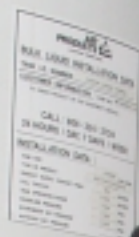


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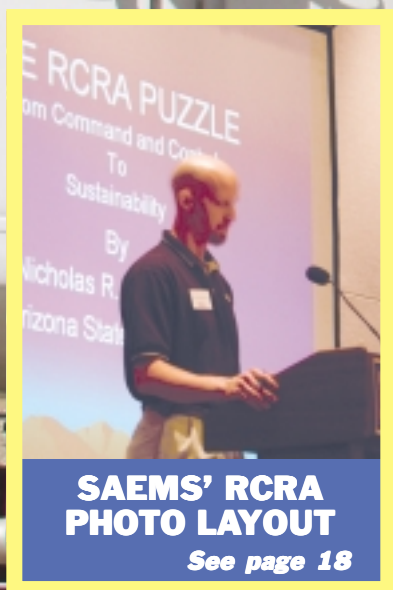


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ON EMPLOYEE TRAINING  
REQUIREMENTS'S

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## ADEQ UNVEILS DRAFT REVISIONS TO APP RULES

by Attorney **MIKE FORD**,  
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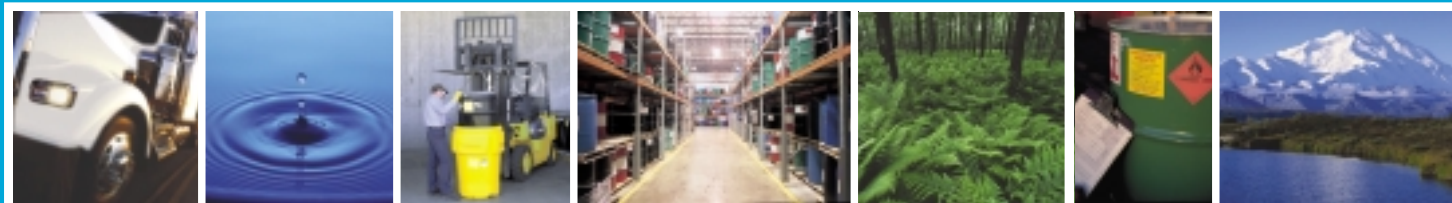
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# JOURNAL OF Environmental Management

## ARIZONA

June / July 2004

Volume 2 Number 3

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COVER PHOTO: KIRIL HRISTOVSKI DEMONSTRATES LEVEL A RESPONDER SUIT FOR CHEM. & BIO. WARFARE AGENTS AND THE APD 2000. RELATED STORY ON PAGE 8.

## Journal Info

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Hiep Van Vo

## FROM THE EDITOR



I suspect that most of you that read my Editor's column each issue are the some of the most loyal of Journal readers. I know there are many of you, and that you've given the Journal a great amount of support over the past two years. You've helped the Journal become part of the Arizona environmental community. I'm going to thank you, again, for that support, but

I am also asking for your help to make the Journal financially self-sustaining.

No, I'm not going to begin to ask for subscription fees from "qualified EH&S professionals", but you can help a lot by reminding our advertisers how important you feel it is to be able to find their ads in the Journal. Journal advertisers are taking an important part in the environmental community — they want to be seen, to be known, to support valuable activities, but also they want to make money. And if you, as an EH&S professional, need a service, why not choose a Journal advertiser over one that does not advertise? For those many of you who have already encouraged your suppliers & consultants to advertise, or continue to advertise, thanks, and please keep it up! For those who have not yet, remember, just a few words with your vendors may help keep the Journal thriving for many years, and help it to grow and become more valuable to you with each issue. (And a note to potential advertisers: You see your competitors' ads every issue. And so do thousands of others. Call us today and let's get your advertisement seen also! Phone: 480-422-4430 x42.)

On a related subject, the Journal this month began offering limited subscriptions to Arizona public, private, and non-profit libraries. Libraries must pay a small fee for the subscription, but \$50.00 of the \$95.00 annual fee is waived if the library certifies that it is under financial hardship. We have already begun to take orders, but you can help us by asking your librarian to subscribe to the Journal. Have him/her contact us at 480-422-4430.

In the next issue, I'll introduce you to Robert Padilla, the Journal's new Business Manager. Robert has been working on continuous updating of our circulation list, and has handled the library subscription project. He will be a great asset to the Journal.

I hope you enjoy this issue.

Sincerely,  
Jim Thrush  
Publisher & Editor



# TO THE JOURNAL:

## LETTER'S & EMAILS

### EDITOR:

It was good to see the Journal represented at the annual SAEMS RCRA seminar in Tucson. I hope you and the other attendees enjoyed it as much as I did. While the seminar presentations may not have always relayed startling new information, the presentations were good, and made me think about my own operations. I left that afternoon with several notes on things to check and SOP's to review. The seminar came on the heels of a RCRA inspection of my facility by ADEQ, and both events reinforced the need to constantly refresh the way we look at our compliance programs. I hope to see everyone there again next year.

TOM CURRY

Environmental Compliance Program Supervisor  
Central Arizona Project

### EDITOR:

Congratulations on your success in publishing the Journal. I enjoy the features in each issue, and find the regular columns about regulatory affairs, sustainability and chemistry especially informative. The focus on local industries and issues that are pertinent to long-term sustainability in the desert is something that has been needed for a very long time, and the quality of the

publication showcases the editorial content beautifully!

There is a banner on the cover of the April/May issue that says, "If you like the Journal THANK an ADVERTISER!"

So, Thanks – to all of the advertisers for the useful, interesting and colorful ads that support our profession and our Journal. I look forward to receiving each issue of the Journal, and wish you continued success with this project.

ANNE ELLIS

Health/Safety Officer

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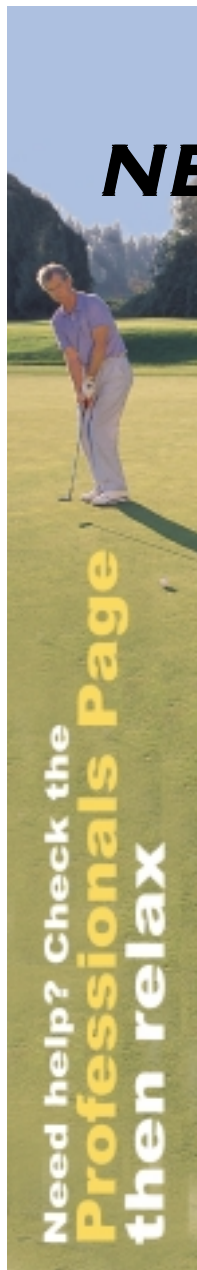


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# NEWS BRIEFS

## ADEQ COMMUNICATIONS DIRECTOR ACCEPTS POSITION IN NORTH CAROLINA

❖ Patrick Gibbons, Communications Director and Spokesperson for the Arizona Department of Environmental Quality, has accepted a challenging new position as director of external affairs for Research Triangle Institute International in North Carolina. RTI is a nonprofit firm that conducts laboratory and social science research for a wide range of federal agencies and private industry. Patrick said his decision to leave ADEQ was a difficult one, and was driven primarily by the desire to be closer to family on the East Coast, "I have truly enjoyed my association with ADEQ, the state of Arizona and the many public information professionals with whom I have had the opportunity to work. You have a friend in North Carolina." Pat can be reached at [pgibbons@rti.org](mailto:pgibbons@rti.org).

Replacing Patrick in the position of Communications Director of ADEQ is



*Patrick Gibbons*

Cortland Coleman. Cortland can be reached at 602-771-2215. The Journal wishes both Patrick and Cortland great success.

## LEGEND EMPLOYEE AWARDED "LABORATORY ANALYST OF THE YEAR"

❖ Legend Technical Services announced that Cynthia Bain, Director of Technical and Regulatory Compliance/Quality Assurance, was awarded Laboratory Analyst of the Year by the Arizona Water and Pollution Control Association (AWPCA). Cindy also serves as President of the Arizona Laboratory Association (ALA), and represents the ALA on the Water Systems Coordinating Council and is a voting member of the Arizona Environmental Laboratory Advisory Committee. Cindy can be reached at 602-324-6103, or by email at [cbain@legend-group.com](mailto:cbain@legend-group.com).



*Cynthia Bain,  
Legend Technical Services*

## GOVERNOR'S PRIDE IN ARIZONA AWARDS CONFERENCE

❖ The annual Governor's Pride in Arizona Awards Conference will be held at the Orange Tree Golf Resort, Friday, September 24, 2004. The event is hosted by Arizona Clean & Beautiful (AC&B). AC&B is the statewide coordinating body for protecting and enhancing the beauty of Arizona, and works with 31 Arizona Community Affiliates. The non-profit agency promotes the Arizona Adopt-A-Highway program through support of the Arizona Department of Transportation. Also in partnership with ADOT, AC&B operates the Litter Hotline. The Governor's Pride Awards for environmental achievements will be presented at the conference. Primary sponsors include ADOT, APS, Phoenix Coca-Cola Bottling

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#### **\$50,000 FINE TO SETTLE HAZARDOUS WASTE VIOLATIONS**

❖ Arizona Attorney General Terry Goddard and Arizona Department of Environmental Quality Director Steve Owens recently announced that Phoenix Heat Treating, Inc. would pay \$50,000 to settle hazardous waste violations which occurred at its Phoenix facility.

Phoenix Heat Treating provides heat treatment services which are often used to harden metals and materials used in the aerospace industry. The violations of state hazardous waste regulations were discovered during a 2001 field inspection by ADEQ's hazardous waste inspection and compliance unit.



*Steve Owens, Director  
Arizona DEQ*

"There were numerous hazardous waste violations at this facility that created a potential danger to public health and the environment," said Owens.

The facility had stored hazardous waste on-site for periods longer than the permissible 90 days, and had also stored hazardous chemical solvents in open and inadequate containers. The company had also failed to provide required training to its employees and lacked a procedure for determining which wastes were hazardous. The company has since corrected the violations.

The consent judgment filed in Maricopa County Superior Court requires Phoenix Heat Treating to pay the \$50,000 penalty within

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ten days. "Companies that disregard the rules for handling hazardous waste will be prosecuted and will pay a penalty," Goddard said.

#### **TDR'S DUE BY JULY 1, 2004**

❖ In April, ADEQ sent a P2 certificate to facilities that are in compliance with P2 requirements. Pursuant to A.R.S. 49-931.A.4 these companies will receive a discount of 50% of the hazardous waste fee for the year 2004. Included in the mailing was a toxic data report (TDR) package that was normally sent to the facilities in June. Facilities required to send a TDR must do so by July 1, 2004. For inquiries, call Andy Soesilo at 602-771-4205, or Bill Quinn at 602-771-4203.

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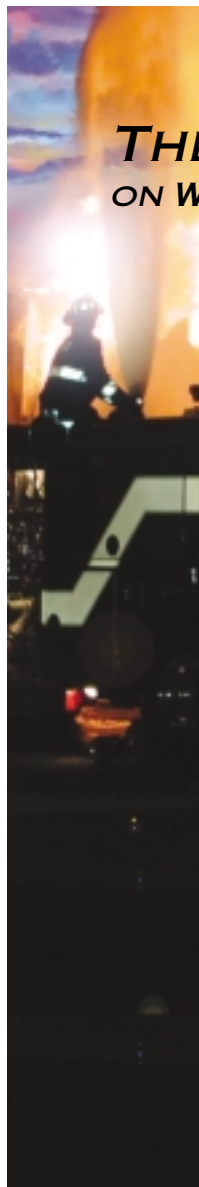
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## ***THE IMPACT OF TERRORISM ON WORKPLACE TRAINING PROGRAMS***

**The threat of terrorism and weapons of mass destruction (WMD) requires changes in existing worker training programs.**

by Hal Berkowitz

Since the promulgation of The Resource Conservation and Recovery Act (RCRA) and the Occupation Safety and Health Act (OSHA) employers have been confronted with a major challenge to meet the multitude of regulatory standards for worker training. The Superfund Amendment and Reauthorization Act (SARA) of 1986 mandated the implementation of the Hazardous Waste Operations and Emergency Response Training (Hazwoper). It was promulgated by OSHA in 1989 and codified as 29CFR1910.120. Worker training was aimed at both emergency response and hazardous waste site cleanups. The OSHA Hazardous Communications standard 29CFR1910.1200 requires worker training for all hazardous chemicals on

site, and the RCRA regulations requires both an emergency contingency plan and worker training. Other OSHA standards also require various levels of worker training. It was not possible to implement a "one size fits all" training program that would adequately meet all the regulatory requirements. Common to all the programs was the focus on both hazardous chemicals and tasks that were On Site and the Probabilities of emergency incidents.

The events of 911 added a new challenge for employers to consider the impact of terrorist activities and WMD which could result in catastrophic events involving: (1) Chemicals normally contained on the site and (2) Chemicals and Biological Warfare Agents that could be brought on site by terrorists.

Modifications in the classical training curricula for workers are necessary order to increase the worker awareness level of these activities. In addition a new focus by the employers is also necessary when preparing Emergency Response Plans, and developing Risk Analysis which is based on the Probability of emergency occurrences. New areas to consider in the curriculum include:

- (1) Hazards of Chemical and Biological Warfare Agents and Weapons of Mass Destruction (WMD)
- (2) Personal Protective equipment
- (3) Instrumentation and Detection Devices
- (4) Decontamination methods
- (5) Medical/First Aid requirements
- (6) Emergency Response Planning/Vulnerability Analysis
- (7) Site Security Plans
- (8) National Incident Management System (NIMS) / National Response System for Emergency Response

### **I. OVERVIEW OF CHEMICAL AND BIOLOGICAL WARFARE AGENTS**

#### **CHEMICAL WARFARE AGENTS**

- Nerve agents
- Blister agents
- Blood agents
- Choking agents

**Nerve Agents** include: Tabun (GA); Soman (GD); V Agent (VX); and Sarin. They are chemically similar to the structure of organophosphate pesticides, however they are much more potent. They exert their biological effects by inhibiting acetylcholinesterase enzymes that are essential for the proper operation of the central nervous system. Routes of exposure include inhalation, ingestion, and skin absorption. Workplace time weighted averages for GA and GB are 0.0001 mg/m3, GD



*The ADP2000, an advanced Portable Chemical Agent Meter, can detect nerve agents, mace, and pepper spray. See paragraph, center right, next page.*



0.00003 mg/m<sup>3</sup>, and VX 0.00001 mg/m<sup>3</sup>.

**Blister Agents** include: Sulfur Mustard Gas (H); Distilled Sulfur Mustard gas (HD); Nitrogen Mustard; Lewisite (L); and Phosgene Oxime (CX). These agents cause blistering of exposed tissue surfaces. Significant skin tissue damage can occur. The major hazard is exposure to mustard vapors which can cause severe respiratory system damage.

**Blood Agents** include: Hydrogen cyanide (AC) and Cyanogen Chloride (CK). Although they are commercially manufactured in the chemical industry Cyanide gases can be utilized by terrorists in WMD by the reaction of cyanide salts and acids. Cyanide gases are extremely toxic and are regarded as chemical asphyxiants.

**Choking Agents** include: Chlorine (CL<sub>2</sub>); and Phosgene (COCl<sub>2</sub>). Phosgene is extremely toxic and since the boiling point is 47° F it will normally be present in the gaseous phase. Both chlorine and phosgene are commercially manufactured and the respiratory requirements and clothing protection are well established.

### BIOLOGICAL AGENTS

- Bacteria
- Virus
- Biological Toxins

**Bacteria agents** include: Anthrax; Brucellos; Cholera; Plaque; and Tularemia.

**Viruses** include: Smallpox; Venezuelan Equine Encephalitis (VEE); Viral Hemorrhagic Fevers (VHF); and Rickettsiae.

**Biological Toxins** include: Botulinum Toxin (Botulism); Ricin; Saxitoxin; Staphylococcal Enterotoxin B; Trichothecene Mycotoxins.

The main concern is the exposure due to fine airborne particles by: inhalation, with infection through respiratory mucosa or lung tissues; ingestion; contact with the mucous membranes of the eyes; or penetration through the skin due to cuts or abrasions. It is therefore necessary to have the proper respiratory and clothing protection. Anthrax has received the most attention in the media. The major health hazard with Anthrax is the exposure by inhalation.

## II. CERTIFYING PERSONNEL PROTECTIVE EQUIPMENT FOR CHEMICAL AND BIOLOGICAL WARFARE AGENTS

### RESPIRATORS

Respirator protection for hazardous materials is specified in the OSHA standard 29CFR1910.134. The National Institute for Occupational Safety and Health (NIOSH) is responsible for certifying respirators to protect emergency responders from chemical, biological, and radiological exposures. Maximum respiratory protection (SCBA's) would be required for chemical and biological agents if potential concentrations reached the IDLH level or if the oxygen levels were less than 19.5%. Air Purifying respirators may be satisfactory if the identity and concentration of the agents are known and the oxygen level exceeds 19.5%. They would also require NIOSH Certification.

### PROTECTIVE SUITS

Protective suits are undergoing extensive testing for permeation

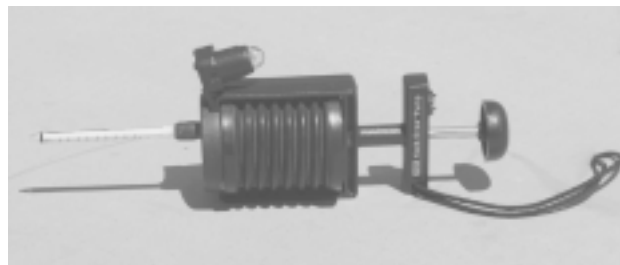
rates of chemical and biological warfare agents. The DuPont Tychem Responder Level A suit is an example of a recently certified suit. [See cover photo.]

## III. INSTRUMENTS AND DETECTION DEVICES

Detection devices for chemical warfare agents include:

- Test Strips
- Colorimetric Tubes
- Direct Reading Instruments
- Military Test Kits
- Field/Lab analysis

Test strips such as the M-8 and M-9 give a rapid determination of nerve and blister agents by a color change. Colorimetric tubes for detection of chemical warfare agents are now available from both Draeger and MSA, however false positive results may be obtained. Portable Chemical Agent Meters



*Colorimetric tube and pump*

(CAMs) are also utilized. Most use a radioactive Nickel source to ionize the gases. Each type has algorithms which resemble the warfare agents. A more advanced unit is the APD2000 [See photo opposite page] which in addition to nerve agents has the ability to detect Mace and Pepper Spray. Since the algorithms for nerve agents look for phosphorous and sulfur elements false positives can be experienced if these are present. Other stationary instruments include: Improved Chemical Agent Meters (ICAM), Surface Acoustic Wave (SAW), GID-3 Chemical Agent Detector, the M90 Chemical Agent System, and Military wet chemistry test kits.

### BIOLOGICAL DETECTORS

Several field kits are available for detecting biological agents. Examples include electronic sampling using bioluminescence (bacteria) and spectrophotometry (toxins), and handheld immunoassays known as "Smart Tickets". More sophisticated laboratory analysis is required to confirm most biological agents. These specialized laboratories are available throughout the United States.

# ASSOCIATIONS PAGES

## Editors note:

Arizona's many environmental associations provide a path for communication and education in the EH&S community. Among other benefits, they provide networking opportunities, educational resources, and keep members informed on professional news and technical advancements. Many of these resources are available to both members and nonmembers, so always look to these associations when you need assistance.

If your organization is not represented here, and you would like it to be, please call us. Being a part of the Associations Pages benefits both the organizations and the readers, most of whom belong at most to a only a few of the organizations, but still would like to keep current on all environmental activities.

Editor

## AAI

FOR MORE INFORMATION GO TO AAI'S WEB PAGE AT [HTTP://WWW.AZIND.ORG](http://WWW.AZIND.ORG) AND CLICK ON EVENTS OR CONTACT DANIEL ROMM AT (602-252-9415) OR JEFF HOMER AT (480-441-6672)

AAI's EHS COMMITTEE BREAKFAST MEETINGS ARE HELD ON THE 2ND WEDNESDAY OF EACH MONTH AT 7:00 AM AT SHERATON PHOENIX AIRPORT HOTEL, 1600 SOUTH 52ND STREET, TEMPE, AZ. 85281.

Please mark your calendars for AAI's Annual Environmental Summit scheduled for August 18th, 19th and 20th at the Prescott Resort in Prescott. This is AAI's annual environmental conference that features cutting edge environmental trends and issues for industry in Arizona. The conference will include a reception the evening of August 18th, a full day and a half of presentations and a golf tournament the afternoon of Friday August 20th. Registrations are being accepted by calling AAI at 602-252-9415 or on AAI's web page at <http://www.azind.org>.

AAI's July EHS Committee breakfast meeting will be held on July 14th. Jean Calhoun from The Nature Conservancy will be presenting on that organization's mission and the projects and activities they are involved in.

Jeff Homer,  
EHS Committee  
Chairman



## ACHMM THUNDERBIRD



"Managing Your Odds for Success" is the theme for the 2004 ACHMM National Conference, with a lot to offer EHS professionals, whether or not they are CHMM's.

Chuck Paulausky,  
Chapter Secretary



The Conference offers professional development and training courses, including: ASP Review course, CHMM overview course & exam, DOT, IATA, and HAZWOPER refresher courses, ISO 14001 workshop, Advanced Environmental Laws & Regulations workshop.

There are panel discussions and breakout sessions with something for everyone. Special events include tours of the Yucca Mountain Project, the DOE/Nuclear Test Site, Hoover Dam, and an Emergency Response Scenario involving terrorist action.

The Conference is also a great opportunity for vendors to sponsor a booth in the exhibition hall. Contact the Chapter Secretary through the website if your company is interested in sponsoring a booth. For more information about the National Conference, go the Thunderbird Chapter website at: <http://www.thunderbirdchmm.org/programs.htm>.

### Upcoming ACHMM Thunderbird Chapter meetings and events: July 7, 2004

The meeting is at 6:00 PM at the Old Spaghetti Factory, 1418 N. Central Ave. in Phoenix.

### August 2-4, 2004

ACHMM National Conference in Las Vegas, NV <http://www.thunderbirdchmm.org/programs.htm>

### September 1, 2004

The meeting is at 6:00 PM at the Old Spaghetti Factory, 1418 N. Central Ave. in Phoenix.

All are invited! For more information: <http://www.thunderbirdchmm.org>.





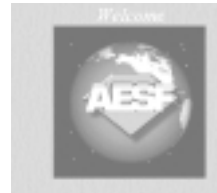
*Barry Westerhausen,  
Sergeant at Arms*

The Arizona AESF would like to welcome all who are interested in metal plating, metal finishing, surface cleaning, metal coating or those interested in environmental issues that

affect industry to meet with us the second Thursday of each month (dates subject to change, please call to confirm). Meetings begin with social hour at 5:28 PM and Dinner at 6:28 PM, discussion following.

Topics planned for the 2004 are environmental regulations, hazardous waste, new processes, EPA regulations, and plating trends. Past meetings in 2004 have been on EPA evaporator requirements, ADOSH meeting with Patrick Ryan on how to avoid compliance violations, joint meeting with NAME, metal plating shop incidents and responses, golf tournament. Please join us at our next meeting, you do not need to be a member to attend. For more info. contact: Barry Westerhausen at bwesterhausen@lachim.com or 480-206-4107.

## AESF



### 2004 ARIZONA AESF SPEAKER AND EVENTS LINE UP:

MAY 13TH - INCIDENTS AND  
RESPONSES  
JUNE 12TH- AESF GOLF  
TOURNEY AT COLDWATER GC  
AUGUST 3RD - ANNUAL AESF  
DIAMOND BACKS GAME  
(TENTATIVELY SET)  
SEPTEMBER 9TH - TBD



*Paul Plato, R.G.,  
President*

The AHS Symposium Planning Committee has put together a fine line-up of workshops and field trips to be offered in conjunction with our 2004 Annual AHS Symposium to be

held September 15-18, in Tucson. Here is a list:

**YIKES!** How to present sensitive or just plain bad news to the public.

**AQUIFER TESTS:** A full-day workshop focusing on cutting edge analysis techniques using AQTESOLV.

**ISOTOPES:** Practical solutions to common hydrological problems.

**KARTCHNER CAVERNS:** A geologic dream tour of both the surface and subsurface by those who know.

**MOUNTAIN ECOSYSTEMS & FIRE RECOVERY:** Tour the Catalina Sky Island and burn zone.

**UPPER CIENEGA BASIN – WINE COUNTRY:** Learn watershed hydrology and taste some of the nation's best wines.

## ARIZONA HYDROLOGICAL SOCIETY



PLEASE REGISTER EARLY  
REMEMBER, FIELD TRIPS ARE  
FIRST COME - FIRST SERVE!

WORKSHOPS MUST BE FILLED BY  
SEPTEMBER 1 OR  
THEY WILL BE CANCELLED.

GET MORE DETAILS AT  
[WWW.AZHYDROSOC.ORG](http://WWW.AZHYDROSOC.ORG)



*Eddie Martinez,  
President*

**April Mixer/CRA Open House:** It was a great success with over 80 in attendance! Great food, drink and networking among friends was experienced by all.

Conestoga Rovers & Associates (CRA) awarded a ton of raffle prizes including several bottles of fantastic wine. During the evening CRA sold 50/50 raffle tickets to benefit the EPAZ scholarship fund. The 50/50 raffle raised \$128, so the happy recipient won \$64, and donated a portion of his winnings back to EPAZ. Doug Hodson, CRA's Manager of Phoenix Operations also matched the total amount raised, so a donation of \$212 was made to the EPAZ scholarship fund. EPAZ would like to send special thanks to Doug and CRA for the opportunity to combine our mixer with their open house and

## EPAZ



the outstanding donation made to benefit our scholarship program. **EPAZ D-Back Fundraiser:** EPAZ is currently selling tickets for the Diamondbacks Vs Dodgers baseball game, Saturday, July 17th at 1:05 pm. Tickets are \$17 /each. The Diamondbacks will donate \$2 for every ticket sold, if we're able to sell 100 tickets. This fundraiser will benefit our scholarship fund. Tickets can be purchased at upcoming EPAZ meetings, mixers or by contacting Melissa Holmes at (602) 749-9400 or maholmes@craworld.com. Show your D-Back and EPAZ spirit and treat your clients, family and friends to the game! **Job Bank:** Looking for a change or new challenge? There are several positions that need to be filled either with private firms or with local municipalities. Take a look at our website for more information: <http://www.epaz.org/jobbank.htm>

## AZELM



WWW.AZELM.ORG

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FOR MORE DETAILS ABOUT  
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PROGRAMS AND ACTIVITIES,  
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RICHARD POLITO AT  
602-506-5102

Projecting a bright path for the future of Arizona and its environment, AZELM is experiencing a renaissance within its leadership. Our organization is currently recruiting new board members who can assist us in achieving our mission:

"mentoring Arizona businesses and organizations by providing educational information and resources for environmental, health & safety strategies", and our vision: "provide a leadership role for a better understanding of complex environmental, health and safety issues and conservation of natural resources."

Currently, AZELM is embarking on its second summer college internship program that will prove to be both exciting and educational. Interns will be matched with local firms that have a vested interest in ensuring that the student will have a meaningful work assignment that promotes environmental stewardship and leadership as well as contributes to the bottom line of the company. The organization's planning strategies are also focused on the upcoming Symposium for Environmental & Economic Dynamics - SEED 2 event in Fall 2004.

*Vi Brown,  
Treasurer*



## ARIZONA ENVIRONMENTAL STRATEGIC ALLIANCE



FOR MORE INFORMATION  
ABOUT THE ALLIANCE OR ITS  
MEMBERS, PLEASE CONTACT  
DAVID YOUNG, PRESIDENT, AT  
DAVIDGYOUNG@MSN.COM OR  
480-460-5751.

The Arizona Environmental Strategic Alliance continues to require and encourage environmental leadership from its members. Intel Corporation, an Alliance member and national environmental leader, has reduced the environmental impact of outdated electronics by coordinating various public computer recycling events. Within Arizona, Intel partnered with Arizona StRUT (Students Recycling Used Technology) over 5 years ago to start an annual public computer recycle day to celebrate Earth Day.

This year, Intel worked with Motorola, APS, ADEQ, ASU, Phoenix Zoo, Earth 911, and the Arizona Technology Council, among others, to raise public awareness of the event in the community and to supply volunteer manpower at the collection sites.

Although the final event numbers for 2004 have not yet been released, over the last four years the public computer recycle days have produced approximately 25,000 pieces of electronics from over 5,000 public participants, or about 40 tons per year of computer-related equipment diverted from local landfills and refurbished into fully functioning equipment donated to local schools and non-profits. The Alliance applauds Intel's efforts as an environmental leader within Arizona in the arena of consumer electronics recycling.

*David G. Young,  
President*







Larry Olson, PhD.

IT'S ALL ABOUT CHEMISTRY

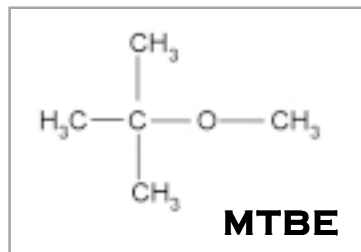
## MTBE

### A CLASSIC CASE STUDY OF THE LAW OF UNINTENDED CONSEQUENCES

**M**TBE, methyl tert-butyl ether, is in the news again. Recently the Arizona Senate voted 29-0 for a strike all amendment to House Bill 2142 which would ban the use of MTBE in gasoline beginning January 1, 2005. This follows the lead of California which has eliminated MTBE from gasoline as of January 1, 2004. Why is this particular compound such a problem and why was it put into gasoline in the first place?

When lead was removed from gasoline in the 1970s there was a need to find other compounds that could serve as octane enhancers to help prevent engines from knocking. MTBE has an RON octane rating of 123 and so MTBE was sometimes used in low levels (2-3% by volume) in unleaded gasoline. After the Clean Air Act Amendments of 1990, oxygenated fuels were required for certain non-attainment regions, including Maricopa County. MTBE and ethanol, the two most widely used oxygenates, were blended at much higher levels since the CAAA required at least 2.7% oxygen content by weight (15% MTBE by volume) during the winter.

The properties of MTBE that make it both useful and a problem originate with its structure. As seen below, MTBE is an ether because of the C-O-C functional group. Studies originally showed that addition of an oxygenated component to traditional hydrocarbon gasoline reduced the emissions of carbon monoxide. However, this improvement in emissions is much less in newer cars with advanced emission control technology and so much of the advantage is mitigated.



The oxygen in MTBE greatly increases its water solubility over traditional hydrocarbon components of gasoline (4.8 g/100 g water vs 0.178 g/100 water for benzene). MTBE is quite volatile with a vapor pressure of 240 mm Hg and has little tendency to adsorb onto soils. Thus, any spill of MTBE that makes its way to ground water is likely to dissolve to a greater extent and move much faster than other components of gasoline, even faster than the average rate of groundwater flow. A plume of MTBE contaminant can therefore affect a much larger volume of groundwater than similar plumes of hydrocarbons.

Although humans can come into contact with MTBE vapor in the air, its presence in drinking water is the greatest route of exposure for the general public. Detection thresholds vary, but the California Department of Health Services has a secondary MCL of 5 µg/L for taste and odor. The primary MCL of 13 µg/L is designed to protect human health and is based upon carcinogenic, liver, and kidney effects in experimental animals. Human data on carcinogenicity is lacking. Arizona does not currently have a drinking water standard for MTBE.

Due to the large number of underground fuel storage tanks, widespread reports of MTBE in groundwater began to surface after its introduction to gasoline formulations. Because of the bulky tert-butyl group, MTBE is resistant to *in situ* biodegradation and only expensive pump and treat methods have been proven effective in actual remediation sites.

In summary, MTBE is a classic case study of the law of unintended consequences. Introduced with the best of intentions to improve air quality, oxygenated fuels were mandated by federal law without an adequate opportunity to study the effect of releasing large quantities of a synthetic chemical into the environment. It's a good lesson to remember.

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](mailto:Larry.Olson@asu.edu)

## SAEMS



SAEMS LUNCHEON MEETINGS ARE ROUTINELY HELD THE LAST WED. OF THE MONTH STARTING AT 11:30 AT THE MANNING HOUSE, CONVENIENTLY LOCATED IN DOWNTOWN TUCSON AT 450 W. PASEO REDONDO, NORTH OF CONGRESS ON GRANADA.

### FUTURE LUNCHEON TOPICS:

**JUNE:** NEW PAG EXECUTIVE DIRECTOR, GARY HAYES, ON THE REGIONAL TRANS. AUTHORITY  
**JULY:** CAT SCHLADWEILER, MALCOLM PIRNIE, OPTIMIZATION OF A LONG-TERM MONITORING PROGRAM  
**AUGUST:** AZPDES, INDUSTRIAL STORMWATER GENERAL PERMIT

SAEMS is partnering with the Tucson Chamber of Commerce, Tucson Clean & Beautiful and the Southern Arizona Industry & Aerospace Association to establish a Southern Arizona Environmental Excellence award program. The awards would be presented annually to businesses and institutions that have enhanced our community by their efforts in environmental stewardship.

The June 30 luncheon meeting will be SAEMS annual meeting with installation of new officers and recognition for dedicated members who made 2004 another successful year including:

- Design of a new logo, website and newsletter;
- Six cleanups: 3 highway, 2 park and a wildcat dump;
- Three seminars: P2, RCRA and co-sponsorship of the Toxic Tort seminar;
- Revision of the Bylaws and developing of policies.

All of this is accomplished through the leadership of the Executive Committee and Committee Chairs and the hard work of the Committee Members and volunteers. Thanks to everyone for their dedication and best of luck to the new leadership.

Pamela Beilke,  
President



## VALLEY FORWARD



FOR MORE INFORMATION  
CONTACT  
WWW.VALLEYFORWARD.ORG.

### Arizona's Water Legacy

*Legacy ... A principle evoking appreciation to our forebears for what we have today and a sense of responsibility to those who follow for what we will leave to them.*

Diane Brossart,  
President



### Today's Greater

Phoenix water resources are a direct result of visionary decisions made by leaders past and present. Arizona's leaders have worked to break through the rocky political and physical landscape to ensure new sources of water, to create long-term storage for existing watersheds and to promote effective management of local water resources.

As we look to the future, however, water challenges could threaten our economy and quality of life, putting into question the future we will leave for our children. Long-term water resource management is not a job we can leave undone.

As water is the desert's most precious resource, conservation is critical to sustainable growth and development in the Valley's desert environment. Water conservation needs to become a desert lifestyle choice by all who enjoy the Valley's beauty.

## US GREEN BUILDING COUNCIL ARIZONA CHAPTER



FOR MORE INFORMATION  
CONTACT CHARLIE POPECK AT  
480-807-0062, OR  
CHARLIE@EGREENIDEAS.COM

As 2004 progresses, the growth of the USGBC continues! The Arizona Chapter just completed our third LEED Workshop in April with 83 professionals in attendance. To date, we have successfully trained more than 200 people in Arizona and currently have over 100 LEED Accredited Professionals in the state.

Charlie Popeck,  
Vice President



The City of Phoenix recently received LEED certification for Fire Station #50, which is only the second project of this type to be certified in the country, and the first for the city! Over 43% of the project's building materials were manufactured and harvested locally, proving that it can be done here in Arizona.

We will be hosting the USGBC national chapter retreat

*Continued on page 20*





(PART TWO OF THREE)

SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT:

## SHOCK AND AWE ALL OVER AGAIN!

*...Continuing the discussion about energy and  
alternative fuels from last issue...*

Nicholas R. Hild, PhD.

One of the advantages of writing a two part column is, you get time between the installments to see what progress has been made on the subject before the second column is due. Unfortunately, the story has gotten longer, due to energy costs continuing to rise. Thus, we will make this column the second of three on this theme; more to come next time....

In the last Journal (April-May 2004), I left off where Gov. Napalitano had asked the Federal government to find out why we in Arizona were still watching our gasoline prices go up even though our pipeline was fixed. Being a politician, she could be forgiven for not asking instead, why we had almost no alternatives for go-juice for our commuter society. But, during the two month break between the last and this column, gas prices kept rising and things seem to be getting worse. In the past week, we've seen 10 cent spikes overnight in the Phoenix area. So, I have had an visionary experience of Biblical proportions! *It's the money, stupid!*

Where our energy interests are concerned, the politicians and the power brokers (with the money) behind them, are still drowning in oil supplied from the middle-east, even when that means being at the mercy of OPEC. *E-The Environmental Magazine* (Jan/Feb 2004; pp 23-4), that gently biased journal of environmentally benign living, illustrates this best by pointing out that, its not OPEC but the Air Resources Board in California that sets emissions policy for that state that auto makers fear most. That's because its the largest automobile market in the country, and, as California pollution laws go, so go the other big markets, like the northeastern states which just adds to the Big Three's concerns.

Also during the past two months, General Motors, the biggest power broker of the *Big Three*, announced that they will spend a billion dollars on alternatives for fossil fueled vehicles. In making the announcement, the "spin" made GM sound very benevolent but they carefully avoided mentioning why they were phasing out their only mass produced alternative they offer, the EV-1 electric "zero-emissions" car. ('Mass' definition: they built < 1500 units and only leased out 600 in a five year trial run that never seemed to find its niche). *E Magazine* reported that the reason only 600 of them were ever leased was that battery-powered cars have such a short range. Having driven the one APS had for a demo, I would agree; it was scary to drive more than 20 miles one way if you had to make a return trip.

I suspect it's no coincidence that Toyota and Honda's demonstration of their *full-sized* hybrid concept vehicles at this year's annual new car show in Detroit might have had something to do with GM's announcement. Full-sized hybrid cars that have unlimited range, get 50 mpg and do zero to 60 in under 10 seconds had youthful show attendees thinking they looked pretty cool while Big Three auto execs were showing signs of great wailing and gnashing of teeth. So, you see: **It IS all about the money!**

If Toyota and Honda mass-market full-sized *hybrid* vehicles, (something domestic auto makers said couldn't be done at a competitive price just a few years ago) there's good reason for Big Three executive hand-wringing. They still count on the fact that American car buyers have a history of brand loyalty. But with fuel costs eating into their budgets, the millennium generation that is already enamored with Toyotas and Hondas are looking longingly at the Asian-built hybrids. *Let's see...hummmm...add a 9 inch sewer pipe out back, add some zoomy tail lights, 20 inch hoops and low profile tires...great possibilities!*

When was the last time you saw adds for the hybrid vehicles in the Saturday classifieds? I'm guessing that it won't be long...most likely just as soon as the Big Three have hybrids to offer. Until then, however, it will still be those gas guzzlers that make big profit margins. Its business as usual, even in the face of outrageous fuel costs. See, I **told** you it was all about the money!

Nicholas R. Hild, PhD., Professor, Environmental Technology Management, Arizona State University College of Technology and Applied Sciences, 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.

LEGAL NEWS YOU CAN USE

# REGULATORY DEVELOPMENTS

## ADEQ UNVEILS DRAFT REVISIONS TO APP RULES

Michael C. Ford, Attorney



On April 28, 2004, ADEQ released initial proposed revisions to its Aquifer Protection Permit ("APP") rules. The revision is being undertaken to address the concerns of the regulated community, as well as those of ADEQ, that have arisen in the course of implementing the program over the last few years. The proposal gives an early preview of the APP program changes ADEQ intends to publish as a proposed rulemaking by the end of August 2004, and to finalize by the beginning of 2005. The draft revisions are numerous, and contain a number of important provisions impacting the APP program. Permittees, applicants, and potential applicants should take advantage of the opportunity to participate in the rulemaking process and to influence the direction of the program. After holding several "listening sessions" to discuss the proposed revisions during the early part of May, ADEQ will accept initial comments until May 28, 2004. ADEQ then plans to release a second draft for a second round of comments during late June and early July. A few of the more significant draft changes are discussed below.

- The draft revision includes a new definition of "AQL" (aquifer quality limit), a concept ADEQ has applied in practice, but now proposes to formally add to the program. The definition, however, is relatively broad, and could be construed to establish a new basis for a permit violation. This promises to be a contentious issue.

- ADEQ proposes to overhaul the financial assurance provisions. The current financial assurance requirements include a demonstration that the applicant can meet the estimated closure costs. The applicant's 10K or 20F forms (filed with the SEC by public companies), or a similar report, for non-publicly traded companies, can largely satisfy the requirements, as long as other specified financial indicators are satisfactory (e.g. debt rating, proportion of U.S. assets, tangible net worth). A dedicated financial assurance mechanism is not required unless the financial indicators do not meet the specified conditions. If required, the allowable mechanisms include a performance surety bond, certificate of deposit, trust fund, irrevocable letter of credit, insurance policy, deposit, guaranty, or "an additional financial assurance mechanism approved by the director." ADEQ's proposal does not allow a showing of financial assurance based on the company's financial reports, but rather requires permittees to obtain one of the enumerated financial assurance mechanisms. The proposal also imposes numerous additional restrictions on the allowable mechanisms, and removes ADEQ's discretion to allow other types of financial assurance mechanisms. These provisions may significantly and unnecessarily increase the cost of demonstrating financial assurance. It is also unclear whether the new requirements would apply to existing permittees or applicants; thus, a new demonstration could be required of parties who have already demonstrated financial assurance in accordance with existing requirements.

- The draft revision substantially revises the closure provisions. It clarifies the procedures for permitted versus unpermitted facilities, and also adds a requirement that the closure plan include a scope of work detailing "the lateral and vertical extent of contamination in soils and ground water and the analytical results to support the determination." New provisions also specify that the closure plan must include "site investigations performed during closure activities to demonstrate that clean closure has been achieved..." and a "summary report" of the results of the work performed under the scope of work and the site investigations. These provisions are somewhat redundant and ambiguous, as it is unclear whether ADEQ approval is required prior to implementation of any site investigation activities.

- The draft revision allows ADEQ to revoke an individual permit if a permittee "failed to construct the

*Continued on page 17*

Michael C. Ford is an Attorney with the Phoenix office of Bryan Cave, LLP, practicing environmental and occupational safety law. His practice is focused primarily on regulatory compliance advice and enforcement defense. He can be reached at 602-364-7417, or by email at [mcford@bryancave.com](mailto:mcford@bryancave.com).





**PHOTO ABOVE:** On April 28th the Environmental Professionals of Arizona combined the group's monthly mixer with the Open House Celebration at Conestoga-Rovers & Associates (CRA). As you can see, great food and drinks were provided. Some of the attendees are shown above. CRA is now located at 4050 E. Cotton Center Blvd., Building 4, Suite 49, Phoenix, Arizona. CRA can be reached at 602-749-9400.

permitted facility within three (3) years from the date of permit issuance." Given the devotion of resources required to obtain an APP, this period appears far too short, if appropriate at all. ADEQ's concern appears to be with changing technological capabilities, but ADEQ currently has the authority to initiate a permit amendment of its own accord. Such a short shelf life for APP permits thus does not appear warranted.

The draft includes numerous other revisions that may be of interest to APP permittees and applicants, including substantial changes to the sewage treatment facility provisions, and the dry well general permits. Anyone interested in commenting or otherwise participating in the rule making process should be aware of the upcoming meetings and deadlines. A copy of the draft rule and public participation schedule can be obtained at <http://www.adeq.state.az.us/environ/water/permits/app.html>.



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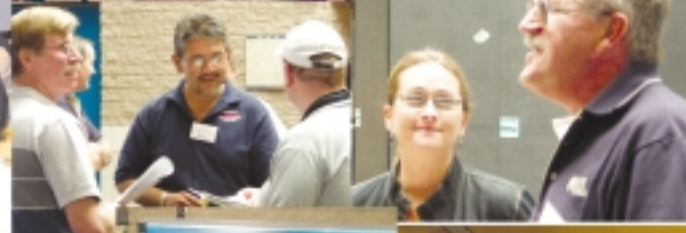


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[gfisher@aegis-ehs.com](mailto:gfisher@aegis-ehs.com)  
 602-770-6961





THE RCRA PUZZLE  
From Command and Control  
To  
Sustainability  
By  
Nicholas R.  
Arizona State



**SAEMS'**  
**The RCRA Puzzle**  
May 6, 2004





# 13th ANNUAL AAI EHS SUMMIT

August 18 - 20, 2004

at the

Prescott Resort in Prescott, Arizona

- August 18th: Reception at historic Murphy's in downtown Prescott.
- August 19th-20th AM: Full day and a half of conference presentations including an ADEQ Regulatory Update, Manufacturing on Tribal Lands, Sustainable Development, and a mock regulatory enforcement trial along with a number of keynote speakers.
- August 20th PM: AAI's Annual EHS Summit Golf Tournament at the StoneRidge Golf Club

Register by phone at 602-252-9415 or on-line at <http://www.azind.org>

## PHOTOS AT LEFT: "THE RCRA PUZZLE"

Over 225 environmental professionals gathered in Tucson May 6th for the annual RCRA seminar presented by the Southern Arizona Environmental Mgmt. Society, Inc. Seminar topics included RCRA basics, advanced RCRA, waste determination--sampling & analysis, sustainability, DOT RCRA, OSHA RCRA, controversial waste, and security.

**ABOUT SAEMS:** SAEMS was formed in 1986 and incorporated in 1991, it is a non-profit 501(c) organization. SAEMS contributes a regular column to the Journal (*see the Association Pages*), with current information about the group's events and activities. Visit the SAEMS website at [www.saems.org](http://www.saems.org).



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## EMPLOYEE AWARENESS OF TERRORISM

*Continued from page 9*

### IV. DECONTAMINATION / MEDICAL/FIRST AID REQUIREMENTS

Proper decontamination procedures and medical First Aid, are essential and will vary with the different types of chemical and biological agent exposures. The Agency for Toxic Substances and Disease Registry (ATSDR) which is an agency of the US Dept. of Health and Human Services, is an excellent reference source and is available on the web site <http://www.atsdr.cdc.gov>.

### V. EMERGENCY RESPONSE PLANNING

A new assessment of the "PROBABILITY FACTOR" could result in the need for improved "SITE SECURITY PLANS." Emergency Response planning will need to address the impact of terrorist activities as it relates to (1) Catastrophic Events which can occur with the existing chemicals on site; and (2) events which can occur due to chemical and biological warfare agents which are brought on site. The classical approach in preparing a Site Safety and Health and Emergency Response plan includes evaluating the Risks of a potential incident. This is determined by assessing the Magnitude of the incident and multiplying the magnitude by the Probability of the occurrence. Based on these Risks control measures would be instituted to minimize the

occurrence. When assessing the impact of terrorist activities a higher level of the Probability Factor could result, which in turn would result in a higher level of risk. Development of improved Site Security Plans would be required in order to minimize these risks. Major regulatory efforts are currently underway which require formalized site security planning including a recent requirement in the DOT regulations 49CFR172.800.

### VI. WEAPONS OF MASS DESTRUCTION (WMD)

Weapons of Mass Destruction are usually designated as CBERN (Chemical, Biological, Explosive, Radioactive, and Nuclear) or BNICE (Biological, Nuclear, Incendiary, Chemical, and Explosive). Biological weapons usually involve the dispersion of the agent as an aerosol which could be inhaled by the population. Nuclear weapons includes an atomic explosion where a chain reaction is involved and massive radiation is emitted. The more likely weapon would be a radioactive device such as the "Dirty Bomb" which would disperse radioactive material by an explosive device and emit dangerous radioactivity in the area. Incendiary and Improvised Explosive Devices (IED) present a great threat and unfortunately can be fabricated and remotely controlled in the form of pipe bombs or other containment devices using technology which is both unsophisticated and readily available.

### VII. CONCLUSION

The purpose of this article is to emphasize the need for increasing the awareness level of both the workers and management regarding the impact of terrorist activities that could result in catastrophic events in the workplace, and to consider additions to the existing worker training curriculum. In addition for employers to consider modifications in the site safety and health plans and emergency response plans for the site. A great deal of information is currently available on the websites by several of the governmental agencies including the Center for Disease Control (CDC), National Institute of Occupational safety and Health (NIOSH), and OSHA. Information relating to improved methods of detection and personal protective equipment is also being developed at a rapid pace and will be available on these web sites. This represents a great opportunity for management to include this material in their worker training programs.

Hal Berkowitz is Assoc. Director of the Office of Environmental Technology at Arizona State University East, in Mesa, Arizona. Hal can be reached at 480-727-1323, or by email at [Hal.Berkowitz@asu.edu](mailto:Hal.Berkowitz@asu.edu).



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## ASSOCIATIONS PAGES

*Continued from page 14*

this spring. This event will attract Green Building professionals from across the country in an effort to further promote the USGBC and LEED through the chapter program. The retreat is an excellent opportunity for local environmental firms to make a national impact without leaving the state. We have sponsorship tables available that range in cost from \$100 to \$1,000, so if your firm is interested in sponsoring the event please contact me.

# WHAT TO EXPECT FROM AN ADOSH INSPECTION

## PART II

by Sean Kriloff

*This article is a follow-up to my previous article in the April/May issue of the Journal, "What to expect from an ADOSH Inspection."*

**T**he aim of this series of articles is to increase industry knowledge of the general procedures the Arizona Division of Occupational Safety and Health (ADOSH) follows during the inspection process. ADOSH hopes that the agency can be a resource for compliance questions and not just the burdening ever present "OSHA" as we are sometimes perceived.

ADOSH conducts inspections based on urgency. The types of inspections, listed in order of importance and agency response, are as follows: imminent danger; fatality/catastrophe; complaint/referral; programmed planned; and follow-up inspections.

Following an opening conference, after answering any general questions the employer representative may have, and after a review of the safety training material provided by the employer, the compliance officer along with the designated company representative proceed to the impacted area of the plant or process. Depending on the reason for the visit, the inspection may be limited to one (1) specific area or may encompass a visit to the entire plant.

If the inspection was initiated due to a complaint, the site visit may be limited to only the complaint items. If a compliance officer observes or is told of any condition, which may be hazardous, the inspection may be expanded to address these new item(s). If the reason for the visit was a programmed planned inspection, a walk through of the entire plant operations will be conducted.

During the walk-around inspection, photographs will be taken to document the work conditions at the time of the inspection. Photographs will assist in documenting employee exposure to the work conditions facing the employees. Additionally, employees working in the process or plant area will be interviewed to assist us in documenting the working conditions. Employee interviews are done privately, away from the watchful eye of the employer, to encourage candid answers.

Depending on the complexity of the worksite inspected, a compliance officer may conduct a closing conference immediately following the walk-around inspection. Once completed, the compliance officer and the company representative will return to an office setting where the apparent violations are

discussed. In the closing conference, the compliance officer also will discuss the abatement periods the employer has. The abatement periods usually range from three (3) to twenty-one (21) days with the time constraints beginning with the receipt of the actual citations. Also discussed are the employer rights and responsibilities pertaining to contesting the apparent violations and posting of the citations respectively. Additionally, follow-up inspections, use of the consultative services following the closure of the file, and employee discrimination issues are also discussed in the closing conference.

The inspection process described is a simplification of what usually occurs during an inspection, but provides a general knowledge of the procedures and steps followed during an inspection. **PLAN** now for an ADOSH inspection. **TRAIN** your supervisors/foremen for an OSHA inspection so they will be able to provide adequate supervision ensuring your employees are adequately protected and can provide the compliance officer with the requested information. **ENSURE** your safety and health programs are in order and your employees are adequately trained depending on the hazards they face on a daily basis.

*ADOSH offers a consultation service that can assist employers in complying with our standards. The consultation sections can be reached at 602-542-1769 in Phoenix, or 520-628-5472 in Tucson.*

Sean Kriloff is an Industrial Hygienist for ADOSH. Sean can be reached at 602-542-1664, or by email at [kriloff.sean@dol.gov](mailto:kriloff.sean@dol.gov).

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# CALENDAR

**AZ ENVIRONMENTAL DATES, JUNE 15, 2004, THROUGH SEPTEMBER 15, 2004**

## JUNE

- 30 EPAZ Mixer Phoenix. Networking mixer at Coach & Willies, Downtown. For info [www.epaz.org](http://www.epaz.org).  
30 SAEMS luncheon Tucson. Installation of new officers & recognition of members. [www.saems.org](http://www.saems.org).

## JULY

- 7 ACHMM T-Bird Phoenix. Dinner meeting 6 PM at Old Spaghetti Factory. For info: [www.thunderbirdchmm.org](http://www.thunderbirdchmm.org).  
8 EPAZ luncheon Phoenix. Speaker: Rob Davis, Forest Energy Corp. Topic: Forest Restoration and Management. For information see: [www.epaz.org](http://www.epaz.org).  
14 AAI EHS Breakfast Phoenix. The EHS Committee breakfast meeting. Speaker: Jean Calhoun from The Nature Conservancy. Contact Daniel Romm at 602-252-9415 or go to [www.azind.org](http://www.azind.org).

## AUGUST

- 3 AESF Diamond Bks Phoenix. Tentative date, contact [bwesterhausen@lachim.com](mailto:bwesterhausen@lachim.com) or 480-206-4107.  
2-4 ACHMM Nat'l Conf Los Vegas. ACHMM Nat'l Conference. For information, [www.thunderbirdchmm.org/programs.htm](http://www.thunderbirdchmm.org/programs.htm).  
18-20 AAI Env Summit Prescott. AAI's annual env. summit at the Prescott Resort. See advertisement page 19. To register: 602-252-9415  
25 EPAZ Mixer Scottsdale. Networking mixer at Carlsbad, Scottsdale. For info see [www.epaz.org](http://www.epaz.org).

## SEPTEMBER

- 1 ACHMM T-Bird Phoenix. Dinner meeting 6 PM at Old Spaghetti Factory. For info: [www.thunderbirdchmm.org](http://www.thunderbirdchmm.org).  
15-18 AHS Symposium Tucson. Annual Arizona Hydrological Society Symposium. See page 11 for details. [www.azhydrosoc.org](http://www.azhydrosoc.org).

*Items for the Calendar must be submitted with the appropriate information to the editor 5 weeks before publishing. Acceptance for publication is at the discretion of the editor. Please contact the Editor at 480-422-4430 x42, or send items to [Calendar@ehshomepage.com](mailto:Calendar@ehshomepage.com).*

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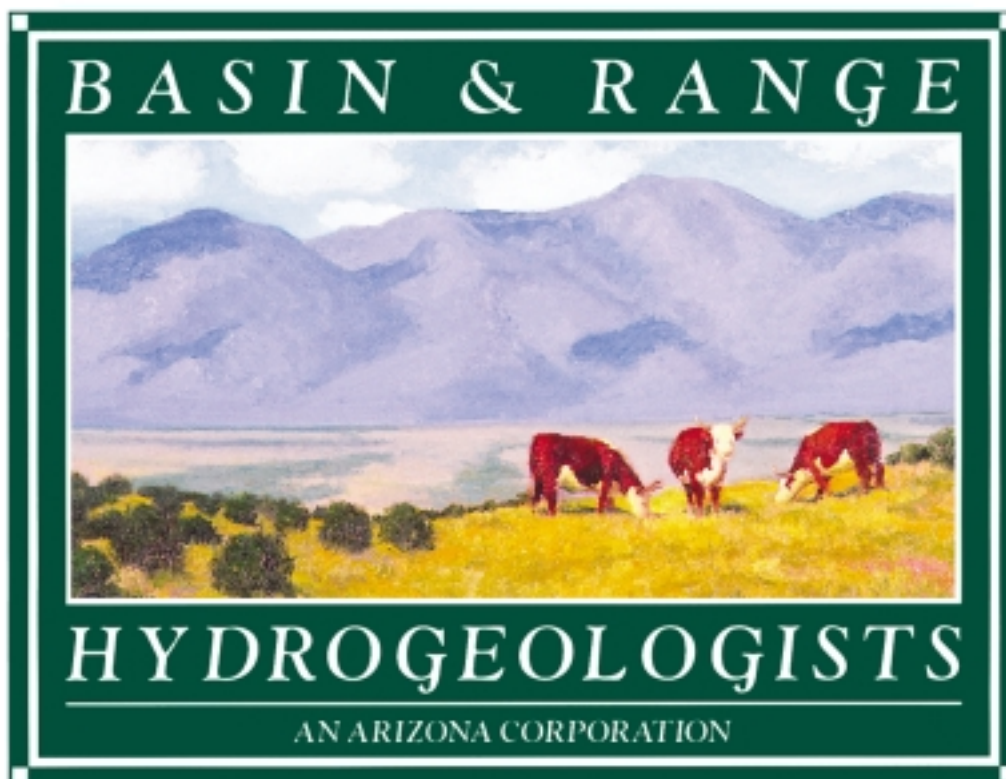
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