

JOURNAL *Of* Environmental Management

Practical and Current Information for Environmental, Health and Safety Professionals

ARIZONA

EMERGENCY RESPONSE AND EVACUATION PLANNING

CHUCK PAULAUSKY, CHMM PG 16

COMPANY FOCUS: ARCADIS PG 6

TRI REPORTING REGULATORY DEVELOPMENTS

MICHAEL C. FORD, ATTORNEY PG 10

Change of Address?

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

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

SUBSCRIPTIONS

ARE FREE TO QUALIFIED
EH&S PROFESSIONALS.
SIGNUP ON-LINE AT
EHSHomepage.com **TODAY!**

April / May 2010 Vol 8 No. 2

Presorted
U.S. Postage
PAID
Permit 16
New Richmond
WI 54017

The 2010 Annual RCRA Seminar



RCRA:

Compliance Solutions & Beyond

One-Day Seminar

May 20, 2010

at the

The Manning House

450 W. Paseo Redondo

Tucson, Arizona

7:30am - 4:30pm

*Free parking for seminar attendees in
Manning House Parking Lot*

For more information contact Dave Mack at David.Mack@gcinc.com
or Lisa Cuestas at Lisa.Cuestas@tucsonaz.gov

Sponsorship Packages

EXHIBITOR: \$350

- Booth space for table top display
- Company & logo in conference binder
- One conference registration

BREAK SPONSOR: \$500

- Exhibitor package
- Sign at break buffets displaying sponsor name

For more sponsorship information, contact
Frank Bonillas

Frank.Bonillas@tucsonaz.gov

Seminar Registration *(please print clearly - one registration per person)*

Name: _____

Title: _____

Company: _____

Address: _____

City/State: _____

Phone/Fax: _____

Email: _____

Mail registration with **check payable to SAEMS** to
SAEMS, PO Box 41433, Tucson AZ, 85717. Attn: RCRA Seminar
or

Credit card (Visa, MasterCard, or American Express)

Credit Card No.: _____ Exp. Date: _____

Please check appropriate boxes

- ☐ \$130 Members
☐ \$140 Non-members
☐ \$180 New Membership (\$50) and seminar
☐ \$160 Late registration (after May 7, 2010)
☐ \$350 Exhibitor
☐ \$500 Break Sponsor

Total \$ _____

Lunch Included

☐ RECEIPT REQUESTED



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
www.univarusa.com or www.chemcare.com



© 2010 Univar USA Inc. All rights reserved. Univar, the Univar logo, the hexagon, ChemCare, and the three barrel logo are registered trademarks of Univar USA Inc.



7 Terminals
throughout the
Western states

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



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

From the Editor



Have you ever thought you would like to share your experience and some of your successful environmental projects with other environmental professionals, but sometimes you feel it may be more effective to just "show" what you did, rather than put it into a written article? Or, have you ever been tasked with an environmental project, from something as simple as figuring out how to keep labels from falling off chemical drums in your

outside storage area, to something as complex as building a wastewater treatment system, and thought it would be great if you could just visit a similar Arizona facility and learn from seeing how they did it? Well, sometimes seeing is the best way of learning, so the Journal is working on an expansion into online video to supplement our articles, columns, photographs, and advertisements with brief, weekly video tours, interviews, and training episodes, and more. An announcement on this exciting new project is coming soon!

In this issue, we continue our occasional series of 'company focus' articles. The focus this time is on ARCADIS (see page 6), with an emphasis on the company's recent successful mergers and expansion. In the article, "Emergency Response and Evacuation Planning" (see page 16), Chuck Paulausky, CHMM, outlines a clear list of steps to help you protect both your employees and your business.

We also have several great columns in this issue, as usual, including: ADEQ Director Ben Grumbles, on regulatory enforcement and other agency issues; Michael C. Ford, Attorney, helping us make sense of TRI reporting requirements, and Toxic Release Inventory Reports; Dr. Nick Hild on the future of electric vehicles; and Dr. Larry Olson on increasing access to scarce water resources. Our authors and columnists enjoy receiving your feedback about their articles, so please feel free to call or email them if you have questions or comments.

Have you been thinking of contributing an article to the Journal? Share your experience and expertise with other environmental professionals, please call me at 480-422-4430 x42.

Sincerely,

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



Proudly serving clients since 1976



**CONESTOGA-ROVERS
& ASSOCIATES**

**Environmental
Water / Wastewater
Compliance / Permitting
Construction / Design-Build
Brownfield Redevelopment
Hydrogeology**

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

1670 East River Road, Suite 100
Tucson, Arizona 85718
Phone: (520) 623-9221 Fax: (520) 623-3065

REGISTERED COMPANY FOR
ISO 9001
ENGINEERING DESIGN

3,000 Staff in 90+ Offices

www.CRAworld.com

Worldwide Engineering, Environmental, Construction, and IT Services

ADVERTISER INDEX

Aero Automatic Sprinkler Co.	12
Airtech Environmental Laboratories	17
ARCADIS	7
ATC Associates	3
Az State University EH&S Seminars	19
Belfor Environmental	17
Carter Affiliates, Inc.	5
Chemical Transportation, Inc.	13
Conestoga-Rovers & Associates	4
Environmental Response, Inc.	15
Hazard Prevention Institute	8
Kary Environmental Services, Inc.	5
Liquid Environmental Solutions	18
MP Environmental	3
N. Weiss Associates, Inc.	8
PSC	19
Red J Environmental	8
Republic Services	4
SAEMS RCRA	2
SESHA Symposium	20
Turner Laboratories, Inc.	16
Univar USA Inc.	3



**REPUBLIC
SERVICES**

Republic Services is an industry leader in Special / Industrial Waste disposal.

We service a variety of industries including: mining / mineral processing, automotive / transportation, food beverage, pharmaceuticals, power generation, refining, reclamation / remediation, construction / demolition, chemical processing and military as well as general manufacturing.



Arizona Office
623-241-8427

Visit our websites at:
www.specialwaste.info
www.republicservices.com

Journal of Environmental Management Arizona

EDITORIAL Publisher & Editor: James Thrush, M.S. Env. Management. Email: jimthrush@cox.net or call 480-422-4430 x42. **COLUMNISTS** Regulatory Developments: Michael C. Ford, Bryan Cave 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 eshompage.com or call 480-422-4430 x42. **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 x42. The Journal is published 6 times a year. Copyright © 2009 by the Journal of Environmental Management Arizona. All rights reserved.

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 or reliability of the content of the Journal. Readers are encouraged to contact authors, agencies, advertisers, 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 counsel 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.

JOURNAL OF Environmental Management

ARIZONA

April / May 2010

Volume 8 Number 2

Contents

Features and Articles

- 6 Company Focus: ARCADIS
16 Emergency Reporting and
Evacuation Planning
Chuck Paulausky, CHMM

Columns

- 9 Sustainability and Sustainable
Development
Back to the Future for EV's?
Nicholas R. Hill, PhD.
10 Regulatory Developments
TRI, TRI Again . . .
Michael C. Ford, Attorney
11 It's All About Chemistry
Water, Water, Everywhere . . .
Larry Olson, PhD.
13 From the Director ADEQ
"Hammers and Forks in the Road"
ADEQ Director Ben Grumbles

Departments

- 4 From the Editor
14 Associations Pages
12 News Briefs
4 Advertiser Index



Focus on: ARCADIS Pg 6



Regulatory Developments, TRI Reporting
Pg 10



www.cartercare.com/care

- * Hazardous Waste Management
- * Pollution Prevention Programs
- * Environmental Consulting / Regulatory Support
- * Waste Reduction / Recycling Equipment
- * Compliance Audits / Training

(520) 323-1100
715 N. Belvedere Ave., Tucson, AZ 85711



WWW.KARYENVIRONMENTAL.COM

ROC151767 L-05 ROC218820 C-05

24 Hour Emergency Spill Response

Phone: (480) 945-0009

Fax: (480) 945-8599

- Emergency Response • Soil Remediation • Lab Packing
- Training, Including: HAZWOPER; RCRA; and Confined Space
- Asbestos, Lead, and Mold Abatement • Confined Space Rescue Certified
- Temporary Technical Personnel • Clandestine Drug Lab Remediation



Cover Image: Plating shop processing tanks. It's almost TRI Reporting Time. See: TRI, TRI Again . . . Page 10.

Company Focus:

ARCADIS

The Journal continues our "Company Focus" series with a story of ARCADIS and its success weathering the difficult economy with collaboration

At a time when many organizations are downsizing just to survive, ARCADIS U.S. continues to expand and is demonstrating the success of its growth model through recent collaboration among its Arizona offices and community partners.

ARCADIS is an international company providing consultancy, engineering and management services in infrastructure, environment and buildings, to enhance mobility, sustainability and quality of life. ARCADIS develops, designs, implements, maintains and operates projects for companies and governments. With more than 15,000 employees and more than \$2.8 billion in gross revenue, ARCADIS has been a leader in Arizona's environmental community for more than 20 years.

Strength in Numbers

ARCADIS integrated PinnacleOne in 2007 and LFR Inc. in 2009, and recently merged with Malcolm Pirnie, Inc. Since the merger was announced in July 2009, the Arizona offices of ARCADIS and Malcolm Pirnie have been successfully working together to bring the full benefits of the combined entity to clients throughout the state. This combination builds on the depth and breadth of ARCADIS' existing capabilities, which were already bolstered by the acquisition of Arizona industry leader LFR Inc.

"ARCADIS, Malcolm Pirnie and LFR have all pursued similar client-centric philosophies and have worked for years to provide the Arizona market with solutions that match the entrepreneurial spirit of the customers we serve," said Robert Mongrain, ARCADIS associate vice

president. Additionally, the former PinnacleOne, headquartered in Tempe, AZ is now ARCADIS' PMCM operations nerve center. "The opportunity to combine the strengths of these individual organizations is of tremendous benefit to current and future clients, and allows us to remain flexible during an unpredictable economy because of these added capabilities."

The mergers with PinnacleOne, LFR, and now Malcolm Pirnie allow ARCADIS to harness more than 200 experts eager to support our local economy and serve additional statewide clients.

"While both ARCADIS and Pirnie are established in water resources nationally, Pirnie is the premier provider of water/wastewater services in Phoenix and Tucson," explained Mongrain. "Its municipal relationships, coupled with ARCADIS' industrial relationships, allow us to deliver comprehensive engineering and management services while increasing savings and efficiencies for clients."

The same holds true for the former PinnacleOne and LFR whose understanding of the state and its evolving landscape proves extremely beneficial to the long-term health of ARCADIS.

Mongrain added, "LFR's technical capabilities and industry innovations, as well as its statewide relationships, will expand our current clientele and project diversity."

Sustainable Partnerships and Projects Guarantee Long-term Success

While the Phoenix and Tucson offices of ARCADIS have a diverse range of current clients and projects, a common thread runs throughout – a commitment to working with community partners to provide long-term, sustainable solutions. This focus has also been key for the organization as it withstands fluctuations in the market.

A prime example of this commitment is a project from May 2009 with APS Energy Services for the Sedona-Oak Creek Unified School District. As part of a larger energy conservation project being implemented throughout the district, ARCADIS' PMCM division assisted APS Energy Services' with the installation of a 100 kilowatt (kW) solar photovoltaic system at the Big Park Community School in Sedona. At the time, this project was the largest solar generation facility at an Arizona public school campus, and resulted in annual kilowatt hour (kWh) reduction of over 155,000 kWh, or savings equal to 111 metric tons of carbon dioxide.

The solar photovoltaic system was one of several projects with APS Energy Services that included classroom additions,



Above & at Left: ARCADIS U.S. Operations worked with APS Energy Services and the Sedona-Oak Creek Unified School District to install a 100 kilowatt (kW) solar photovoltaic system at the Big Park Community School in Sedona. The project was one of many ARCADIS' Program Management / Construction Management (PMCM) group provided for the school district to create savings of more than \$114,000 annually. *Photos provided courtesy of ARCADIS.*

renovations and energy improvements that save the district more than \$114,000 annually. ARCADIS managed each of these projects as part of its commitment to sustainable projects, community partners like Arizona Public Service and creating a better future for local clients.

Local Commitment Deepened

The recent expansion locally also means ARCADIS is solidly embedded in even more communities across the state. From Yuma to the four corners

Continued on next page

- Environmental evaluation and remediation
- Program, project and construction management
- Environmental, health and safety services
- Infrastructure design and engineering
- Environmental impact assessments and permitting

For more information, write us at
environment@arcadis-us.com

PHOENIX SCOTTSDALE TEMPE TUCSON

www.arcadis-us.com



Imagine the result

Company Focus: ARCADIS

Continued From Pg 7

region and Kingman to Bisbee, ARCADIS employees are committed to Arizona on both a professional and personal level given their first-hand understanding of the individuals and businesses crucial to the state's engineering and management industry.

"This is where our families live and work, so we have a vested interest in ensuring that not only our business is successful, but that our Arizona clients are able to thrive and grow," explained Bernie Frist, ARCADIS associate vice president of environment management, planning and compliance services. "This is part of the larger ARCADIS philosophy of creating long-term sustainable relationships that improve the lives and opportunities in communities we serve."

This commitment is also demonstrated in the many hours employees dedicate to national and industry associations as well as Arizona organizations including Valley Forward Association, the Arizona Hydrological Society, Environmental Professionals of Arizona, the Arizona Chamber of Commerce and Industry, the Arizona Consulting Engineers Association, Semiconductor Environmental Safety and Health Association, Arizona Geological Society and the Tucson Gem and Mineral Society.

Leaders from the Arizona offices of ARCADIS and Malcolm Pirnie serve as board members, committee chairs and strategic partners with each of these local organizations. It is this involvement that allows them to have a deep understanding of the industry as well as their clients' needs from a broader, more comprehensive perspective.

Arizona Clients Share Global Expertise

Along with its local commitment, ARCADIS set themselves apart in this economy through an ability to call upon a global network of world-renowned engineering experts. Arizona clients are assured that the most qualified person, regardless of where they are physically located, will be utilized to assess situations and create customized solutions.

"Whatever challenges our clients face, we can take those projects to the top technical leaders in the world to develop plans



Providing Environmental & Waste Management Solutions

RED J Environmental

Phoenix Office:
1465 N. Fiesta Blvd., Ste. 106
Gilbert, AZ 85233
(480) 557-7371

Northern Arizona Office:
P.O. Box A
Joseph City, AZ 86032
Toll Free: (877) 571-0313

Vacuum Truck Services
Roll-Off Containers
Hazardous Waste Disposal
Waste Transportation
Remediation Services
Dry Well Cleaning
Soil Excavation

GSA Contract Holder



that can save them time and money," explained Mongrain. "This way we are always putting the client's needs first and not limiting their opportunity to experience the very best resolution."

Looking Ahead

As the integration of offices and staff members continues for ARCADIS, the organization assures clients and industry partners it will continue to seek a balance in this economy through diversification of services and pursuing local partnerships and projects that create a lasting impact on the community.

ARCADIS' Arizona leadership remains committed to the state's mining industry, downstream distributors, and the oil and gas industry from a remediation perspective. In addition, ARCADIS will continue to focus on energy work – from solar to site hydrology, to permit and planning and site civil engineering of renewable energy.

"We are committed to both the local industry and Arizona as a whole, and will continue to demonstrate that through services that enable the community to become a safer, more sustainable place to work and live," added Frist.

Bernie Frist can be contacted for Arizona ARCADIS inquiries at 602.438.0883. In addition, ARCADIS maintains a Web site at www.arcadis-us.com.



Hazard Prevention Institute (HPI)
Safety, Environmental & Emergency Management Solutions

Training & Consulting Services

Office: (520) 887-0355
Cell: (520) 440-1352
Fax: (520) 887-0180; Toll Free: (800) 915-2492
E-mail: miguel@hazardprevention.com
Website: www.hazardprevention.com

Miguel A. Rodriguez
President

N. Weiss Associates, Inc.
Environmental Compliance Services

Experience Counts

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



Sustainability and Sustainable Development

Nicholas R. Hild, PhD.

Back to the Future For EV's?

Depending upon whose statistics are used, if you include jet fuels, somewhere between half and two-thirds of our fossil fuels are used in transportation. It should be no surprise then that we need to step up our efforts to reduce our fossil-fueled vehicle offerings and increase our efforts to find non-fossil-fueled alternatives as rapidly as possible. The fact is, however, we still only have a handful of alt-fueled vehicles (i.e. hybrids) to choose from, and absolutely no 'totally electric vehicles' (EVs) that are yet available in the U.S. unless you include the \$100,000 Tesla Roadster EV (a bargain for 244 miles per charge).

No one predicts that we will ever go "totally" electric and it is likely that our future transportation choices will be a combination of hybrids, totally-EVs, and combinations of hydrogen and various fossil-fueled work horses for heavy-duty applications. But most automotive industry observers agree that, for the near-term future, totally-EV compact commuter-type vehicles should be our focus.

Of course, just making projections about EV popularity is a risk, since pure EVs have yet to appear on the car-buying public's radar but some states and a lot of savvy Wall Street automotive industry followers are bullish on EVs. Deutsche Bank Securities reported recently that "...the market underestimates the potential for growth in the EV market—especially with the friendly government policies and independent infrastructure companies focused on penetrating the market with EVs..."

But, car-buyers are a fickle lot. A March 2010 study released by management consulting firm Accenture found that more than half of people polled in the U.S. and Canada said they would not pay more for an EV or hybrid vehicle (than a conventional fossil-fueled car) and half said they wanted charging to take only 20 minutes, or much less time than the several hours that most plug-in systems take. In fact, only 5% said they were likely to buy an EV while 70% would buy a hybrid in the next two years, but only *if* those "conditions" were met—but, this

survey was before the Toyota problems tanked the hybrid market so who knows what the "public" wants now?

So what is the state of EV production today? Nissan will soon introduce an EV called the Leaf that is a subcompact model which is expected to sell in the high-\$20,000 to-low-\$30,000 price range—sounds like a lot for a mini-car but with the current \$7,500 federal tax credit that can be applied, it makes it an attractive alternative to, say a hybrid like Chevy's Volt "extended-range" offering that is expected to cost around \$40,000 and require gasoline to fire the generator that charges the batteries on the fly—it is still a 'hybrid' but has EV features that make it attractive. And, then there is the soon-to-be-announced Mini Cooper EV plug-in thought to be in that same price and mileage range but, those three are all there are on the horizon.

But, there is hope for the future, nonetheless—hope in the form of aftermarket R & D companies like Silicon-Valley based Coulomb Technology, GoSmart, AeroVironment and Control Technologies are working on charging station technologies that will be installed at your home, as well as in office and mall parking lots—so drivers who normally drive less than the 50 to 75 miles that batteries are good for, can get a plug-in charge to make the return trip, while they work or shop. Since the EV support infrastructure isn't yet on the drawing boards for most cities, these private charging station companies are likely to provide the best source of confidence for the EV buyer in the near term—and probably at a cheaper cost than systems designed and operated by public entities.

But, even better news comes from another SiliconValley-based company called "Better Place" that promises to set up a system whereby *subscribers* won't have to worry about the battery cost of their cars at all. Better Place will pay for those units if customers agree to a subscription plan like those everyone has for buying mobile phone minutes—so many dollars for so many minutes. They are already making progress with this 'system' in Denmark and Israel, where there are battery-swap stations where subscribers can have their batteries swapped out if they are in danger of exceeding the mileage range on a given trip; its all a part of the subscriber services Better Place offers that are "perks" that are akin to having Triple A service on the road to give you a charge and send you on your way.

So, where does that leave us with EVs in our future? The short answer is, we are not there yet but, in the next few years, companies like Better Place and other silicon valley R & D firms (i.e. remember, those were the think-tanks that perfected our microprocessor-driven world we now live in) will find the technologies that marry the best features of hybrids, batteries, and electronics from current automakers with the microelectronics capabilities that cell phones and microwave towers can offer, to make our future commutes totally electric, as we move back to the future 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.



Michael C. Ford, Attorney

Regulatory Developments

TRI, TRI Again . . .

In the spring a young man's fancy lightly turns to thoughts of love.¹ For the environmental manager, spring should turn one's fancy to thoughts of TRI reporting, to avoid one's thoughts later becoming nightmares of writing checks to EPA. EPA consistently pursues enforcement actions for TRI reporting violations, and six figure fines are not uncommon. However, with advance planning and preparation, the risks of getting caught in the TRI enforcement web, or at least escaping relatively unscathed, can be minimized.

TRI reporting requirements are (relatively) simple only in the abstract: to paraphrase, companies with 10 or more employees in certain SIC codes that manufacture, process, or otherwise use certain chemicals above certain quantities, must file a "Toxic Release Inventory" report by July 1 each year covering the previous calendar years activities.² In practice, the program is often exceedingly complex, as suggested by the hundreds upon hundreds of pages of dense guidance documents issued by EPA — "forms and instructions," "question and answers" documents, industry-specific guidance documents, etc.³

EPCRA is a "right-to-know" law, and EPA persistently trumpets the TRI program's importance in providing "vital information" to the public that in turn helps reduce the quantity of toxic chemical releases. In reality, the information provided is likely not well understood by the public, and of dubious importance in reducing toxic chemical releases.

For example, 30% of the TRI releases in 2008 were reported by mines. This surely conjures images in the mind of John Q. Public of teeming smokestacks and vile, discolored streams. Few understand that the mining industry and EPA have long disputed the applicable reporting requirements for mines. In particular, EPA has insisted that mines report as "releases" the metals in such materials as overburden and waste rock. These materials, being in a mineralized area, naturally contain trace amounts of metals, and large quantities of this material may have to be moved to gain access to the underlying ore. No toxic chemicals are created in this process, or added to the environment that weren't already there, but because of EPA's interpretations,

mines must report these quantities as "released to the environment." As a result, mines (and therefore mining states like Arizona) are disproportionately represented in the TRI data reports each year, particularly when metals prices are high and mining activity is strong. However, this sort of data reveals next to nothing about any threats to the environment or the public. But I digress.

EPA's self-disclosure policy provides a potential partial or complete "get-out-of-jail-free-card" for TRI reporting violations (as well as violations under other statutes).⁴ However, to qualify, the violator must meet at least 8 of 9 requirements, including that the violation be discovered voluntarily, and disclosed promptly upon discovery *i.e.* within 21 days. Failure to meet any of eight conditions may result in disqualification from the offered penalty reductions. Therefore, the violator needs to be prepared to move quickly upon discovery of a TRI reporting violation in order to have a chance of claiming the significant penalty reductions that are offered. Unfortunately, violator's often miss the opportunity by responding too slowly and/or because they are unaware of the time limits.

To qualify for 100% penalty reduction, the violator must discover the violation through an environmental audit or environmental management system (EMS). This is one of the benefits of auditing, and implement an EMS. Facilities that do not qualify will pay a penalty, as they can only qualify for a reduction of up to 75% of that dictated by the applicable EPA penalty calculation policy.

TRI reporting entities should also be aware of EPA's penalty policy for TRI violations.⁵ The penalty policy explains how EPA will calculate a penalty for use in settlement negotiations. Several of these factors are impacted by how the violator proceeds once the violation is discovered, and even before this time, during the investigation process. For example, penalties will be lower for late filings that are made within one year of the due date, than those made more than a year late. Penalty amounts can also be reduced up to 30% based on the violator's "attitude," which includes consideration of such factors as the violator's cooperation, responsiveness and efforts to come into compliance. This is another reminder, for those that need it, that being rude and unresponsive to agency representatives rarely, if ever, pays off.

The TRI penalty policy also allows for the use of Supplemental Environmental Projects (SEPs) to divert penalty dollars to environmentally-beneficial projects rather than the federal treasury. However, EPA has become increasingly stringent in recent months on the projects it will accept as SEPs. In addition, certain projects that have been granted funds under the various recent federal bailout and "job creation" bills are no longer eligible as SEP projects. For example, equipment donation to fire departments and emergency responders—long a staple of TRI SEPs—is no longer allowable. As a result, more of your penalty dollars will end up in a federal bank account. With a little contingency planning, however, this unfortunate result can often be avoided.

FOOTNOTES:

- 1 Tennyson, A. L.
- 2 TRI reporting forms and guidance can be found here: http://www.epa.gov/tri/guide_docs/
- 3 Id.
- 4 (See <http://www.epa.gov/compliance/resources/policies/incentives/auditing/auditpolicy51100.pdf>).
- 5 <http://www.epa.gov/compliance/resources/policies/civil/epcra/epcra-sec311-mem.pdf>.



Larry Olson, PhD.

It's All About Chemistry

"Water, water, everywhere Nor any drop to drink"

Samuel Taylor Coleridge had it right in *The Rime of the Ancient Mariner*. We're surrounded by water, but we have a water crisis. Water covers 71% of the earth's surface and there is something like 1.38 billion km³ of water on earth. Unlike petroleum, we don't use it up. For the most part water is still H₂O when we're done with it and there is as much water on earth as there has ever been. So what is the problem?

It's not just water we need, but fresh water and 97.5% of the earth's water is in the oceans or brackish. That leaves only 2.5% or about 35 million km³ as fresh water. That should still be plenty since the per capita use of water is 534 m³ per year for a total human usage of 3.6 x 10³ km³ per year. But 70% of this fresh water is locked in ice and permanent snow and most of the rest is in groundwater. Only 0.3% of fresh water is in lakes and rivers. Even so, on an average basis, there should still be plenty of fresh water available. But the water isn't distributed on an equal basis around the world. Increasingly, supplies don't match up very well with where large populations live.

Water stress can be defined as consumption greater than 10% of the renewable replacement rate. By this definition 1/3 of the world lives in areas with moderate to high levels of water stress and by 2025 that could rise to 2/3, or more than 4 billion people.

One example of how things are changing is the Tibetan plateau, home of the Himalayas. The vast glaciers here feed many of the major rivers of the world including the Yangtze, Yellow, Mekong, and Ganges. Altogether 2 billion people depend upon this glacial melt. There has been some controversy over the latest IPCC report which claimed that Himalayan glaciers could melt by 2035. But the Tibetan plateau is heating up almost twice as fast as the rest of the world (1.3 °F vs 0.7 °F) and 95% of the glaciers in this region are losing mass (more than 6% since the 1970s).

In the next couple of columns, I'd like to look at some options currently being pursued to increase our access to fresh water, including better management practices. One option is desalinization of salt or brackish water. Over 300 million people today, mostly in the Middle East, are dependent upon this technology. Costs to desalinate water have plummeted but it is still considerably more expensive than other sources of fresh water. 16 billion gallons per day of fresh water is now produced by 14,000 plants, but this is still less than 1% of the total need.

Most desalinization plants use distillation or reverse osmosis which both require copious amount of energy. Two new methods which are being developed may get around this barrier. Carbon nanotubes with diameters less than 2 nm have been designed where pores allow uncharged water to pass through, but not charged salt ions (J.K. Holt, et al (2006) *Science*, 312, 1034-1037). Classical theory predicts that as you shrink the pore size the flow rate should drop precipitously. But maybe because of the smooth interior of the pores or some other phenomena, the flow rate is 10,000 times what is predicted. This means much lower pressures are needed than for example in reverse osmosis.

Another new idea is to simulate the aquaporins, or water pores, that occur in cellular membranes that allow water to pass through the cell wall. Peter Agre won the Nobel Prize in chemistry in 2003 for his discovery of the first water channel. A typical cell membrane is composed of lipid bilayers that are relatively impermeable to water. But specific proteins embedded in the membrane can create a narrow channel through which water can flow. Because the protein carries a positive charge at the center of the channel, it prevents the passage of ions. Developing a synthetic aquaporin that could exclude salts but allow passage of water is being pursued as a low energy means of desalination.

In the next issue we'll look at other ideas for water purification and conservation.

News Briefs

Maricopa County Air Quality Department to search for new Director

❖ In February, Air Quality Department Director Lawrence Odle announced his retirement from the agency. Odle, who has held the position since October 2008, cites personal reasons for his departure. In an announcement to staff, Odle shared his news, "I now find it necessary to relocate closer to an out-of-state family member to continue to provide primary assistance."

Director Odle operated the department following two main goals; to reduce the number of times our region exceeds the federal health standard in air pollution and to improve customer service. Under Director Odle's guidance, the department instituted several improvement initiatives including a reduction in permitting and enforcement backlog, activation of the department's first mobile air monitoring unit and the creation of several task force programs including after hours inspections, monitoring surveillance and a Universal Inspector program.

"We are grateful for the time Director Odle spent with Maricopa County and wish him all the best in his future," states Assistant County Manager Joy Rich.



Lawrence Odle, Former MCAQ Dept Director

Now the search for a new agency lead will begin. During this recruitment process, the county's Deputy Public Health Director Max Porter will serve as the acting Air Quality Department Director. Porter will oversee six divisions of 181 employees with an operating budget of more than \$18.5 million.

Porter is a highly regarded professional within Maricopa County having served as the Public Health Department's Deputy Director for the past four years. He will carry forth the department mission and vision during this transition.

Pinal County Settles Lawsuit Over San Pedro Road

❖ Pinal County recently announced on the county's website that a dispute over a road that has existed since the 1800's, has been settled between Pinal County and three environmental groups.

Pinal County settled a lawsuit that threatened to cut off numerous residents from ingress and egress to their properties. The county rejected requests by the environmental groups for restrictions on future Pinal County road maintenance activities. In turn, the conservation groups agreed to dismiss their claims without obtaining road maintenance restrictions.

San Pedro Road was in existence before Arizona became a state in 1912. This is a vital roadway into and exiting the small community located in the eastern part of Pinal County. Keeping San Pedro Road open and properly maintained is essential to the health, safety and enjoyment of the residents of Dudleyville, along with other nearby communities.

According to the county's announcement, contrary to the claims made by the environmental groups in the lawsuit, as well as in a recent press release, Pinal County did not "seize property" belonging to the federal government. Nor did the county illegally discharge dredge or fill material in the San Pedro River. Pinal County has the right and obligation to properly maintain San Pedro Road so that residents, visitors and emergency vehicles can access land west of the river. Pinal County has been doing this maintenance for decades.

In the lawsuit, the environmental groups claimed that a single act of road maintenance near the San Pedro River was harmful to birds, including the Southwestern Willow Flycatcher.

The environmental groups elected ... to dismiss their lawsuit with prejudice. This lawsuit forced the county to spend over \$500,000 to defend itself against these allegations.

Pinal County is committed to spending its resources to protect the environment and to maintain county roads and other property.

State Inmates Collect Highway Trash

❖ Arizona Department of Corrections inmates collected nearly 5,000 bags of litter and debris from the westbound lanes of Interstate 10 in the first week of Operation Clean Sweep, Governor Jan Brewer announced recently.

In the program's first week, up to 100 inmates from three institutions stretched along 70 miles of roadway between Tucson and Phoenix and completed litter removal along the westbound lanes. "Our difficult economy has required the

Jason Bolen

Cell 602.739.0083
jbolen@aerofire.com

623.580.7800

Fax 623.434.0029



21605 N. Central Ave.

Phoenix, AZ 85024

elimination of 20 percent of state government spending," said Governor Brewer. "Using inmates to remove litter from the road is an inexpensive government reform effort and a creative way to clean up a major Arizona commerce and tourism corridor," Brewer said. In the second week, those inmates moved to the eastbound lanes.

The project came out of Brewer's instructions to state agencies to save state resources while still providing services taxpayers expect. ADC is partnering with the Arizona Department of Transportation to saturate the busy stretch of highway to remove litter.

Corrections Director Charles L. Ryan said inmates are paid 50 cents per hour. "The inmates are performing an important community service and saving the state money," Ryan said. "For a little more than \$300 a day, I-10 is getting an extreme makeover that drivers will notice."

Parker Business to Pay \$55,000 Penalty to Resolve Air Quality & Waste Violations

✦ The Arizona Department of Environmental Quality and Arizona Attorney General's Office announced recently that LiquidTitan, LLC of Parker has agreed to pay a \$55,000 penalty under a consent judgment for air quality and waste violations at its used oil and petroleum facility in La Paz County.

ADEQ inspections over a four-year period revealed a host of violations at the refinery, which produces gasoline, diesel fuel and used oil fuels and is located at 31645 Industrial Lane in Parker.

The air violations included failing to stop releases of volatile organic compounds because vapor leaks and blockages in the vent lines to the refinery flare kept emissions from being controlled; burning of used oil fuel without an air quality permit revision; and failure to comply with self-inspection, sampling, testing, record keeping and reporting requirements.

The waste violations included failing to stop releases of used fuel oil to the soil from tanks and leaking valves; constructing and operating used oil storage and processing tanks without required backup containment; failure to label, properly store and dispose of used oil sludge containing elevated concentrations of lead and chlorine without a hazardous waste permit; and failure to properly screen or sample used oil for a variety of contaminants.

LiquidTitan has hired environmental management firms and spent about \$900,000 since 2006 to return to and maintain compliance.

"Environmental stewardship is always good business because it saves money over the long run and reduces risk to public health. In this case, the company has stepped forward to fix air and waste violations and invest in long term compliance and that's good news for the environment and economy of Arizona," ADEQ Director Benjamin H. Grumbles said.

"Any company handling used oil products needs to rigorously comply with state standards to protect the health of our citizens and our

environment," Attorney General Terry Goddard said.

The consent judgment is subject to court approval.

Pima County Announces Changes to Solid Waste Services

✦ Pima County Department of Environmental Quality announced recently that Pima County will change solid waste services beginning July 1, 2010, to reduce the Solid Waste Division's budget deficit. The changes include temporary closure of the Sahuarita Landfill and temporary closure of the Ina Road Commercial Landfill including the Green Waste Collection site and Waste Tire facility. The Ina Road solid waste services will be moved to the County's Tangerine Landfill site. In addition to the Tangerine Landfill, the Pima County solid waste transfer sites at Catalina and Ryan Field and the Ajo Landfill will remain open for use. Pima County will also pursue the development and operation of a future transfer station at Tangerine through a public-private partnership.

The Sahuarita Landfill is projected to operate at a \$351,000 annual deficit for Fiscal Year 2010/11 which begins July 1, 2010. The deficit includes an approximately \$100,000 "host fee" that is paid to the Town of Sahuarita. "If we raised the tipping fee to cover the deficit, the cost to users would be too high," said Ursula Kramer, Director of PDEQ. "And people would drive to the City of Tucson's Los Reales Landfill where the tipping fee would be significantly less and our financial deficit would grow even bigger," Kramer added.

REMEDIATION | TRANSPORTATION & BIN SERVICE

CT
Chemical Transportation inc.
ENVIRONMENTAL SERVICES

ACCIDENTS
INJURIES
INCIDENTS
TOLERANCE
ZERO

Your partner on the road to a Cleaner Tomorrow

ct-environmental.com

PO Box 397 Rillito, AZ 85654 800-362-4952 tel: 520-624-2348 fax: 520-682-3509	1945 E. Jackson St. Phoenix, AZ 85034 833-444-7077 tel: 480-784-4833 fax: 602-275-1666	400 Inglewood Dr., Suite E El Paso, TX 79927 888-999-2260 tel: 915-860-1161 fax: 915-860-1401
---	--	---

INDUSTRIAL SERVICES | WASTE MANAGEMENT

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.



www.eia-az.org



www.azhydrosoc.org

The AHS chapters have been busy! The Phoenix Chapter attended a very successful ASU GeoClub Student/Professional Informal Meet and Greet on Mar. 9 at the ASU School for Earth and Space Exploration and went on to help judge entries in the Arizona Science and Engineering Fair for k-12 students on Mar. 24. At the April 13 dinner meeting, Marvin Goltfelty of Clear Creek Associates presented "Evaluation and Rehabilitation of Water Wells."

The Tucson Chapter helped judge the Southern Arizona Regional Science and Engineering Fair on Mar. 9 and participated in the U of A's annual Dia Del Agua and other events as part of School for Earth and Environmental Sciences Earth Week, Mar. 29 through April 3. At Tucson's April 13 dinner meeting, Lee Allison, State Geologist and Director of the Arizona Geological Survey, presented "Building a Global Data Network in the Geosciences."

In the North Country, the Flagstaff chapter supported the NAU Earth Science Seminar Series by attending the 2010 Jahns Distinguished Lecturer on Mar. 5 and then hosted Charlie Ester, Salt River Project (SRP), for a dinner talk on SRP's dynamic role in Arizona water supply on March 24.

Looking ahead: April 30-AHS Scholarship applications due. July 31-AHS/IAH 2010 Annual Symposium Early Registration deadline. Sept. 1-4 -AHS/IAH 2010 Annual Symposium at the Westin La Paloma in Tucson. Please visit our website for additional information.

Christine O'Day
Executive Director



Arizona
Environmental
Strategic
Alliance

www.azalliance.org

Participants from across Arizona have registered for the Alliance Green Arizona Educational Youtube Video contest. The videos will promote creative ways to protect the environment. The winning videos will be announced on our website soon!

The Alliance has selected 2010 focus areas. We will continue to provide speakers and mentors on EMS, and we will complete the ReUseAZ Green Arizona Youtube Video contest this spring. In addition, the Alliance is planning to host a Water Issues Luncheon, an Air Quality Luncheon, and its Member Annual reports luncheon. Dates for the events will be announced both here in this column and on our website. If you are interested in participating in any of these events let us know.

Matt Conway
Chair



www.awma-gcs.com

AWMA-GCS held two events in Feb. On Feb. 1, members were provided free admission to the EUEC Energy and Env. Conf. reception and exhibit hall at the Phoenix Conv. Center, followed by a presentation. Barbara Toole O'Neil, Principal Consultant for Verification, Validation and Monitoring Services for Det Norske Veritas (U.S.A), Inc. (DNV) Climate Change Services N. America gave a presentation on greenhouse gas verification options. The president of AWMA Int'l, Gwen Eklund, also attended and visited with members. AWMA-GCS would like to express appreciation to Dr. Prabhu Dayal, President of EUEC, for providing the free admission and presentation room.

On Feb. 25 at the Quarles & Brady Law Offices, Roger K. Ferland, Esq., presented "From the Backburner to the Frontburner: A Critical Look at Environmental Justice." This annual Feb. event is held in association with the State Bar of Arizona, Environmental and Natural Resources Section. AWMA-GCS appreciates the ongoing support from Quarles & Brady for this event. On Mar. 19, AWMA-GCS toured the Salt River Pima Maricopa Indian Community (SRPMIC) Materials Recovery Facility (MRF). The next AWMA meeting is scheduled for April 29 and the topic will be sustainability. The May meeting is scheduled for May 20 at noon. Professor Jean Andino from ASU will speak on waste-to-energy research. Check our website for info. on meetings and membership. Contact me at darcy.anderson@redhorsecorp.com or 520-360-2641.

Darcy J. Anderson
Chair



American Society of Safety Engineers

The ASSE Southern Arizona Chapter sponsored two kindergarten classes at Desert Willow Elementary School (Vail School District, Tucson, Arizona) in the 8th Annual ASSE Kids Safety-On-The-Job Poster Contest. The chapter provided the supplies and worked with the teacher to incorporate worksite safety



into her weekly lesson plan. The teacher also encouraged the parents to discuss how they stay safe on their jobs. The week ended with Janet Gallup and Gerry Coley, both SAC ASSE officers, coming into the class to discuss ways people stay safe while on the job.

Shari Di Peso
Secretary



AHMP
Thunderbird

www.thunderbirdchmm.org

The Thunderbird Chapter of AHMP (Alliance of Hazardous Materials Professionals) is very excited to announce another CHMMunity Outreach Program for Spring 2010! In cooperation with the Salt River Pima Maricopa Indian Community (SRPMIC), a celebration of Earth Day 2010 will include a household hazardous waste collection for all SRPMIC residents. Anyone interested in volunteering on Saturday, April 24th, between 9 AM - 2 PM, may contact myself or any other Thunderbird board member for further details. Volunteers will be needed to help unload household chemicals from arriving cars and assist with initial sorting of materials. Basic PPE will be provided to all volunteers. The collection event will occur at the community center near the 101 and Osborn Rd. in Scottsdale. What better way to celebrate Earth Day than to help others and the local environment!

AHMP/EPAZ monthly lunch meetings are held from 11:30-1:00 on the second Thurs. of each month, at the SRP PERA Club in Tempe, please check your emails for the meeting notice. Meeting details: www.thunderbirdchmm.org or www.epaz.org.

Calendar Items:

April 8 - Luncheon Meeting - TBD
May 13 - Luncheon Meeting - TBD
June 10 - Luncheon Meeting - TBD

Matt Jacobs
CHMM
Board Member



Vicky Aviles
Past President



www.EPAZ.org

Margaret LaBianca, a partner at Bryan Cave LLP, gave an introduction to water law in Arizona to those attending our February meeting. Ms. LaBianca related the basic legal approach to water rights and updated on some of the current legal battles that have been on-going for decades.

For our March meeting, attendees were informed about the role of industrial hygiene and ergonomics in business by Ms. Christine Pomerence of CIH Ergonomics LLC. We also received some excellent ways to reduce stress and fatigue that occurs even in office environments.

EPAZ normally holds monthly luncheon meetings on the 2nd Thurs. of the month from 11:30 am to 1:00 pm. at the SRP PERA Club. For details and reservations, please go to our website at www.epaz.org. EPAZ gathers on the last Wed. of the month for a casual cocktail mixer at various locations throughout the valley. Visit our website to find the location of our next mixer or contact Mannie Carpenter at (480) 829-0457.

Mannie Carpenter
President



www.SAEMS.org

SAEMS has several upcoming events planned. If you would like to participate in any of them or for more information please visit our website or contact me at ssillman@globalsolar.com.

April 17—SAEMS is a proud sponsor of Tucson's 16th Annual Earth Day Festival and Parade, which will be held at Reid Park. There will be exhibits related to the environment, "hands-on" activities for children and information provided on environmental products, water conservation/water quality, household hazardous waste, wildlife, nature preserves and much more! There will also be a parade, model solar electric race car competition and an Alternate Fuel Vehicle Show. You can get more information by visiting www.saems.org or <http://www.tucsonearthday.org/>.

April 28—Monthly luncheon meeting at the Manning House. Lee Decker from Gallagher & Kennedy and Pamela Beilke from Apache Nitrogen Products will be speaking on the new ADEQ MSGP.

May 20—SAEMS Annual RCRA Seminar: Compliance and Beyond will be held at the Manning House. If you would like to attend the seminar, be an exhibitor or a sponsor please contact David Mack at 520-584-6549 or david.mack@gcinc.com.

May 26—Monthly luncheon meeting at the Manning House.

Sarah Sillman
President



ESH for
High Technology

www.sshaonline.org

Many of you may have seen, from our full page color advertisement (see back cover) that the Annual SSHA Symposium is coming up on April 26-29 at the Hilton in Scottsdale. What you may not be aware of is that SSHA is offering a HAZWOPER Certification Course FREE to anyone who attends

their International ESH Symposium.

The certification course satisfies the requirements for providing annual refresher training as required in the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard. The course, taught by Zephyr Environmental Corporation's HazMat Academy, is designed to provide HAZWOPER re-certification to General Site Workers, TSDF Employees, and Hazardous Materials Technicians by covering hazmat chemistry and reference materials, hazard analysis and risk assessment, incident management and emergency response operations, hazmat control and mitigation, and spill cleanup and decontamination techniques.

If you choose not to attend the Symposium, you can still register for the HAZWOPER course and pay just \$150. If you are interested in this training opportunity, please register at <http://www.sshaonline.org/meetings/2010/index2.php3>.

For more information, please contact me at 480-897-ERGO(3746) or at christine@cihergo.com.

Christine Pomerence
President



www.AzBAS.net

Arizona Businesses Advancing Sustainability (AzBAS) is pleased to announce the recent elections of the following Executive Officers to the AzBAS Board: Richard Condit—*Sundt Corp* (Chair), Pamela Beilke—*Apache Nitrogen* (Vice Chair), Suzanne Fallender—*Intel* (Treasurer), and Debra Johnson—*Eco-Edge* (Secretary). Richard Condit replaces Ed Fox (APS) who has led the organization since inception.

The new board's first action was to recognize Ed Fox's legacy and tenure with the organization. Ed was the champion and first Chairperson of AzBAS. For the past three years he's been tenacious in transforming an idea into a viable

organization committed to sustainable practices in Arizona; an organization that promotes strong communities, successful businesses, a healthy environment and sound public policy.

My priority for my tenure as Chair will be to help the organization establish a set of high quality tools for use by business to help benchmark their sustainability practices and to determine a set of

guidelines for the organization as it addresses issues of public policy in this area.

AzBAS has elected to open up membership to include nonprofits and institutions dedicated to promoting sustainability within the State. Sustainability requires collaboration, and we recognize that discussions about these issues in Arizona would be remiss if we did not include all the stakeholders at the table.

Richard Condit
Chair



www.azchamber.com

The Arizona Chamber of Commerce and Industry and the Arizona Manufacturer's Council is pleased to announce that the 19th annual Environmental and Sustainability Summit will be held on August 12, 2010 in Prescott, Arizona. This event will consist of an evening reception on August 11th, a full day of presentations and speakers on August 12th and a golf tournament on August 13th. Those interested in attending, sponsoring or presenting should contact Jeff Homer at jeff.homer@gdc4s.com (480-441-6672). More information is available at www.azchamber.com/events.

The Arizona Chamber and Manufacturer's Council's Environment Committee continues to host monthly breakfast meetings on the second Wednesday of each month at the Sheraton Phoenix Airport Hotel located 1600 S. 52nd Street Tempe, AZ 85281

Jeff Homer
Co Chairman
Environment
Committee



Keep your organization's members
and the environmental community
informed of your activities -- by
contributing articles to the
Association Pages!

Environmental Response, Inc.

A Wholly Owned Subsidiary of Spray Systems Environmental
Arizona Contractor's Licenses B-General ROC 130187, ROC AE-101060,
ROC C05-101110, EPA-Haz. Materials Trans. Lic. # AZ000030302

24-Hour Emergency Response
Soil Remediation
Hazardous Waste Trans. & Disposal
Facility Decontamination
Lab Packing
Excavation and Demolition
Mold Remediation
Lead Abatement
Landfill Closure
Household Haz. Waste Collection Events
Vapor Extraction System Installation
Brownfields Remediation

www.spraysystemscri.com

2202 W. Medtronic Way, Suite 108, Tempe, AZ 85281

Arizona 24 Hours (480) 967-2802



EXIT

Emergency Response and Evacuation Planning

The Chinese used to scatter firecrackers around the house. Why? If their houses caught fire at night, the firecrackers were an early version of the fire alarm, with the noise waking the residents.

by Chuck Paulausky

These days, there are much better ways of protecting your homes and businesses. Smoke alarms, fire extinguishers & sprinkler systems, evacuation plans, and fire drills are all part of an effective emergency response plan. Your plan should be clearly written and should cover all possible emergencies from fires and chemical spills to earthquakes, tornadoes and hurricanes, if applicable.


A quick effective response and evacuation depends on how well you and your employees are prepared for these emergencies.

Employees should:

- Be familiar with the layout of their workspace. Know where desks and doorways are in case they have to find their way to the exit in the dark.
- Learn the location of alternative exits from their work areas and the building in case the main exit is blocked by smoke or fire.
- Know where the nearest fire alarm is and how to use it so others can be alerted to the fire.

Employers should:

- Post evacuation plans showing exit routes, fire alarms, fire extinguishers



2445 N. Coyote Dr., #104
Tucson, Arizona 85745
520 882-5880
Fax 882-9788
www.turnerlabs.com

- ♦ Drinking Water, Waste Water, Hazardous Waste, Compliance Testing
- ♦ Inorganic, Organic, Microbiological Analysis
- ♦ MBE/WBE/SBE Laboratory
- ♦ Waste Water Sampling Services

TURNER LABORATORIES, INC.
A Full Service Environmental Laboratory
Celebrating Over 26 Years in Tucson

and other emergency equipment. Your plan should include an "assembly point" for the employees to meet, away from the building and clear of emergency vehicle routes.

- Make sure all employees are trained and know what is expected of them during an emergency. Make sure the employees are accounted for once they are outside the building.
- Conduct regular fire drills.
- Include disabled employees in the fire emergency planning process. Have a couple of employees assigned to assist them.

In the event of a fire:

- Sound the alarm and call the fire department immediately, no matter how small the fire appears to be. Fires can spread at an astounding rate!
- Leave the area quickly, pushing in chairs and keeping aisles clear, and closing doors as you go to contain the fire and smoke.
- If you encounter smoke or flame during your escape, use an alternative exit. Heat and smoke rise, so stay low if you must exit through smoke. Crawl on your hands and knees, keeping your head 12 to 24 inches above the floor.
- Test doors before you open them. Crouch down at the door, reach up as high as you can with the back of your hand, and touch the door, the knob, and the area around the door. If the door is hot, use another escape route. If the door is cool, stand to the side and open it slowly.
- Once outside, move away from the building. Check in with your Supervisor to make they know you've made it out safely. Never go back inside the building until the fire department says you may go back in.

In the event of a chemical spill I :

- If you take an active response to chemical spills, make sure your responders are familiar with the chemicals and related risks. Ensure that they have the appropriate personal protective equipment and training to respond effectively without placing themselves at risk.
- The other option is to rely on awareness only; knowing enough to recognize the hazard and call for an evacuation, letting outside responders handle the emergency.
- In either case, evacuate the area or the facility and make sure it's clear before going back inside.

In the event of a hurricane, tornado, or other natural disaster:

- Depending on the situation, it may be best to remain inside the building. Identify a safe location or "sheltering area" inside the building that is structurally sound and away from windows.

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 20 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

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

BELFOR (●)

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 SAMPLING AND ANALYSIS.

www.azairlab.com

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



ADEQ Director Ben Grumbles: "Hammers and Forks in the Road"

While every good regulatory agency needs enforcement tools on-the-ready to deter bad actors and maintain a level, and clean, playing field, the best achieve great environmental results by relying on a broader mix of tools and incentives beyond the traditional hammers, nails, and fines. We're talking ladders, loans, credits, and computers, to name a few.

ADEQ knows the importance of clear rules, good data, and fair treatment but doesn't always have the best tools and skills to get the job done. We need a range of methods and means and a continued focus on the culture of collaboration and compliance assistance before enforcement.

Violations, however, do occur and ADEQ must take steps to ensure the law is respected and the problem corrected. Our first, and most basic, step is to issue a notice of correction (NOC) or notice of violation (NOV). We need to put extra effort in these early opportunities for communication and collaboration.

With support from the Attorney General's office, we also seek civil penalties and criminal fines, sometimes stiff but always reflecting the gravity of the offense and the impact on public health and the environment. We also look at many other factors, including the penalty's impact on the entity itself (like ability to pay) as well as its prior record, and whether the entity got an unfair economic advantage over law-abiding competitors. If negotiations work out, we obtain judicial and administrative settlements that resolve the matter and end the legal wrangling.

ADEQ also continues to support the wise use of supplemental environmental projects (SEPs) as an alternative to cash penalties. It makes sense to work with the violator to benefit

the community and get "credit" for future environmental projects that help increase public health and environmental stewardship. I'd like to see this trend grow.

High quality data drive better decisions on emissions, discharges, releases, leaks and such. Accurate and timely numbers also ensure a better state or local response. ADEQ is making progress on the move from paper to electronic reporting, permitting, and notices of intent for coverage under permits but the modernization is slower than we'd like. The effort is important to advance transparency and accountability and Arizona will continue to press on.

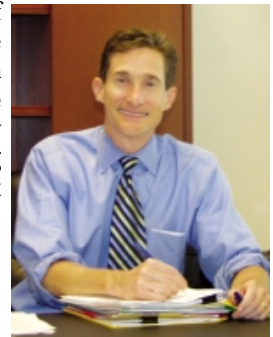
We are getting more bang for Arizona's bucks in enforcement actions. The agency was able to reach acceptable settlements in over 99 percent of its more than 3,200 inspections last year without formal judicial or administrative actions. ADEQ is also successful in resolving these matters by allowing creative solutions like entry into voluntary programs, obtaining WIFA or other financial assistance, going beyond compliance, or proposing a SEP in the successful resolution of the matter.

Seven municipalities and one sanitary district have signed up for ADEQ's Small Community Compliance Assistance Program, a special program to help communities comply with the sometimes daunting array of requirements. The idea is to provide incentives and help to small towns that don't have the resources or technical expertise compared to larger organizations. This collaboration needs to grow, particularly during a recession as economic conditions challenge our small-town partners.

Over a decade ago, EPA launched a partnership for environmental excellence beyond what the law required called Performance Track. ADEQ, like other state environmental agencies, joined in the effort. EPA has chosen to end its version of the voluntary Performance Track program but we see continued promise in Arizona, particularly with certain business and industry sectors. There are eight member organizations in the Arizona program and a ninth application is under review. We're looking for ways to expand participation and improve use of environmental management systems.

Yogi Berra once said, "If you come to a fork in the road, take it." I would add: If you come to a hammer in the road, take it and use it to build a ladder — another key tool for compliance when the going gets tough and the low-hanging fruit is gone.

Benjamin Grumbles
Director, AZ Department
of Environmental Quality



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.

liquid
ENVIRONMENTAL
SOLUTIONS

Call Us Today
602-278-3442
www.liquidenviro.com



Cynthia Ann "Syndee" Wundrock

Cynthia Ann "Syndee" Wundrock, 46, of Tucson, Arizona, died Monday February 22, 2010. She was born September 13, 1963 in Phoenix, AZ. Survived by her sons, Ian S. Kazemnia, and Patrick M. Wundrock; mother and step-father, Pat A. and Tom D. Claridge; brother, Michael E. Orcutt; and step-brother, Anthony M. Claridge. Preceded in death by her father, Herbert D. Orcutt. Syndee was employed at University Medical Center in the Risk Management Department, and was a member of many federal, state, and local environmental and community organizations. Syndee was a longtime and dedicated member of the Southern Arizona Environmental Management Society (SAEMS).

An account has been established in support of Syndee Wundrock's two sons Ian and Patrick. Donations can be made at any Chase branch. The account number is 2942554136. Checks should be made out to Lloyd Wundrock (as he is the responsible party on the account).

Syndee will be greatly missed!

The Journal thanks Catherine Schladweiler for providing the information for this article.

Have You Moved Recently?
Please fill out a new subscription request on our website at ehshomepage.com, or just call!

PROSPECTING:
For Environmental Business

Joe C. Holmes
will return next issue!

PSC



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

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

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 Chad Geelhood (480) 727-1869 for information on site specific courses. For registration information please contact Denise Kolisar @ (480) 727-1825

Our 22nd year of providing regulatory compliance training courses.

ASU ARIZONA STATE
UNIVERSITY

POLYTECHNIC CAMPUS

SESHA 32nd Annual Symposium & Exposition

April 26-29, 2010

Hilton Scottsdale

Scottsdale, AZ

***YOUR BEST INVESTMENT IN 50 YEARS
ENTRUST YOURSELF TO SESA***



MULTIPLY YOUR BRAIN CELLS BY:

- ◆ Taking the **FREE 8-Hour HAZWOPER Refresher Course** (required by OSHA) with Symposium Registration
- ◆ Participating in an expo of the leading technology
 - ◆ Learning from Professional Development Courses
 - ◆ Accruing ABIH & BCSP points

Plus Career Development, Social Networking Events and more.

It's all here for you

Visit www.seshaonline.org for complete program and registration information



ESH for
High Technology

1313 DOLLEY MADISON BLVD., SUITE 402

MCLEAN, VA 22101

703.790.1745; 703.790.2672; SESHA@BURKINC.COM;

WWW.SESHAONLINE.ORG