenjoyable summer! The local Arizona Chapter of SESHA is holding our next Chapter Meeting on Thursday, September 17th. The meeting will take place at ASU's MacroTechnology Works located at 7700 South River Parkway in Tempe. We will meet from 2:00-4:30pm, and have social networking at an afternoon break and following the meeting. The meeting's presentations will cover the following popular topics: "Solar Energy Installation Rebates", "ASU's Solar Rooftop Project", and "Is there Safety in Sustainability?".

If you would like to learn more about the last topic, please go to www.ishn.com to read a series of articles by a local author. The author's name is James Leemann, Ph.D. who will also be the presenter at our meeting. Join us for some interesting



www.azhydrosoc.org

he Phoenix chapter has been busy planning L this year's Annual Symposium, which is scheduled for Aug. 30 to Sep. 2, 2009, and will be held at the Westin Kierland Resort and Spa in Scottsdale. Arizona. The Symposium theme is "Managing Hydrologic Extremes," and will include session titles such as Water Resource Management, Policy, Climate, Water Quality, Remediation, Recharge, Flooding, and Modeling. Plenary speakers include David Modeer, General Manager of Central Arizona Project; David Salisbury, CEO of Resolution Copper Mining; Jonathan Ovepeck, PhD, Professor in the Department of Geosciences and Atmospheric Sciences, University of Arizona; and Terry Fulp, PhD, Lower Colorado Deputy Regional Director - Bureau of Reclamation. Tuesday's luncheon will feature Dr. Miguel A. Medina, Jr., Professor at the Department of Civil and Environmental Engineering, Pratt School of Engineering, Duke University. He will present an "Assessment of Global Water Resources". Many workshops are also available, such as Land Subsidence and Earth Fissures, Soil Gas/Vapor Intrusion, Isotope Techniques, Tech Writing, and the Professional Hydrologist Exam Preparation workshops.

The Phoenix chapter also had David Christiana, ADWR, present at their July meeting. David spoke about his work with World Water Corps, the volunteer arm of the non-profit international development organization, Water For People. The Flagstaff chapter awarded their Internship award to Christian

Meinhardt, a Junior Environmental Engineering major at NAU. Congratulations Christian!





www.thunderbirdchmm.org

66 Introduction to Environmental, Health & Safety Regulations & Compliance" - The Thunderbird Chapter is offering a 4-day course in Tempe on November 9-12, 2009. The course is split into two 2-day sections for an intensive



If you want to be on the Thunderbird email list for event notices, and regulatory updates, send a note to cpaulausky@cpsafety.net. The AHMP/EPAZ monthly lunch meetings are held from 11:30 ~ 1:00 on the second Thursdays of each month, at the SRP PERA Club in Tempe, so check your emails for the meeting notice. Meeting details: www.thunderbirdchmm.org or www.epaz.org. AND, don't forget the Thunderbird Happy Hour on first Thursdays, 5:30 PM - ??

Calendar Items:

Sept 3 - T-Bird Happy Hour, Yardhouse, Scottsdale Sept 10 – Luncheon Meeting – Taser EHS

Oct 1 - T-Bird Happy Hour, Tanked Fish, Ahwatukee Oct 8 - Luncheon Meeting - Sustainability (speaker being confirmed)

Nov – No T-Bird Happy Hour this month Nov 9-12, 2009 – Thunderbird Chapter Course: "Introduction to EHS Regulations & Compliance" Nov 12 - Luncheon Meeting - Biodiesel (speaker being confirmed)

Dec 3 - T-Bird Holiday Happy Hour, Location TBD Dec 10 - Luncheon Meeting - Air Quality (speaker being confirmed)



www.azchamber.com

ARIZONA CHAMBER of Commerce and Industry

he Arizona Chamber of Commerce and ▲ Industry and the Arizona Manufacturer's Council is pleased to announce that the 18th annual Environmental Summit will be held on September 10th and 11th at the Phoenix Convention Center. The 2009 Environmental Summit will include presentations from newly appointed ADEQ Director Benjamin Grumbles, Deputy Directory Patrick Cunningham and the Air Quality, Water Quality, Waste Programs and Tank Programs division directors.

Other presentations will focus on greenhouse gas emissions, corporate environmental sustainability programs, renewable energy projects and others. Registration information can be found on the

Arizona Chamber's web site at http:// www.azchamber .com/events/ Co Chairman view_event Environmental .cfm?ID=61.





www.eia-az.org

The Maricopa County Air Quality Department recently held their first workshop to introduce the up and coming fee changes as revisions to Rule 280 (NEHSAP and Dust Control Permit Fees). A courtesy briefing was scheduled for Aug. 6, 2009. The EIA would like to encourage your involvement in this process since the County is opened to recommendations that may better serve the user and the County. These fee changes affect all building owners and contractors. If you have not received a copy of the "Draft Rule 280-20090625" you can either contact the County or call the EIA. We will be happy for forward a copy.

Our two remaining environmental seminars are scheduled in Casa Grande on Oct.16th and in Phoenix on Nov. 13th. These seminars are free to all attendees. Please visit our web site or call 602-437-3737 ext. 123 for information on all upcoming events sponsored by EIA-AZ and for membership and sponsor opportunities. We encourage

participation from members and nonm e m b e r s (environmentally c o n c e r n e d c o m m u n i t y) involvement with our outreach programs.



American Society of Safety Engineers

Mark Norton, Assistant Director, Arizona Department of Occupational Safety and Health (ADOSH), was selected as the Southern Arizona Chapter's Safety Professional of the Year. Mr. Norton has worked in the Safety & Health field for 29 years, beginning as a Health Service Technician/Flight Medic in the U.S. Coast Guard. He began working for ADOSH 22 years ago as a safety compliance officer and later moved into consultation and training. In 2002, he was appointed as Tucson's first Assistant Director for ADOSH, overseeing all operations in Southern Arizona. Mr. Norton is a VPP coordinator and Consultation Program Manager for Arizona. According to Darin Perkins, Director of ADOSH, Norton "...has a great ability to communicate, to express his ideas and to get others committed to making changes for the better."

Dee Brunner, Support Services Coordinator for the Tucson Airport Authority, was chosen to receive the Community Safety Award. Ms. Brunner chairs the Airport's week-long Safety & Health Fair which is open to all TAA employees, guests, travelers and visitors to the terminal. Ms. Brunner is also an active member in the Southern Arizona Safety Council and the ASSE/.SCF Arizona Annual Safety Expo where she has served as a speaker as well as recruited speakers and vendors. Brunner, realizing that absenteeism and workers' compensation costs are lower with a healthy

w orkforce, established a weekly "Walk With a Supervisor" health walk at the Airport. For info. call me at 520-586-5204 or sdipeso @ssw.coop.



Shari Di Peso Secretary



www.awma-gcs.com

he AWMA Technical Council honored local 📕 member Ryan Eberle, of Kleinfelder, as a winner of the Young Professional Best Paper Award in the Environmental Management Group. Ryan's paper discussed the various indirect source rules and guidance documents currently being used throughout the California air districts, and focused on a case study within one of the most stringent districts - the San Joaquin Valley Air Pollution Control District (SJVAPCD) and Indirect Source Review (ISR) Rule 9510. The case study involved a large retail organization that was assessed a \$300,000+ fee for indirect source emissions associated with building a store in Los Banos, CA. The goal of the project was to identify ways of reducing or eliminating the fee for the store & any future stores or distribution centers built within districts with indirect source rules. Several cost-effective ways to minimize indirect emissions were identified and modeled using a California urban emissions model (URBEMIS 2007) to successfully lower the fee.

The AWMA Grand Canyon Chapter will be resuming its monthly meetings in September. We will also be awarding the annual scholarship award at the September meeting. Please check our website at

www.awmagcs.com for additional meet in g information and upcoming Michelle De Blasi meeting topics. Chair





www.AzBAS.net

A rizona Businesses Advancing Sustainability (AzBAS) is pleased to join the Arizona Chamber of Commerce as a sponsor of the 2009 Environmental and Sustainability Summit to be held at the Phoenix Convention center on Sept. 10 and 11. AzBAS members will discuss how "Sustainability Governance" enhances the performance of their companies and how they use "Sustainability Metrics" to track and improve performance.

On the horizon, AzBAS, along with the Arizona Business Council will co-host their 2nd Climate Conference on December 2, 2009 at Black Canyon Conference Center in Phoenix.

AzBAS offers business leaders an opportunity to work with other leaders committed to sustainable practices that promote strong communities, successful businesses, a healthy environment, and sound public policy. Our members believe that sustainability is a core business strategy not just a green initiative and creates competitive advantage, even in these difficult economic times. Our Primary Objectives are to: Build a platform and statewide venues to showcase sustainable businesses practices adopted by AzBAS members; * Collaborate with other organizations committed to promoting sustainability in Arizona; * Advance sustainability practices in the public policy arena; * Convey to the State and its communities that Arizona's business leaders support and encourage progressive, sustainable business practices; and * Serve as a resource - a knowledge base - for others on how to create and adopt sustainable practices in their companies.

Please see our revised website for more information on AzBAS, its members and future

activities and/or contact Tracey Walker by email at Tracey. W a l k e r @ azbas.net or on the web at www.AzBAS.net.





Arizona Environmental Strategic Alliance

www.azalliance.org

The Alliance is busy at work this summer with several projects underway! These include working with Maricopa County on the upcoming First Annual Air Quality Conference and the formation of an Alliance EMS Discussion Panel.

Members of the Alliance Air Quality Committee have been meeting and working with Maricopa County Air Quality Department officials and other organizations planning the county's First Annual Air Quality Conference in Scottsdale on Tues., Oct. 20th, 2009. This will be an all-day event with speakers and discussion sessions, to provide awareness of the federally mandated non-attainment issues in and around the county, and generate debate around policy change and encourage behavior change among county residents. See the ad on pg. 23 for information.

The Alliance Environmental Management System (EMS) Committee recently formed a discussion panel to share our member's EMS expertise. Panel members are environmental leaders at major Performance Track companies with hands-on experinece in implementing EMS. In July, panel members from facilities including Intel, Ping, and Kitchell, and from ADEQ, spoke at a luncheon meeting in Phoenix to members of the Arizona Tech Council on the environmental and economic benefits of implementing an EMS. On Sept. 30th, the panel will speak at the SAEMS P2 "Sustainability Toolkit" Seminar (see ad pg 4) in Tucson on the sustainability benefits of implementing EMS. If you are considering an EMS, or have questions on implementing your EMS, be sure to attend!

If your organization would like a speaker

or panel discussion on the challenges and benefits of implementing an EMS contact me at Leonard.C.Drago@ intel.com or call the Alliance office at 480-422-7392.



Continued on page 12

11 Journal of Environmental Management Arizona

Treasures 4 Teachers

Non-Profit Finds Innovative Uses for Manufacturers' Discards

reasures 4 Teachers, Inc. (T4T), a nonprofit organization, provides teachers with innovative and unique items at a fraction of the cost they normally would spend to provide students with needed classroom materials. "We seek out unwanted but reusable materials and supplies that enhance and expand the learning process from local companies and manufacturers", says Barbara Blalock, Executive Director at T4T. "These items are reused to provide for classroom needs thus making it a win-win partnership for everyone".



At T4T, teachers find needed classroom materials at a fraction of regular cost. Photo courtesy of T4T.

Treasures 4 Teachers is seeking your help in obtaining materials for Arizona classrooms. Materials that your company is discarding could be used to create hands-on educational projects for our children. For example, donations of rubber bands, paper clips, and holiday mini lights were used to create an educational kit to build a portable basic light circuit. Fourth grade teachers can use this kit for physical science concepts of energy and magnetism which adhere to the Arizona Educational State Standards. Another valley manufacturer donates thousands of bubble wrap bags which contained parts for their manufacturing process. These bags were previously being sent to a recycler but now they have become an educational kit to be used as gloves for painting and sensory projects for preschoolers. Teachers simply pick up the kits which contain an information sheet full of various activities for use in their classrooms.

In addition to conserving discarded items that reduce use of valuable landfill space; the T4T program has saved some of the valley's largest corporations the cost associated with disposing of these items. T4T has diverted more than 100,000 cubic feet of discarded materials from the landfills into the hands of over 800 teachers and 23,000 children.

As T4T grows, so does the need for additional supplies of materials, such as plastic pieces, caps, wood, wire, vinyl, canvas, foam, CDs, etc. For example, plastic pieces can be used for rain sticks, sound shakers, as a filler to support structures, counters, physical attributes such as sorting and patterning, and game pieces.

Association Pages

continued from Page 11



E^{PAZ} held two different luncheon meetings in June—one at our regular Scottsdale meeting location and the other in the Flagstaff area. On June 11, we were informed about solar energy products

and financial incentives for home and business by Kevin Krause from the Solar Store, headquartered in Tucson. Then on June 19, EPAZ was invited to tour the Arizona National Guard's Camp Navajo thanks to Dana Downs-Heimes of CH2MHill, in the morning. Following lunch, we went to the W.L. Gore facility, thanks to Greg Blanchard, where Mr. Ed Latimer of AMEC Earth & Environmental brought us up to date on the AZPDES multi-sector general stormwater permit.

EPAZ has an EPAZ members-only business meeting scheduled for August 13, when we will hold our biennial election of officers and attend to other matters of business for our organization. As usual, there will be no regular luncheon meeting in August. All current EPAZ members are encouraged to attend the business meeting and have lunch provided without charge, but prior registration using the web-site on-line registration is required.

In September, it will be back to business as usual, with a luncheon meeting on Sept. 10 featuring an overview of Taser International's environmental, health and safety programs by John Hobbs.

EPAZ normally holds monthly luncheon meetings on the $2^{\rm nd}$ Thursday of the month from 11:30 am to 1:00 pm. EPAZ also

normally gathers on the last Wednesday of the month for a casual no-host mixer at various locations throughout the valley. For more details see our website at www.epaz.org for information and meeting registration or contact Mannie Carpenter at (602) 393-4855.



If your company is discarding materials, Treasures 4 Teachers can probably find a use for them. Treasures 4 Teachers is a 501 (c) 3 non-profit organization and donations are fully tax deductible. Financial donations are always appreciated. For information, contact Barbara Blalock at (480) 751-1122 or send an email to barb@treasures4teachers.org. Web site: www.treasures4teachers.org.



Foreground: Volunteer assembles light circuit educational kits. Background: Volunteers sort and assemble donated educational materials. Photo courtesy T4T.



Sustainabil ity and Sustainabl e Devel opment

Nicholas R. Hild, PhD.

Cap and Trade: Writing permits to Pollute

"No economic model has ever accurately modeled technological change induced by government action. That is why they overestimate the cost of action."

Joseph J. Romm, former Energy Department Official and author of <u>'Cool Companies,</u>' 1999

In late June, Congress passed legislation that will place limits on industry's emissions that cause climate change—legislation that has generated praise, salutations, and down-right consternation from practically every corner of the political spectrum. Environmental Defense Fund President, Fred Krupp called it the "*most important environmental and energy legislation in our nation's history…*" while critics like Director of Natural Resources Defense Council's climate center, Daniel Lashof noted that *"there's been outrageous demagoguery on the costs of the bill...*"

Obviously, most of the commentary was offered by pundits who are too young to remember when the Water Quality Act Amendments of 1972 were vetoed by (then) President Nixon because he said industry would go broke and jobs would be lost if that piece of legislation were passed...environmentalists responded with saying that legislation wasn't tough enough and only offered a "**permit to pollute**" the nation's waterways—

So, the rhetorical response to the greenhouse gas '**Cap** and **Trade**' legislation smacks of that 1972 reactionary dialog: environmentalists say it doesn't go far enough and industry says it's going to cost way too much to implement, at a time when our economy can ill-afford more family budget stress, so it won't be enforced anyway.

But, the 'experts' who modeled the 'economics' for the Congressional Budget Office, and how many tons of CO_2 would be reduced over the next decades, quickly defended their models, saying how the ultimate <u>'outcomes depend upon lots of "variables" which are largely unknown</u>—which left the legislation's sponsors saying very little about their confidence intervals when they presented the legislation to be signed off by Congress—

John Carey, writing in Business Week (July, 2009), noted

that, *"its easy for politicians to pick the numbers they want, given all the moving parts.* "But, no matter if the amount that this cap and trade program ultimately costs families \$3,000 or only \$175 per family-year, as critics have estimated, utilities are the biggest single generators of CO_2 , so how they implement reduction programs will tell the tale. All those variables (i.e. unknowns) like whether or not the nation builds a lot of nuclear plants or if supplies of natural gas are abundant (in the future), or if the technology to capture carbon dioxide from coal plants is or isn't feasible in the near future, or even how we ultimately 'measure' the CO_2 reductions—(no small variable itself!)— but, *trust us*—this will be cost beneficial in our efforts to eliminate greenhouse gas emissions in the U.S.

Call me gullible, but if we have finally decided that CO_2 is now a '*pollutant*,' this 'cap and trade' program sure sounds like a "**permit to pollute**" that was pioneered in the 1972 WQAA NPDES program—a permit to pollute by any other name, still smells the same: it allows levels of pollutants to be emitted (i.e. with a permit signed off by the government), that somehow is off-set by 'trading' or purchasing offsets that are calculated by modelers who freely admit, they have to wait and see what the "unknown variables" are before they can show proof of concept.

But what really got me thinking about this CO_2 Cap and Trade program, was the idea that our congressional representatives have used consultants who are expert at conducting studies— that's how they make their living off us taxpayers—studies that basically are designed to provide congressional committees (and the Congressional Budget Office), with reports that confirm what they want to know—in this case, to '*model*' the legislation that was passed by Congress—legislation that is written in a way that shows emitting industries exactly how they will be required to '*model*' their emissions!

For Congress, these 'studies' are conducted by a large cadre of Washington, D. C.-area 'beltway bandits' whose sole mission is to conduct studies for various sub-committees in the House and Senate, to be proposed and blessed by the Congressional Budget Office. What they are 'expert' in doing, however, is getting fat consulting contracts and not (by their own admission) knowing what variables to put into their models.

And, therein lies my problem with 'cap and trade' modeling 'systems' that utilize a congressional subcommittee's values (for unknowns) is guaranteed to be a disaster. The result will be that <u>actual</u> reduction in greenhouse gasses emitted will be far less than those models predict, except (and, unlike the WQAA pollutants addressed in '72), there will be no measuring technology that can verify the output or the reduction effects of the sequestering (offset) mechanisms that are purchased. That is why they have to model their emissions, in the first place!

So, sometime in the future, after industry has absorbed the tremendous additional expense that will be required to staff up to meet the record-keeping and reporting requirements, **AND** the modeling requirements each facility will be required to meet, we will find there have been very few real environmental benefits which have actually been accrued—questionable benefits that will have future generations asking, "*what were they thinking*?

As usual, this will be another government program that is destined to cost industry (i.e. taxpayers and consumers), tremendous amounts of money while yielding little, if any, positive environmental benefits for our children's, children's, children.

Nicholas R. Hild, PhD., Professor, Environmental Technology Management, 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.



Larry Olson, PhD.

It's All About Chemistry

Carbon Capture and Storage

arbon Capture and Storage (CSS) refers to the process of removing carbon dioxide from a gas stream and then finding a permanent storage method that prevents the CO_2 from returning to the atmosphere. With climate change legislation moving through the U.S. Congress and throughout the world, such technology is going to become increasingly important. Of course, we have nature's perfect example of carbon capture in photosynthesis and there is a lot of interest in adapting biological processes to industrial applications. But what other non-biological technologies exist?

About 40% of the world's man-made carbon emissions are derived from fossil fuel power generation and this represents a much more tractable target for carbon capture than widely dispersed mobile sources. Direct combustion of fossil fuels inevitably produces CO_2 and the basic problem with carbon capture is separating CO_2 from other gases in a cost effective way when the gas volume is high and the carbon dioxide concentration is low.

Among the methods being considered are oxy-fuel combustion and pre- and post-combustion capture. The oxyfuel process involves burning the fuel in an oxygen enriched mixture. Removing most of the nitrogen from combustion air not only reduces the flue gas volume by up to 75%, but changes the composition to almost pure CO_2 and water vapor making it much easier to separate and capture the CO_2 . The energy required to separate oxygen from air makes this process more expensive than combustion with air, but new carbon taxes or limits on emissions may change this calculation. There is also an added benefit of reducing conventional air pollutants such as NOx.

Pre-combustion removal of CO_2 involves a partial combustion of the carbonaceous fuel to produce syngas, a mixture of CO and H_2 . This mixture can be burned directly or converted to a liquid fuel through the Fisher-Tropsch process. Further reaction with steam can convert syngas into CO_2 and H_2 , from which the carbon dioxide can be more easily separated because of its high concentration. Burning the remaining hydrogen produces only water as a product.

Both the oxyfuel and pre-combustion processes are targeted towards new fossil fuel power plants. However, the third option of post-combustion capture can be used with existing conventional plants. The basic technology has been known for decades and takes advantage of carbon dioxide's acidity by scrubbing it with an aqueous solution of ammonia or an alkanoamine. CO_2 can then be stripped from the solution by heating. All this, of course, requires energy and a plant that could capture 90% of carbon dioxide emissions might have to generate as much as 30% more power to capture and compress the CO_2 (*Chemical and Engineering News*, July 13, 2009, p. 19).

A number of pilot plants are being constructed around the world to try to optimize this technology. Innovative ideas include proprietary amine solvents, a chilled ammonia process, and non-volatile ionic liquids instead of water which would require less energy because the stripping process wouldn't involve evaporation of water.

Federal support for R & D has been crucial to move CSS beyond the lab bench scale, but this is a brand new market and it is expected to be huge. But once you have captured CO_2 , what do you do with it? We'll take a look at the options being considered in the next issue.

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 env. mgmt. He can be reached at 480-727-1499, or by email at Larry.Olson@asu.edu



POLYTECHNIC CAMPUS



BE CONFIDENT IN YOUR OPACITY READINGS

EPA Method 9 Visible Emissions Training Fall 2009 Smoke School Schedule

ADEQ and ASU Environmental Technology Management look forward to seeing you at one of the following Smoke School sessions during the fall of 2009.

• TUCSON:	September 9-10, 2009 Kino Veterans Memorial Community Center 2805 E. Ajo Way, Tucson, Arizona 85713	
HOLBROOK:	September 16, 2009 Navajo County Government Complex Board of Supervisors Conference Room 100 E. Carter Drive, Holbrook, Arizona 86025	
• COTTONWOOD:	September 17, 2009 Dead Horse Ranch State Park 675 Dead Horse Ranch Road, Cottonwood, Arizona 86326	
LAS VEGAS, NEV	ADA: September 24-25, 2009 Clark County Government Center 500 S. Grand Central Parkway, Las Vegas, NV 89155	
• MESA:	September 29-30, 2009 Arizona State University - Polytechnic Campus Student Union Annex (Union 2) 5931 S. Sterling Avenue, Mesa, Arizona 85212	
GLENDALE:	October 6-7, 2009 Arizona State University - West Campus 4701 W. Thunderbird Road, UCB Room 265 Glendale, Arizona 85306	
NIGHT CERTIFIC	NIGHT CERTIFICATION CLASS	
PHOENIX:	October 7, 2009 Location to be announced	
• YUMA:	October 14-15, 2009 Yuma Civic Center 1440 Desert Hills Drive, Yuma, Arizona 85365	
SATURDAY CLAS MESA:	S October 17, 2009 Arizona State University - Polytechnic Campus 7360 E. Tahoe, Mesa, Arizona 85212	
KINGMAN:	October 21-22, 2009 Mohave Community College 1971 E. Jagerson Avenue, Kingman, Arizona 86401	
Please call 480-727-1322 for registration or register online at: http://www.poly.asu.edu/smokeschool/		
Classes for groups over 20 may be scheduled if your employees cannot attend one of the above classes.		
Please contact us to discuss your needs.		

Your Air Quality Permit may require opacity readings by a person certified in the proper use of EPA Method 9. Opacity training is recommended for air quality environmental consultants and environmental compliance personnel at construction sites and at any source of visible emissions.

Maricopa County area classes include a review of all Maricopa County Air Quality Department opacity standards by Al Brown, Certified Trainer for Rule 310 Comprehensive and Basic Dust Control Training.

Add Val ue to Your Buil ding During Tough Economic Times With LEED EB Certification

by Jennifer L. Aiston

organization based out of Washington D.C., has developed a green building certification program called Leadership in Energy and Environmental Design (LEED). This program provides a systematic, guided approach for achieving a certificate of sustainability that requires building owners to use aggressive energy management practices, as well as to have a raised awareness of material use and employee health.¹ The program is quickly gaining momentum in the U.S. and around the world, and is expected to grow exponentially in the years to come. LEED can be applied to various building situations, from new construction to neighborhoods. As a way of addressing the current building stock, the USGBC has developed a green building certification specifically for existing commercial buildings, known as LEED EB. Applying LEED EB puts these buildings at an advantage over their traditional counterparts due to the many monetary and environmental benefits that a LEED certified building can provide.

Aging Buil dings: Opportunities in Waiting

The best point at which to begin thinking about building sustainability is in the planning stages of building design. However, with more than 70% of all commercial buildings in the US having been built prior to 1980, most are now over 30 years old.² This is where LEED EB becomes so valuable. The USGBC understands that owners of existing buildings are not looking to make substantial capital investments unless there is a well-defined return on investment. In the LEED EB certification guidebook the USGBC provides building owners with innovative, tested and proven methods for improving efficiency and on-going operations maintenance with little or no associated cost. Suggestions include such things as eliminating simultaneous heating and cooling, minimizing site lighting, adjustment of temperature settings, and controlling time of use to cut down on wasteful uses of energy. For those building owners who have the capital dollars to spend, other methods suggested by the LEED EB guide include bold improvements such as the replacement of all aged plumbing fixtures or the installation of a green roof.³ LEED EB provides the type of flexibility that will ensure the program continues to grow in popularity long after the current economic recession is over.

Since late 2007 the number of LEED EB certified buildings has grown by 300%.⁴ There are about 160 buildings, and counting, that have been certified under this rating type since its launch in October 2003. The number of buildings currently registered for LEED EB certification is about 20 times this amount.⁵

Greater Efficiency Means Greater Incentives According to the Energy Information Administration (EIA) commercial buildings today account for 37% of all electricity consumed within the US. This translates into \$10.5 billion spent on electricity for commercial buildings in March 2009 alone.⁶ Almost half (48%) of all US energy

Photo courtesy of FEMA. Photographer: Doug Hill

ne need not build "green" in order to *be* green. It is a common misunderstanding amongst investors that new construction is the only economical way to be green. However, there are financially sound opportunities to "go green" with existing buildings. A green building benefits owners and tenants both economically and environmentally, adding value and reducing energy costs — especially important in the current tough economy. If you are considering opportunites to be more sustainable while keeping an eye on the bottom line, "LEED EB Certification" may be just what you are looking for. The United States Green Building Council (USGBC), a non-profit

N. Weiss Associates, Inc.

Environmental Compliance Services

Experience Counts

Contact: Norm Weiss @ (602) 870-5504 Web Site: www.nweissassoc.com



originates from coal burning power plants, per EIA data, while buildings and their construction activities account for at least 30% of the worldwide greenhouse gas emissions.⁷ These are all powerful numbers and provide the basis for an argument that demands better management of the energy efficiency of buildings. This is part of what makes LEED EB certification more than just a label or "stamp of approval". When building owners invest in eco-efficiency today they will reduce spending in water, energy, and waste disposal; protect themselves against the impact fluctuating energy prices can have upon revenue; and attract socially- and environmentally-minded tenants or buyers who may be willing to pay more for the opportunity to occupy such a space. On top of these there are government incentives available to those who put sustainability at the forefront of their business operations. Looking specifically at energy there are currently both state and federal incentives available to those business owners who invest in such alternative energy technologies as solar and photo-voltaic, geothermal, wind, biomass, and hydroelectric. The state and federal incentives assist in reducing what is typically a large upfront cost, making these technologies more attractive. LEED supports these investments by awarding building owners with points that can be used toward obtaining green building certification.

Searching out available incentives can be an overwhelming task if you do not know where to look. The Database of State Incentives for Renewables & Efficiency (www.dsireusa.org) makes searching easy by maintaining an online record of all state, local, utility, and federal incentives used to promote energy efficiency and investment in renewable energy.⁸ Incentive programs typically reward investors with tax credits, deductions, and allowances. The most common state incentives available to building owners are state property tax and sales tax incentives. For commercial buildings a corporate incentive is available that allows corporations to receive credits ranging from 10% to 35% of the total cost of equipment and related expenditures made for renewable energy systems.⁹

One of the more popular federal incentive programs is available to building owners with buildings that have demonstrated a high level of energy efficiency. To take a federal tax deduction under this program, the building must have earned an Environmental Protection Agency Energy Star rating of 50 or higher. This translates to the building saving at least 50% of the energy otherwise required to operate its interior lighting, heating, cooling, ventilation, and hot water systems. The deduction allowed is based upon the cost of technologies that have been purchased by the building owner to support energy efficiency improvements, with the maximum allowed deduction being \$1.80 for every square foot of commercial space. For those buildings that do not meet the 50% reduction requirement (called "partially qualifying properties") building owners have the opportunity to take a partial tax deduction, with some restrictions, based on the percentage of energy savings made.¹⁰

Owning a building with an Energy Star rating, or simply having proof that implementation of efficient technologies has reduced overall energy consumption, will heighten the demand for that building and therefore its inherent value. A study released in March 2009, commissioned by the

Royal Institution of Chartered Surveyors, compares the rent and selling price of 7,488 commercial buildings. The study found that rental premiums for Energy Star rated buildings were 3% higher per square foot when compared to traditionally designed buildings of the same market, size, location, and function. Energy Star buildings also showed as much as a 16% premium on their average selling price, this being driven by the buyer's desire for energy savings and for the Energy Star label itself. Based on a capitalization rate of 6% it can be estimated that the



Worldwide Engineering, Environmental, Construction, and IT Services

- Environmental / Engineering
- Construction / Design-Build
- Water / Wastewater
- Sustainability Services
- Brownfield Redevelopment

CONESTOGA-ROVERS & ASSOCIATES

4050 East Cotton Center Blvd., Suite 49 Phoenix, Arizona 85040 Phone: (602) 749-9400 Fax:(602)749-9500 Phone: (520) 623-9221 Fax: (520) 623-3065

www.CRAworld.com

incremental value of an Energy Star rated building is an incredible \$5.5 million more than comparable traditional commercial buildings.⁷

The US General Services Administration (GSA) released the results of a study in July 2008 that confirms the presence of yet another incentive for converting to a sustainably designed building. The GSA compared 12 commercial buildings with sustainable design features against traditional commercial buildings. The GSA found that across the board sustainable buildings exceeded the performance of traditional buildings in the areas of water and energy conservation, maintenance and operations, waste generation and recycling, employee trip reduction, and occupant satisfaction. Looking specifically at energy, the consumption levels of the 12 GSA buildings were compared against results from the national and regional Commercial Buildings Energy Consumption Surveys (CBECS) and the GSA national averages. In comparison the 12 GSA buildings consumed less energy than the CBECS averages (29% less) and most performed better than the energy consumption reduction goal set in place by GSA (14% less). The overall financial reward picture for sustainable



buildings in the GSA study shows that operating cost reductions were made that were as high as 45% over the baseline, showing a definite tie between sustainable buildings and financial savings.³

The Federal Government and the Future of Green Buil dings

On February 17th 2009 US President Barack Obama signed into law the American Reinvestment and Recovery Act of 2009 (also referred to as "the stimulus plan") to jump start the *Continued on page 22*

EPA Pesticide Exemption Rul e Overturned

Is another general permit coming our way soon . . . the AZPDES Aquatic Pesticides General Permit?

by Ed Latimer, PhD, PE, CPSWQ

The Federal government started the regulation of pesticides with the Pesticide Act of 1910. The focus of this law was to protect farmers from adulterated or misbranded products. Several decades later, in 1947, Congress broadened the federal government's control of pesticides by passing the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). This law began the shift in pesticide regulation from ensuring reasonably safe use of pesticides in agricultural production to minimizing risks associated with pesticides' toxicity and potential environmental degradation. Under FIFRA today, no person or business may sell, distribute, or use a pesticide unless this pesticide is registered by the U.S. Environmental Protection Agency's (EPA). Registration includes approval by the EPA of the pesticide's label, which must give detailed instructions



for its safe use.

EPA'S NPDES Pesticide Final Rule As a response to a series of cases involving pesticide chemicals remaining in waterways after applications that were consistent with FIFRA, the EPA issued a Final Rule (71 FR 68483) on November 27, 2007 exempting two types

(71 FR 68483) on November 27, 2007 exempting two types of the FIFRAcompliant pesticide application activities from regulation under the Clean Water Act (CWA) National Pollutant D i s c h a r g e



Farmer sprays pesticides. Photo courtesy USDA. Photographer: Keith Weller.

Elimination System (NPDES) permit program. The two types of applications exempt from regulation under the CWA NPDES permit program are:

 Pesticides applied directly to waters of the United States to control pests such as mosquito larvae and aquatic weeds, and
 Pesticides applied over or near waters of the United States where a portion of the pesticide is unavoidably deposited to such waters in order to target pests effectively.

To arrive at this rule, EPA interpreted several terms, one of which was "chemical wastes" (included in the CWA's definition of "pollutant"). To EPA, "waste" means that which is eliminated or discarded as no longer useful or required after the completion of a process. Because registered pesticides applied consistently with EPA-approved label restrictions are designed to control target organisms during a set period of time, their application, EPA interpreted "chemical waste" to be outside of the purpose and rationale for CWA permitting. Furthermore, EPA also stated that the application of pesticides over or near CWA-jurisdictional waters does not constitute a discharge from a "point source."

In the Final Rule, EPA identified "pesticide residuals" as "excess" amounts of pesticide that remain in the water after application and completion of the intended pesticidal effect, and concluded that such residuals are "pollutants" for purposes of the CWA. However, EPA also concluded that such pesticide residuals only become CWA pollutants at some point in time following application, and therefore do not constitute a discharge of a pollutant from a point source at the time of application. As such, EPA determined that pesticide residuals should be treated as non-point source pollutants under the CWA that are exempt from NPDES permit requirements.

Challenges to EPA Final Rule

Several environmental groups challenged the rule as contravening the CWA. Environmental organizations and industry groups immediately challenged the Final Rule by filing petitions for review in every federal Circuit Court of Appeals. Pursuant to an order of the Judicial Panel on Multidistrict Litigation, the petitions for review were consolidated in the Sixth Circuit.

On January 7, 2009, in the case of National Cotton Council of America et al. v. United States Environmental Protection Agency, the U.S. Court of Appeals for the Sixth Circuit overturned, and thus vacated, EPA's pesticide exemption rule, holding that pesticide residuals are "pollutants" and that the application of a pesticide does qualify as a "point source" discharge.

EPA's Response/Strategy

On April 9, 2009, the U.S. Department of Justice (DOJ) chose not to seek a rehearing. Instead, the DOJ filed a motion to stay issuance of the Court's mandate for two years to provide EPA time to develop, propose, and issue a final NPDES general permit for pesticide applications. The EPA estimates that the ruling affects approximately 365,000 pesticide applicators that perform 5.6 million pesticide applications annually. On June 8, 2009, the Sixth Circuit granted EPA the two-year stay of the mandate in response to their request on April 9, 2009.

There are 23 states that have some kind of aquatic pesticide permitting program, most of which are general permits. Two of these states are Washington and California. The EPA is evaluating these programs for possible national application. Per its website, EPA has already begun working closely with several state water permitting programs, the regulated communities, and environmental organizations in the developing a general permit that is protective of the environment and public health.

What to Expect in Arizona

The court's decision of the two-year stay for EPA's mandate applies nationally until April of 2011. Because Arizona has primacy of the NPDES program, it is likely that an Arizona Pollutant Discharge Elimination System (AZPDES) permit will be available by 2011 for pesticides applied directly to water to control pests and/or applied to

control pests that are present in or over, including near waters. Irrigation return flows and agricultural runoff will not require NPDES permits as they are specifically exempted from the CWA.

The Arizona Department of Environmental Quality (ADEQ) Water Quality Division is currently in the process of developing several AZPDES general permits, including the De Minimus General Permit, Multi-Sector General Permit, and the Small (Phase II) Municipal Separate Storm Sewer System (MS4) General Permit. It may be a little premature to speculate on what ADEQ will do to address the regulation and permitting of pesticides. ADEQ can either develop its own AZPDES permit or adopt the NPDES permit issued by









Environmental Drilling

Geotechnical Drilling

Water Wells

Pump Installation

Exploration

Geothermal/Geoloop

Air Knifing/Utility Clearance

Drilling Methods

HSA, Air Rotary, Mud Rotary, Reverse Rotary, Air Rotary Casing Hammer, Wire Line Coring

> Yellow Jacket Drilling Services, LLC PO Box 801 GILBERT, AZ 85299

Phone: (602) 453-3252 Fax: (602) 453-3258 Email: info@yjdrilling.com

EPA. So stay tuned for continued updates on the progress of this issue pertaining to permit requirements for pesticide applications in or near waterways.

Ed Latimer, PhD, PE, CPSWQ, of AMEC Earth and Environmental, Inc. in Tempe, serves as Manager and Technical Director of Water Resources. Dr. Latimer leads the firm's stormwater management and permitting services in Arizona, and can be reached at 602-818-2931 (cell) or by email at ed.latimer@amec.com.



Photo courtesy USDA. Photographer: David Nance. Journal of Environmental Management Arizona 19

Airtech Environmental Laboratories





TO-15 VOC Air Lab including modified methods BTEX, Gasoline & Jet Fuel Range, Naphthalene, Sulfides, and LEED[™] TVOC's

Soil Vapor Extraction (SVE), Landfill Gas, Vapor Intrusion Indoor Air Quality (IAQ)

On-site consulting available

On-site soil air sampling meets DEQ requirements

Low Volume Purge Pump Rentals

High Canister and Flow Controller Inventory

> Most experienced TO-15 lab staff in AZ

AIR IS ALL WE DO. OUR GOAL IS TO SET THE STANDARD IN AIR ANALYSIS AND SAMPLING.

www.azairlab.com

4620 East Elwood Street, Suite 13 Phoenix, Arizona 85040 Phone: (480) 968-5888

Environmental, Health & Safety Seminars

Fall 2009 / Spring 2010 Course Schedule, Class Descriptions, & Registration Fees, are available online @ www.poly.asu.edu/seminars/



OSHA, DOT, and EPA COURSES

Courses provided include:

- HazWOpER (40-Hr. & 8-Hr. Refresher)
- Hazardous Materials Transportation (49 CFR & IATA, Initial & Refresher)
- RCRA Regulation & Compliance (Initial and Refresher)
- Clean Air Act Regulatory Compliance
- Water Quality Laws & Requirements
- Emergency Response Technician Level
- Emergency Response to Terrorism

Register online @ www.poly.asu.edu/seminars/

Please contact Hal Berkowitz (480) 727-1323 for information on site specific courses. For registration information please contact Denise Kolisar @ (480) 727-1825

Our 21st year of providing regulatory compliance training courses.



News Briefs

EPA Takes Actions for Toxic Chemical Reporting Viol ations at Phoenix Facil ity

Recently, the U.S. Environmental Protection Agency fined HEAD/Penn Racquet Sports \$24,780 for allegedly failing to report the amount of toxic chemicals released by its Phoenix, Arizona, facility, in violation of the federal Emergency Planning and Community Right-to-Know Act.

The company failed to report emissions of N-hexane and zinc compounds from its facility to the EPA's annual Toxics Release Inventory for 2007. The Conn.-based corporation owns and operates the facility located at 306 S. 45th Avenue in Phoenix.

"These reports provide the public with valuable information about the toxic chemicals being released in their communities," said Nathan Lau, the EPA's Communities and Ecosystems Division associate director for the Pacific Southwest. "This should remind others that the EPA is maintaining a close watch over chemical reporting practices and is serious about enforcing community right-to-know laws."

Federal law requires that facilities using toxic chemicals over specified amounts file annual reports of their chemical releases with the EPA and the state. Information from these reports is then compiled into a national database and made available to the public.

Each year the EPA publishes a report entitled the Toxics Release Inventory Public Data Release Report, which summarizes the prior year's submissions and provides a trend *Continues on next page*

Emergency Restoration Experts Hosts September 2009, 8th Annual Charity Golf Tournament

Ergency Restoration Experts will host its 8th Annual Charity Golf Tournament to benefit the Foundation for Burns and Trauma on **September 12**, **2009**. ERE sponsors this event each year to "help ensure that every burn victim receives the critical resources & support that he/she needs". Funds raised are used to

help support programs in burn prevention, treatment, rehabilitation and research.

Last year the tournament, held at the Ocotillo Golf Resort, drew more than 140 golfers and sponsors who enjoyed a gorgeous day on the course while raising funds to support this important cause.

In 2008, the charity tournament raised \$3,800. For



PHOTO: After last year's tournament, ERE Founders and Principals, Heath Bradley (far right) & Bryan Bradley (2nd to right), present a check to Mike Merucci (far left), Executive Director of Foundation for Burns and Trauma. Also shown: Jessica Watkins (center left), Burn/ Trauma victim; and Adison Hennesy (cener), both burn trauma victims.

information on participating in this year's tournament, contact Emergency Restoration Experts at 480-507-9082. analysis of toxic chemical releases.

For more information on the program visit: http://www.epa.gov/tri. The U.S. EPA's environmental databases, including TRI data, can be accessed at: http:/ /www.epa.gov/enviro.

Consent Decree to Shift Groundwater Cleanup Oversight to ADEQ

✤ The Arizona Department of Environmental Quality would be given authority to oversee groundwater cleanup in Operable Unit 2 of the Motorola 52nd Street superfund site as part of a consent decree filed Thursday in U.S. District Court, ADEQ recently announced.

The proposed decree would shift oversight from the U.S. Environmental Protection Agency to ADEQ for groundwater cleanup at Operable Unit 2, which involves the companies Freescale Semiconductor Inc., Honeywell International Inc., Aviall Inc., Kachina Technical Services and Processes, and Joray Corp. Operable Unit 2 is located in Central Phoenix on the northwest corner of 20th Street and Washington Street, just north of Phoenix Sky Harbor International Airport.

"This is a win-win for the environment and all the parties working to speed up the cleanup," said ADEQ Director Benjamin H. Grumbles. "ADEQ is better positioned to lead local oversight and response, EPA is able to support efforts at a nationally significant superfund site, and the companies have a more effective and efficient process to get the job done."

Arizona Attorney General Terry Goddard also said that he was happy with the proposed consent decree.

"I am pleased that these companies will take responsibility to clean up the groundwater polluted in the 52nd Street superfund site. The health of our environment and our communities is a top priority of ADEQ and my office," Goddard said. "This settlement will not only save Arizonans millions in clean-up costs but, most importantly, it will help ensure that generations of Arizonans have access to safe, clean groundwater resources."

The Superfund site has been on the National Priorities List since 1989 and is divided into three operable units for ease of clean-up and oversight. In 1999, EPA entered into a judicial order with the companies for the construction and operation of a groundwater treatment system for Operable Unit 2. The consent decree lays out requirements for the operation and maintenance of the treatment system.

Since the Motorola 52nd Street site is under federal auspices, ADEQ will still consult regularly with EPA and EPA will provide guidance and assistance as needed. Since the Operable Unit 2 treatment system began operation in 2001, more than 7.86 billion gallons of water have been treated, and a total of nearly 10,800 pounds of volatile organic compounds have been removed.



There will be a 30-day public comment period before the consent decree can be finalized. ADEQ will give notice to the public regarding the comment period. Anyone wishing to comment can submit comments in writing to the court with a copy submitted to the director of ADEQ and the settling parties. All correspondence should refer to Case # CV 07-01989-PHX-SRB.

\$3.2 Mil I ion in Stimul us Funds for CI eanup of Leaking Underground Storage Tanks

✤ Arizona Department of Environmental Quality officials announced recently that more than \$3.2 million in federal stimulus funding has been received to assist with cleanups of petroleum contamination from leaking underground storage tanks throughout Arizona.

The funding will be used by ADEQ's Tank Programs Division to clean up leaking tanks at up to 23 facilities in Buckeye, Clay Springs, Concho, Coolidge, Dewey-Humboldt, Flagstaff, Globe, Greer, Holbrook, Parker, Phoenix, Prescott, Safford, Somerton, Sonoita, Wellton, Willcox, Winslow and Yuma.

The funds are provided through the American Reinvestment and Recovery Act of 2009 (ARRA) and are awarded to ADEQ through a grant from the U.S. Environmental Protection Agency.

The majority of the proposed projects are cleanups of petroleum contamination from leaking underground storage tanks for which owners cannot be identified or where owners are not financially capable of conducting cleanups. Two proposed projects are cleanups at school sites in Buckeye and Yuma.

Continued on page 8



RECOVERING TODAY'S RESOURCES FOR A CLEANER TOMORROW

We specialize in the treatment of non-hazardous liquid waste through physical separation, chemical treatment, biological treatment and sludge de-watering technologies.

- Waste disposal solution that is both economical and environmentally sound.
- On-site laboratory for profiling waste / sample technicians.
- After treatment, reclaimed water is returned to Arizona.
- Manage liquid waste for thousands of clients including some of Arizona's largest companies.
- Ask us about a cost effective alternative to your current waste disposal method.



PROSPECTING

For Environmental Business

"No-Bid" Has Never Been More Tough!

The last two installments of "Prospecting" have been associated in one way or another with the economic downturn, as is this one. In preparing for this edition, I found myself wanting to write about anything *except* our economy, but its reality presents unique challenges to sales and marketing departments of any shape and size, and I feel compelled to explore how it affects the way we prospect for new clients and build business. Next issue, I promise to take a different direction.

There you sit, reading through a proposal/quote request that mysteriously made its way to your desk. It looks good. All the services described are well within your firm's scope, your experienced personnel easily meet the stated requirements, the project or services are well within in your geographic coverage area and you've completed similar projects for other clients. Above all, you could really use the work. Seems like an easy decision. Right...No Bid.

When business is slow it's difficult to set opportunities aside, but sometimes it is the best decision you can make. Your firm's ability to carry out a particular scope of work better than anyone else means very little unless you can win the contract. Competition is fierce and your chances of winning a cold RFP are lower now than ever which puts a great deal of importance on up-front intelligence. In times like these there is a tendency to respond to whatever crosses your desk and a great deal of time, effort and money can be lost chasing empty opportunities. This puts the pressure directly on the business development staff to lead the pursuit of new business in a way that not only uncovers opportunities, but influences them in your favor. A well thought out go, no-go process with a focus on the intelligence your firm has about an opportunity, the client, their people, the selection process and competitors is a good start. But what about the intelligence gathering process itself? It can be a "Catch 22" of sorts. There is no time to gather intelligence when you're busy preparing proposals, and low-quality proposals are being prepared because there is no intelligence. Make the hard decision to set cold RFPs aside and raise the standards by which you decide to bid. Only go for what you've influenced.

If you've ever read through an RFP that you have influenced, you know how different the facts are from what is written in the document. Consider this when looking at RFPs



that you don't know much about. Chances are the circumstances behind the scenes are very different than what you are reading in the text, and someone else has the facts.

Joe Holmes is the Regional Manager of Business Development at ATC Associates. He can be reached at joe.holmes@atcassociates.com. Joe C. Holmes

Aiston: Adding Value to Your Existing Building: LEED EB

Continued From Pg 17

economy, create jobs, and rebuild the country's infrastructure.¹¹ Included in this robust and aggressive document are specific funding requirements for energy efficiency and renewable energy. \$18.5 billion is being invested in such areas as renewable energy development, weatherization assistance for low income families, and a grant program for reducing energy use and air emissions. This government backed initiative for supporting responsible consumption of energy on all levels, from residential homes to governmental buildings, provides a clear indication of the direction in which future legislation is heading. As investment in alternative energy and high-efficiency equipment becomes more wide-spread, we can expect each of these methods for achieving a level of building sustainability to also become more affordable, making LEED certification more easily attainable for those who seek to earn it.

Jennifer Aiston is an Environmental Engineer at the Intel Ocotillo Campus in Chandler, Arizona, specializing in chemical waste management. She has a Masters of Science in Environmental, Health and Safety Management from Rochester Institute of Technology in New York. Jennifer may be contacted at jennifer.aiston@intel.com or 480-715-2847.

Footnotes

- 1 Kibert, Charles J. Sustainable Construction: Green Building Design and Delivery. Hoboken: John Wiley and Sons, 2007. 49. Google Book Search. 2 Apr. 2009 http://books.google.com>.
- 2 Diamond, Richard C. Overview of the U.S. Building Stock. Jan. 2001. Lawrence Berkeley National Laboratory. 13 Mar. 2009 http://eetd.lbl.gov/ie/pdf/LBNL-43640.pdf.
- 3 United States Green Building Council, Existing Buildings: Operations & Maintenance. 1st. Washington D.C.: US Green Building Council, 2008.
- 4 Amy, Michael, and Barb McCabe. "LEED-EB Lowers Operating Costs, Report Finds." FacilitiesNet.com. Apr. 2009. 1 Apr. 2009 http://www.facilitiesnet.com/green/article/LEEDEB-Lowers-Operating-Costs-Report-Finds—10724>.
- 5 "USGBC Plans to Recognize Participants of LEED for Existing Buildings Pilot Program." E-Wire. 1 May 2003. 26 Mar. 2009 http://www.ewire.com/display.cfm/Wire_ID/1593>.
- 6 United States. Energy Information Administration. Total Electric Power Industry Summary Statistics. 11 Jul. 2009. 15 Jun. 2009 http://www.eia.doe.gov/cneaf/electricity/epm/tablees1a.html.
- 7 Kok, Nils, John Quigley, and Piet Eichholtz. Doing Well by Doing Good? An Analysis of the Financial Performance of Green Office Buildings in the USA. London: RICS, 2009. RICS.org. 13 Apr. 2009 http://www.rics.org/NR/rdonlyres/44F67595-7989-45C7-B489-7E2B84F9DA76/0/DoingWellbyDoingGood.pdf.
- 8 Database of State Incentives for Renewables & Efficiency. 24 Apr. 2009. North Carolina State U. 16 Apr. 2009 http://www.dsireusa.org/index.cfm?EE=1&RE=1>.
- 9 United States. Dept. of Energy. State Energy Alternatives: Tax Incentives. 29 Feb. 2008. 10 Apr. 2009 http://apps1.eere.energy.gov/states/alternatives/tax_incentives.cfm.
- 10 United States. Dept. of the Treasury. Notice 2008-40: Amplification of Notice 2006-52; Deduction for Energy Efficient Commercial Buildings. IRS.gov. 7 Apr. 2008. 5 Apr. 2009 http://www.irs.gov/irb/2008-14_IRB/ar12.html#d0e4228>.
- 11 United States. The White House. The American Recovery and Reinvestment Act of 2009. WhiteHouse.gov. 6 Jan. 2009. 10 Apr. 2009 http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf.



News Briefs

Continued From Pg 21

"This funding is significant because it not only allows ADEQ to further protect human health and the environment for the people in Arizona, but it also provides opportunities for revitalization of communities and increased property values," said ADEQ Director Benjamin H. Grumbles.

For information on ADEQ's use of federal stimulus funds for cleaning up leaking underground storage tanks throughout Arizona, visit http://www.azdeq.gov/recovery/index.html.

Clean Air Essay Contest: Maricopa County Air Qual ity Dept Seeks Jr High and High School Student participants

-The Maricopa County Air Quality Department announced it is seeking junior high and high school students to participate in its Clean Air Make More Essay Contest. The winner of this contest will receive a new laptop computer and a chance to read their essay at the annual air quality conference on October 20, 2009.

The theme of the essay is "What air pollution means to me and why I think air quality is important." The essay must be 2000 words or less and should be personal and honest. Students can write about their personal experiences, impacts to family and friends or an impact they have had in their school or community. The essay will be graded on the following criteria: Following the theme; Quality of writing; Organization and content; Originality, creativity and depth of thought; Impression and effectiveness

The deadline to submit an essay is September 15, 2009. Winners will be notified by October 5, 2009. Participants must reside and attend school in Maricopa County to participate. Essays should be submitted to cleanairawards@mail.maricopa.gov or to the following mailing address: Maricopa County Air Quality Department, Attn: School Outreach Coordinator, 1001 N. Central Avenue, Suite 900, Phoenix, AZ 85004

Additional details on the Clean Air Make More Essay Contest are available at: http://www.cleanairmakemore.com/essay-contest.html.

JOURNAL OF Environmental Management

ARIZONA

SUBSCRIPTIONS are FREE

to Qualified EH&S Professionals! Subscribe on-line at www.ehshomepage.com or call 480-422-4430



Regul atory Developments:

Legal News You Can Use Will Return Next Issue!

Mike C. Ford, Attorney



The Annual Air Quality Conference. October 20, 2009

Be a part of the Annual Air Quality Conference, October 20, 2009, at the Scottsdale Resort and Conference Center.

For more information contact Holly Ward at: hward@mail.maricopa.gov or (602) 506-6713



The Maricopa Air Quality Department would like to thank the following organizations for their Steering Committee partnership in this event:

ADEQ, Air Quality Division * American Lung Association in Arizona Arizona Chamber of Commerce and Industry * Arizona Chapter of Associated General Contractors Arizona Environmental Strategic Allance · Arizona Rock Products Association AWMA, Grand Canyon Section - City of Tempe - Home Builders Association of Central Arizona Huston Environmental Services . Maricopa County Asthma Coalition Maricopa Utilities Group • Quarles and Brady, LLP • Sierra Club, Grand Canyon Chapter

Partnering for cleaner air

BELFOR (•) ENVIRONMENTAL

Providing the Finest in Environmental Service

24 hour emergency spill response Soil remediation Storage tank cleaning and removal Vapor extraction system installation Asbestos abatement Waste management Bulk chemical transfer Industrial decontamination Lab packing



Offices in Phoenix, Denver, Atlanta, Portland, Colorado Springs 480-632-2119 800-930-0011



A World Leader In Environmental Services and Chemical Distribution

ChemCare[®] is a comprehensive waste management and disposal service from Univar USA.

You can depend on Univar to help you select the most economical and environmentally sound waste disposal technology available anywhere. We manage and dispose of your hazardous and non-hazardous waste products safely, quickly and efficiently.

Univar - Phoenix 50 S. 45th Street Phoenix, AZ 85043-3907 1-800-909-4897 Univar - Tucson 3791 E. 43rd Place Tucson, AZ 85713-5403 1-800-909-4897

For more information, please call us or visit our Web sites <u>www.univarusa.com</u> or <u>www.chemcare.com</u>

