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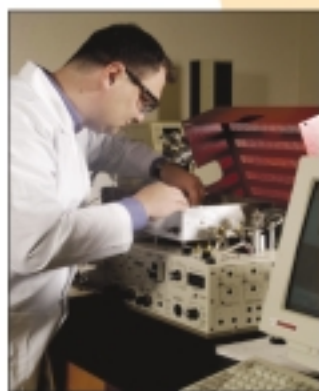
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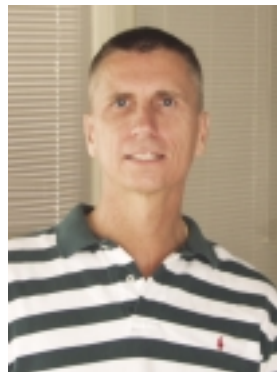
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From the Editor



When postal rates for a first class, one ounce, letter increased a couple months ago from 39 cents to 41 cents (about 5%), I expected that business class mailing rates for the Journal were also headed up. Postal rates for the Journal had gone up small amounts in the past, so I expected a similar small increase — until I got the postage bill for the June/July issue — a full 30% increase in postage!

Next to the cost of printing, postage is the biggest expense of the Journal. so this is a significant increase. Why do I mention this (other than to seek some sympathy?) Mainly, to point out that although expenses have risen, the cost of the Journal to you, the reader, remains what it was when the Journal was launched almost 5 years ago - zero! *If you appreciate the Journal, thank an advertiser!*

I have been asked (often) why I was not smiling in this column's photo, so in response, at last, here is a new picture! Thank you for reading the Journal!

Sincerely,

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COVER: COVER IMAGE COURTESY OF HAL BERKOWITZ, ASU. PHOTOGRAPH SHOWS AN EMERGENCY RESPONSE TRAINING EXERCISE IN PROGRESS. SEE RELATED STORY PAGE 19.



10 Steps to Great Exercises!

Excellent planning advice that will be valuable to anyone involved in an emergency response exercise, as well as to anyone working with people!

by Frederick J. Cowie, Ph.D.

One of the most enjoyable things I have ever done is to work with small rural and tribal communities and their fire, law, EMS, public health and public works responders. Throw in railroads, co-ops, schools, hospitals, etc. and you have a great mix. But how do you develop realistic, helpful and enjoyable hometown exercises

with a group like that? Here are a few of the things I have learned in three decades. Read! Enjoy! Prosper!

One: The key to success is consensus!

No one really cares what you think. And there is always one pushy person in the group. You have to decide early on to control those two people (you and the other pushy one) and that the consensus of the group is the most important product. Consensus is not "That's the perfect exercise" but "It will be okay and I can live with it." Since your goal is to have community members individually doing good work together, you will probably have to take courses to pull this off (and they aren't exercise design courses!): consensus development, facilitation, mediation, arbitration.

Two: Start in-house!

Without decent in-house responses, from co-op to fire departments, from EMS providers to schools, you can't succeed.

These in-house events are usually called drills. Don't expand from garbage, expand from quality! If the players don't see excellence from the other players, they won't play. It's impossible to build trust and confidence among groups if all individual groups are not trustworthy and confident. I have heard "They scare me!" and "They will get someone killed!" said of certain response groups by others. If you hear these types of comments, you are a long way from a good exercise, probably years.

Three: Start small!

I have seen far too many people decide not to play because some idiot decided to have a worst-case exercise or decided to blow up the train next to the hospital. You can have a complex, interactive exercise without making a "federal case" out of it. You don't have to stay small, but you have to build from small successes and if you start too big will create unnecessary and often irreparable damage. Do you really think Al Qaida is targeting your rural community?

Four: Whoever responds gets to decide! (Ask and you shall receive!)

Ask the key players, then push the decision making power down to the lowest effective level. And that would not be the state, tribal or federal level, the elected official level or the upper management level. It would be the field responder level. Ask the group what kind of

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incident they need to work on the most. Ask the EMTs what they really need to practice. Ask the trucker how accidents usually happen. Ask the pipeline person how they manage events and where their response equipment and supplies are located. Don't make someone else's decisions, it never works and makes people really, really mad. Trust me on this one!

Five: Make sure everyone has some real work to do!

If there is nothing for the public works or public health people to do, find something for them to do or they won't ever come back. We once needed a county commissioner around just for his signatory power, so we asked him to keep track of some critical data, so he wasn't just sitting with pen in hand, but was an active part of the exercise. People come to work. Find out what their skills are. We tend to only concentrate on their data banks. I loved my civil engineer to show up, for he could gather data, write well, draw well, and analyze data quickly, but we never had any civil engineering to be done. Why do we waste a person with fire fighting skills on a PIO skill area when PIO people exist in many organizations and the PIOs and the organizations would love to participate and help? Do you have something real for fire, law, EMS, public health and public works to do? Honor them, honor their skills, don't do "make work" with real players, or we won't come back!

Six: This is not a test!

Get rid of the military model. Get rid of the test model, the grading model, the evaluating model, the good/bad, right/wrong, the pass/fail model. The old model was for "defense" (as in Civil

Continued on page 11



Laboratory Tips

by Dianne Frydrych

Sample collection staff, in the field day after day in the heat, rain, and mud up to their ankles, and trying to get the sample before a storm starts are the most critical players in obtaining a representative sample. Sampling staff must always be on their toes as no sampling event is ever quite like the next.

Today's TIP:
Chain of Custody

The Chain of Custody (COC) is legal documentation of where a sample has been and the process it has been through. Properly filled out, the COC is protection for the sampler, the company, and legal protection if ever taken to court. The sampler must fill this document out in full and sign off on the COC when dropping off to the lab.

Steps to Remember:

(1) Always use black ink; (2) List each sample included and what the test is for; (3) Include the time, date, location, and identify grab or composite; (4) Phone number on COC where

Sampler can be reached by lab; (5) Time of drop off at lab – synchronize so when the lab signs & you sign, it is done simultaneously so there is no gap in time; (6) Use military time; (7) Special Instructions - write in that area anything different or special you need, so it is clearly noted for lab to see.

Dianne Frydrych is Sales and Marketing Manager for Legend Technical Services, Inc., and has 5 years experience in environmental laboratory management. Dianne can be reached at 602-324-6121 or by email at dfrydrych@legend-group.com.

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Michael C. Ford, Attorney

Regulatory Developments

"Waters" Guidance Issued; AZPDES Validity Confirmed

Amidst much anticipation, EPA and the Corps finally issued their guidance memorandum interpreting the scope of their Clean Water Act jurisdiction in light of the *Rapanos* case. In fact, the agencies issued a flurry of interesting documents in early June in addition to the aforementioned guidance memo, including a Regulatory Guidance Letter addressing their new practices for documenting jurisdictional determinations; "highlights" of their guidance; a "question and answer" document; a new jurisdictional determination form; plus an instruction guidebook to accompany the new form.¹ As the agencies acknowledged, the *Rapanos* decision "has implications for all CWA programs, such as § 402 National Pollutant Discharge Elimination System (NPDES) permits, § 311 oil spill prevention and cleanup, and § 303 water quality standards."² The collective guidance is chock full of interesting interpretations, footnotes, photographs, and flow charts previewing the brave new world that lies ahead for the regulators and the regulated community alike.

A (very) few things are clear from the guidance: 1) the agencies have committed to better coordinating their jurisdictional determinations to ensure consistency; and 2) the agencies will better document their jurisdictional determinations. Beyond these largely procedural issues, unfortunately, the guidance offers little in the way of substantive criteria the regulated community had hoped for to assist them in determining whether or not they may be dealing with a jurisdictional water.

Under the guidance, most potentially jurisdictional waters in Arizona will require a "significant nexus" analysis to determine their jurisdictional status. This basic inquiry is whether the water at issue has a significant nexus with a "traditionally navigable water" ("TNGs" - waters that are, have been, or could be used in interstate commerce). While the agencies offer some criteria

to consider in conducting this analysis, *e.g.*, flow data, proximity to TNGs, habitat services, etc., the agencies offer no objective criteria or bright lines to discern what all the subjective criteria mean. In other words, significance will be in the eye of the beholder.

Of particular interest to Arizona, the guidance does purport to exempt "swales" and "erosional features (*e.g.* gullies, small washes characterized by low volume, infrequent, or short duration flow)" from jurisdiction and attempts to distinguish such features from ephemeral waters, but does so only ambiguously, suggesting that even these potential waters as well will ultimately be subject to the significant nexus analysis. The agencies are accepting comments on the guidance for the next six months if you would like to offer your two cents. Also, the democrats in Congress have once again introduced their annual legislation to amend the Clean Water Act to broaden jurisdiction to its pre-*Rapanos* and SWANCC status (essentially limitless). It is unclear (1) whether there are enough votes to pass such a bill; and (2) whether such an amendment would pass Constitutional scrutiny. If passed, such legislation would obviously impact the recent guidance and the agency's positions.

In other big news, the Supreme Court confirmed the validity of Arizona's AZPDES Clean Water Act permitting program in a decision issued June 25th, 2007.³ In yet another close split (5-4) the Court overturned the 9th Circuit Court of Appeals decision to vacate the AZPDES program on Endangered Species Act concerns, finding that the 9th Circuit erred on essentially every point in its analysis. Most importantly, the Court confirmed that the ESA consultation requirement does not apply to non-discretionary decisions mandated under other environmental statutes, such as NPDES program delegation under the Clean Water Act.

Now that the status of the AZPDES program is clarified, ADEQ may well turn its attention in running the program to such burning issues as the aforementioned jurisdictional conundrum, the ever popular issues of budgeting and permit fees, and some unfinished business, including a stormwater permit for industrial activities.

Other issues on my regulatory radar screen include ADEQ's ongoing rulemaking efforts dealing with Arizona's surface water quality standards and drinking water. The "Triennial Review" rulemaking involves new and revised surface water quality standards and regulations, as well as procedures for implementing a number of the water quality standards. More information is available at <http://www.azdeq.gov/environ/water/standards/index.html>. The drinking water rulemaking involves Arizona's incorporation by reference of federal Safe Drinking Water Act regulations, as well as new and revised ADEQ regulations for drinking water providers. For more information, check out <http://www.azdeq.gov/environ/water/dw/rules.html>.

Footnotes:

1 All of the guidance documents are available at http://www.usace.army.mil/cw/cecwo/reg/cwa_guide/cwa_guide.htm.

2 *Questions and Answers for Rapanos and Carabell Decision* dated June 5, 2007.

3 *National Association of Homebuilders vs. Defenders of Wildlife*, 511 US ____ (2007).

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10 Steps to Great Exercises: Cowie

Continued from page 7

Defense under the Defense Department) where people were in military or paramilitary outfits, same uniforms, officers, guns, badges, discipline, etc. Many jurisdictions don't have working plans, so how could you test it? An exercise should be practice (not a test), with coaches and mentors (not evaluators), with learning to do it right (not practice doing it wrong and getting a bad grade). In-house drills can be tests (and this is indeed like the old military idea). If you use complex, multi-jurisdictional, multi-disciplinary exercises in rural areas as tests, simply put, you will fail those tests!

Seven: Give them food and they will come! Or hats, or something useful. Maybe we all now have too many cheap coffee cups with logos, but a nice polo shirt and a good meal, hell, that's real incentive. Agencies have discretionary funds, corporations have advertising budgets and concerned citizens will help. Make it so real players get rewarded and non-players don't get rewarded. You get the behavior you reward. And if you are in doubt about what motivates your group, well, you could ask them!

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Eight: No surprises!

This time we are talking surprise quizzes. This concept only works in-house for close knit teams. (Have you ever thought of asking if your team wants to be drilled or quizzed?) As for community exercises, everyone should know everything. The more people who know and the more they know, the better off your community, your agency and you will be. Why not put on a hazmat awareness course for citizens and explain the principles of response planning



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and exercising? Then if you have volunteers, find real things for them to do. CERT is good. It cuts down on the arrival of untrained and uncoordinated, spontaneous volunteers at real events. And remember, an exercise is learning, it is practice, it is a community event, it is not a test and it is not a surprise quiz.

Nine: Build a plan!

If you have no plan, build an exercise around a real community concern, then you will have at least one coordinated action plan for one incident. After two or three of these action plans, the generic pieces will actually grow into a plan, almost on their own. I think it is better to have five good action plans which have come from exercises (transportation hazmat incident, big fire in apartment house or something similar, multi-casualty highway incident, school shooting/hostage incident and biological/radiological incident) than a make believe, fill-in-the-blank plan which sits on a shelf. I think training and exercises build good plans and not the other way around.

Ten: It takes five years & it takes a village!

To go from non-caring and non-response to quality takes three to five years. And it takes a village, minus the village idiot of course! All it takes is a million small steps, realistic scenarios designed by the players, honor and trust, respect and real work, open communication, a little food or other reward and community consensus. If you quit you lose and if you don't quit you win!

Frederick J. (Fred) Cowie, Ph.D. specializes in rural and Indian Nations Emergency Management Hazmat, MethLab and Terrorism Preparedness. Dr. Cowie maintains a website at www.fredcowie.com, and can be reached at 406-431-3531 or by email at fredcowie@aol.com.

Associations Pages



AAI

In early June, AAI and the Arizona Chamber of Commerce announced their intent to merge into one organization under the name of the Arizona Chamber of Commerce over the next several months. Under the terms of the merger, the Arizona Manufacturing Council will be created within the structure of the combined organization to continue AAI's historic focus on manufacturing. Both organizations believe that this organizational change will strengthen their efforts to promote the interest of business and manufacturing in Arizona. During the transition period, AAI's EHS Committee will continue to function as it has historically including its subcommittee structure, monthly breakfast meetings and annual conferences.

In view of these organizational changes, the annual AAI Environmental Summit has been rescheduled to September 20th and 21st at Loews Ventana Canyon & Golf Club at 7000 N. Resort Drive in Tucson. The summit will consist of the annual AAI Environmental Summit Golf Tournament on September 20th and a one day conference on September 21st focusing on key environmental issues facing industry. The 2007 Environmental Summit promises to be packed with timely information about emerging environmental issues affecting manufacturers and industry in Arizona and will be attended by representatives from many industries and companies across the state. Please mark your calendars and plan to attend. Reservation information can be obtained at AAI's web page at www.azind.org or by calling Jeff Homer at 480-441-6672.

*Jeff Homer,
EHS Committee
Chairman*



**American
Society
of
Safety
Engineers**
Southern AZ Chapter

The Southern Arizona Chapter of the American Society of Safety Engineers (ASSE SAC) selected **Dave Baker**, Safety Supervisor with TEP Corporation, as the Safety Professional of the Year. Dave is involved in many safety endeavors in Southern Arizona, including contractor safety training, Arizona Blue Stake, investigations, contractor organizations such as Tucson Utility Contractor's Association (TUCA) and American General Contractors (AGC). Dave was involved in founding the Southern Arizona Safety Council and is a great resource for the safety community.

Granite Construction Company was recognized for its strong commitment to Safety where "safety is more than a priority, safety is a value." Granite's Accident Prevention Program includes formal safety training, inspections, audits, and a formalized system of reporting. The Company recognizes that accident prevention is a line management responsibility that is shared at every level of the organization from the President to the craft workforce. Our community is better because of companies like Granite.

The Community Safety Award went to **Sheila Robinson and the Pima Community College Motorcycle Rider Education Program**. Robinson says, "education isn't expensive, but ignorance is." Robinson, along with a staff of 25 instructors, helps new riders learn to ride and helps experienced riders learn to ride better. Our community is lucky to have people like Sheila Robinson and organizations like Pima Community College.

*Shari Di Peso,
Secretary*



**AZ Chapter
Semiconductor
Environmental
Safety & Health
Association**

For Info about a
SESHA Membership
please visit us at:
www.seshaonline.org

The Semiconductor Environmental Safety and Health Association held its second quarterly meeting on June 14th at Arizona State University Club. The Center for Solid State Electronics Research at ASU sponsored the event. Speakers included Kevin Theriault of Arizona Blue Stake, Who presented on the rules and regulations for 'blue staking' in Arizona. Mr. Ajay Shaw from ON Semiconductor presented on the Pacific Rim environmental standardizations currently being developed and David Yost of ASU Flexible Display Center presented on the Chemical Facility Anti-Terrorism Standard and its impact upon the semiconductor industry.

The next quarterly meeting is set for September, along with a one day technical mini conference in early November. For more information, please contact Martin Fekete at (480) 266-7915 or the SESH National Chapter.

*Marty Fekete,
President*





*Jeff Christensen,
President*

The SAEMS annual meeting was held on June 28, 2007. The new executive board was installed, the 2006-2007 executive board and committee chairs were recognized and the two UA scholarship awardees were introduced. The meeting was also the formal recognition of SAEMS' 20th Anniversary. The highlight of the meeting was a proclamation

from the Governor's Office recognizing SAEMS' contribution to the Southern Arizona environment. (Text of the proclamation and pictures of the meeting can be found on in this issue, on page 18.)

Upcoming SAEMS sponsored events include the monthly luncheon meetings, a P2 seminar October 4th, and the 20th Anniversary Celebration BBQ on October 13. It promises to be a busy and exciting year for SAEMS and we hope that you will be able to join us.

SAEMS



If you have any questions about SAEMS please VISIT OUR WEBSITE AT WWW.SAEMS.ORG



*Jeanie Merideth
Society Manager*

AHS is very busy preparing for the AHS/SWH Annual Symposium to be held August 29 through September 1st, 2007. The Westin La Paloma in Tucson will be the venue and rooms are still available at a special rate. The symposium will have a total of 28 technical sessions and an unprecedented 50 poster presentations. Please visit www.watersymposium.org

AHS, during the Symposium will hold its Annual meeting on the evening of August 30th. This is where we review the things we have done as a Society over the last year and where members get to express their opinions on what the Society need to look at doing this next year. Members will not want to miss this. Libations will be offered.

The Phoenix, Tucson and Flagstaff Chapters continue to hold monthly meetings with interesting and informative topics and speakers. Please check www.azhydrosoc.org and click on the calendar to view the up to date information.

Don't forget to mark your calendars and register now for The 6th International Symposium on Managed Aquifer Recharge to be held October 28 - November 2, 2007 in Phoenix. This event is being organized by AHS in partnership with IAH, ASCE / EWRI and UNESCO. Visit www.ismar2007.org.

Arizona Hydrological Society



please visit the AHS web site: <http://www.azhydrosoc.org>



*Chuck Paulausky,
Board Member*

The Thunderbird Chapter sponsored a CHMMunity Outreach Project, TEAM RIO, in late July. The project involved a cleanup of an abandoned industrial-impacted site near 24th Street and the river bed as part of the Rio Salado Habitat Restoration Project. The Thunderbird Chapter received a CHMMunity Project grant

from National ACHMM to help cover some of the cost. Much of the equipment, tools and facilities were donated by local environmental companies and governmental agencies, with the labor provided by CHMM's, City and State workers, and others who volunteered their time to this worthy cause.

Information and applications for the ACHMM Thunderbird Chapter Scholarships will be available in late August. The Thunderbird Chapter will be awarding these for the 2008 Spring semester. If you are in school, or know someone who is working on a degree in the environmental sciences at an Arizona school, be sure to pass on the word.

Don't forget the **Thunderbird Happy Hour** on 1st Thursdays, 5:30 PM - ??

The ACHMM/EPAZ monthly lunch meetings are held at the ASU MERCADO, 502 E. Monroe Street (SE of 7th St & Van Buren) from 11:30 ~ 1:00 on the second Thursdays of each month. Meeting details: www.thunderbirdchmm.org or www.epaz.org.

ACHMM Thunderbird



Calendar Items:

- August - No Meeting
- Sept. 6 - T-Bird Happy Hour, Four Peaks Grill & Tap, SE Frank Lloyd Wright & Hayden, Scottsdale
- Sept. 13 - Luncheon Meeting, ACHMM Scholarship Winners & AZPDES Update (M. Ford)
- Oct 4 - T-Bird Happy Hour, Yardhouse, Desert Ridge Mall
- Oct 11 - Luncheon Meeting, Hot Topics in Solid/Hazardous Waste, Barton Day- Bryan Cave
- Nov 1 - T-Bird Happy Hour, Sonoran Brewhouse, 322 E Camelback, Phoenix
- Nov 8 - Luncheon Meeting, Workplace Violence, Officer Monty Woods, Phoenix PD

EIA-AZ



EMAIL:
info@eia-az.org.

The EIA sponsored quarterly dinner presentation on June 27th featured topic was, "The EPA Asbestos Project Plan", presented by Mr. Joe Palermo, IHI. The quarterly dinner meetings are geared to provide environmental information to our members and associates in a relaxed atmosphere to promote attendee's interaction. Our next dinner meeting is scheduled September 26th and the featured topic is "Understanding Pandemic Influenza in the Modern World", presented by Mr. David Naylor, V.P. Aramsco.

*Bill Caveness,
President*



The association is full steam ahead with preparation for the 2008 Southwest Regional Environmental Conference sponsored by EIA-AZ February 20-22, 2008. The conference will be held at the Golden Nugget Las Vegas. Topics will include Mesothelioma- Legal Case Studies, Senator Murray's 2007 Asbestos Ban, New ASTM Standard in Development (Vapor Intrusion Standard and Phase I ESA Continuing Obligation Standard), a presentation on Nano Technologies, and many many more. Please visit our web site at <http://www-az.org> for information on all upcoming events sponsored by the EIA-AZ

Arizona Environmental Strategic Alliance



www.azalliance.org

www.reuseaz.org

Phone: 480-422-7392

Alliance members are drafting a "wish list" of potential Performance Track incentives to submit to ADEQ for consideration. Your input is welcome - why not get in on the ground floor and suggest incentives that you would like to see implemented. Contact us at 480-422-9372, or email jimthrush@cox.net.

The Alliance's waste reduction website, www.ReUseAZ.org, has been revised recently, and is well worth a look! The program emphasis is on direct waste reduction assistance to businesses (a free service), but the site also features an illustrated list of materials available/wanted.

The Alliance will take a 'summer break' so there will be no meeting in August. Our next meeting will be September 19, 2007. If your company is interested in membership, you are welcome to attend. The Alliance is not just about the Phoenix area - we have members that attend by teleconference, so if you are interested you can attend from any part of the state. Contact the Alliance at 480-422-7392.

*Rob Barnett,
Chairman*



EPAZ



Website:
www.epaz.org

Our July 12th meeting was held in Flagstaff. Those in attendance enjoyed a tour of the City of Flagstaff's Hazardous Products Center at the Cinder Lake Landfill. Our tour guides were Scott Donovan, Environmental Project Manager & Lauren Hertz, Environmental Program Specialist. The tour gave an overview of the City's Household Hazardous Waste Program and the Small Business Waste Programs that were recently started in April 2007. A few of our attendees even took advantage of the Drop and Swap area which contains FREE unused, unopened products!

In July, EPAZ members elected new officers for the 2007-2009 term. Congratulations to: **Mannie Carpenter, President; Laura Malone, Vice President; Skip Harden, Treasurer and Jennifer Thomason, Secretary.** Installation of our new Board of Directors will take place at our Sept. meeting.

We will not be holding a meeting during the month of August but, will restart our meetings in September. Details regarding our future meeting topics were not available at the time of publishing, so stay tuned to our website for more information.

EPAZ, Thunderbird ACHMM and AZSERC have also secured the date of our **Fourth Annual Gatekeeper Regulatory Roundup** to be held at the Chaparral Suites in Scottsdale, Arizona. **SAVE THE DATE - January 28-29, 2008!**

EPAZ holds monthly luncheon meetings on the 2nd Thursday of the month from 11:30 am to 1:00 pm. Cost is \$20 members/\$30 non-members. EPAZ also gathers on the last Wednesday of the month for a casual cocktail mixer. Visit our web site at www.epaz.org for more details regarding upcoming meetings and our monthly mixer location or contact Eddie Martinez at (602) 708-9179.

*Eddie Martinez,
President*





Sustainability and Sustainable Development

Nicholas R. Hild, PhD.

Planes, Trains, and Automobiles -- Does Anyone Else see This?

It's truly amazing to watch the never-ending number of climate-related conferences held all around the world, and the hullabaloo the politicians make over each one. But, no one ever seems to consider the huge waste of energy and non-renewable resources consumed in continuing this elaborate debate which requires scientists from all over the world to keep meeting in those far-away places every other month or so or, especially the untold quantities of fossil fuels consumed in *planes, trains, and automobiles* to enable all those scientists and politicians just to reach those places?

When you add up all the energy consumed by all the dignitaries, politicians, and star-wannabes who make the trip with their accompanying entourage of limousines, personal protection vehicles, private airplanes, and re-routing of airport transportation corridors for them to be whisked to the waiting parade— (all in the name of *politically* doing the right thing)— you got yourself one big gathering of greenhouse gas emitters trying to look like they believe what all those scientists are saying (even if they've not endorsed the Protocol's and put words into actions quite yet).

Message to all the aforementioned: there **is** irrefutable evidence that temperatures are, (on average), increasing around the world— *On Average*—and, at least *part* of the increase in temperatures can be blamed on MAN's industrial process emissions, so what's to stop us from doing the things we know how to do to implement real-time changes that will reduce whatever MAN's portion of global warming can be reduced? And, you know that it's *only* the 'MAN-caused' portion of carbon emissions that we can control.

It isn't necessary to agree on what percentage of the total (global) carbon load each industrialized country needs to reduce. If country leaders simply challenge each other to set goals which require them to look for the most efficient and least expensive ways to reduce carbon emissions from the same or similar industries in their own countries, I'm betting we can make it a global win-win that *everyone* will find beneficial.

It is easy to forget in all the bluster and rhetoric out there but there are a myriad of industrial processes that the major European Union countries, the U.S., China, Japan, Russia, India and several other Asian countries share which are basically done the same way—power plants use coal and other fossil fuels, electronics manufacturing facilities around the world use VOC's and similar chemicals to produce products, plating shops of precious and heavy metals all pretty much use the same techniques and emit the same types of emissions. And, it would seem a simple task to share our collective expertise in reducing those emissions wherever they occur. Now, *that* would be a global win-win!

Peoples of all races, religions, or political leanings agree that breathing industry's emissions isn't healthy for anyone so instead of agreeing to disagree about Protocols that really don't have much teeth anyway, why don't we take a common sense approach and promote our common goals of having fewer greenhouse emissions, fewer people breathing fewer pollutants, and share the solutions to our common industrial emissions with everyone?

So, as with the original statement about average global temperature change, my question is, why don't we spend our efforts (and taxpayer dollars) finding ways to reduce emissions with proven technologies and techniques (for the good of *everyone*), instead of setting up conferences where scientists continue to argue the validity of the scientific basis for actions to be taken? The politicians who end up with the decision-making power to take actions don't really care what the "science" shows anyway— so, in the short term, why not take actions that we know will successfully reduce greenhouse gas and other air emissions?

And, any action that wins points in the polls for the politicians will be the one's that get implemented. We already know how to do emissions reductions in many, many processes and industrial facilities; all we really need to do is show the politicians why it's in their best interest to carry the message, then we can forget about all those *planes, trains, and automobiles* going to conferences where nothing is ever resolved.

And, most of all, we could get on with the real business of reducing global greenhouse gas emissions and let the scientists get back to their laboratories and tackle that pesky problem of how to put our energy consuming world on a fossil diet. When we solve that problem, we can *really* say we've ensured a better future for our children's, children's, children.

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.

It's All About Chemistry

Chemistry and Sustainability



Larry Olson, PhD.

A recent article in *Environmental Science & Technology* (Vol 41, p. 4840, 2007) discussed the results of a National Science Foundation workshop which focused on key problems, particularly those of a chemical nature, which must be solved if more than 6 billion people are to live on this earth without destroying it.

Naturally, breaking our dependence on fossil fuels is at the top of the list. Not only are we fouling our atmosphere with air pollutants and greenhouse gases, but carbon from petroleum is used in almost every product we make, from drugs to plastics to clothes and other sources will be much more expensive. There are lots of potential alternatives to fossil fuels including solar, biomass, wind, geothermal and nuclear energy. But in each case, formidable technical problems remain in harvesting energy, converting it to useful chemical or electrical forms, storing and transporting it, and then using it more efficiently. Chemistry will play a central role in these new energy technologies by providing better fuel cell membranes, more efficient photovoltaic cells, lighter batteries, new catalysts for cellulosic ethanol, better containment for radioactive wastes, new superconducting materials, or lighter and stronger windmills to name just a few.

On a more fundamental level,

this new vision of sustainability will require an "atom" economy. This refers to the ability to control chemical reactions much better than we can today. Now we use non-renewable petroleum based starting materials, massive amounts of solvents, energy intensive processing steps, and produce large amounts of waste. In the future genetically engineered, renewable feedstocks can replace petroleum, highly efficient catalysts and new super critical fluids can increase yield and reduce energy consumption. Better computational ability can improve our understanding of chemical reactivity and result in new synthetic capabilities. Instead of generating toxic wastes which must be cleaned up, the new goal will be zero waste and minimal impact on the environment.

Our world is more complex than laboratories and chemical plants. Atmospheric, aquatic, soil and biological processes are all interrelated in ways that we are only now beginning to appreciate. Sustainability will require a much better understanding of these complex systems. Much of our knowledge here is of very recent origin. It was only about 30 years ago that Polar Stratospheric Clouds were first discovered over the Antarctic. Their interaction with CFCs resulting in the loss of stratospheric ozone was totally unforeseen and exemplifies how human actions can result in unintended consequences. We will need better and more complete data on how our planet operates in order to really delineate the human impact on the environment.

Will our educational system produce the leaders we need to successfully change our perspective? It is important for scientists to learn about more than reaction mechanisms and thermodynamics. They need to explore the concept of sustainability and the consequences of our choices in each of their disciplines. Similarly, citizens will be called on to make political judgments, allocate resources, and commit the country to international treaties on very complex matters where there may be conflicting or incomplete data. "Scientific proof" may be hard to come by. But in our future, ignorance is not bliss.

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

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SAEMS 20th Anniversary Kick-Off Governor Proclaims "SAEMS DAY"

June 27, 2007, was a historic day for the Southern Arizona Environmental Management Society (SAEMS). Patrick Cunningham, Deputy Director of ADEQ, delivered a state proclamation from Governor Napolitano to SAEMS officers and members at its June 27th luncheon meeting in Tucson, declaring the day "SOUTHERN ARIZONA ENVIRONMENTAL MANAGEMENT SOCIETY DAY". The award was accepted by incoming SAEMS President, Jeff Christensen, and past President, Bob Estes.

Text of the proclamation is provided below. For more information, visit SAEMS at www.saems.org.

WHEREAS, SAEMS is celebrating its 20th Anniversary this year. Formed in 1986, incorporated in 1991, it is a



Pat Cunningham,
Deputy Director, ADEQ



Richard Carter,
SAEMS Founding Member



Jeff Christensen,
Incoming SAEMS President



SAEMS Members Enjoy Luncheon During Award Ceremony

non-profit 501(c) corporation. Over the years, it has grown into one of Arizona's leading professional environmental organizations. Currently, with over 200 members, SAEMS is continually striving to preserve and protect Arizona's environment; and

WHEREAS, SAEMS has diligently worked to actively promote awareness, education and understanding of environmental issues. They have continually provided a forum for the exchange of ideas and information between private enterprises, government, industry, education and research institutions; and

WHEREAS, SAEMS has accomplished this by organizing and presenting the annual RCRA seminar to inform hazardous waste generators of the rules and regulations governing hazardous waste; and

WHEREAS, to reduce the amount of pollution generated in the state, SAEMS has been a co-sponsor of the annual Pollution Prevention Seminar. A seminar designed to provide ideas for companies to reduce pollution at the source; and

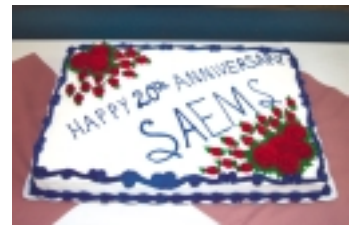
WHEREAS, SAEMS is proactive outside of the business world by cleaning up illegal dumping sites, participating in the Adopt a Highway program, invasive grass removal projects, and the Santa Cruz River Clean Up project; and

WHEREAS, community efforts include spearheading the successful effort to create the two acre nature park with trails next to Agua Caliente Elementary School, participating in juried school science shows, and taking part in the annual Tucson Earth Day Festival and Parade; and

WHEREAS, SAEMS also provides scholarship funding for students pursuing an environmental career. Scholarships are awarded to graduate and undergraduate students annually;

NOW, THEREFORE, I, Janet Napolitano, Governor of the State of Arizona, do hereby proclaim June 27, 2007 as "SOUTHERN ARIZONA ENVIRONMENTAL MANAGEMENT SOCIETY DAY"

*Janet Napolitano, Governor
Janice K. Brewer, Secretary of State*



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Protecting Your Workers OSHA PPE Requirements

by Chuck Paulausky, CHMM

As an employer, you have a responsibility to protect your employees from workplace hazards. There are a number of control options available, with Personal Protective Equipment (PPE) being the last on the list. Always investigate other controls first. Controls can include using elimination or substitution to reduce the hazard. Engineering controls are next on the list, followed by administrative controls. Only resort to PPE when these other controls are not effective or feasible.

The OSHA regulations covering PPE can be found throughout 29 CFR 1910, the General Industry Standards, as well as in the other OSHA Standards. One place to start is with 1910 Subpart I *Personal Protective Equipment*. This Subpart covers the basic requirements for PPE starting with 1910.132- *General Requirements*. This section covers basics, including hazard assessments and training requirements. 1910.133 – 1910.138 go into more details about various kinds of PPE,



DURING the construction of the Hoover Dam, workers made their own “hard hats” by putting two cloth caps together, one brim in front, and one in back. Then, they dunked

the caps in tar a few times and set them out to dry. The result was head protection that worked surprisingly well. They weren't very comfortable, but it was better than having your head cracked open by falling rocks. This was long before OSHA.

Things have changed a lot since the Hoover Dam was built. During the five years of its construction, more than 100 workers died, many from the lack of PPE. Rumor has it that some workers fell into the concrete as it was being poured and are buried in the dam. Actually, it's not true, so the next time someone tries to tell you this story, you can tell them with confidence that it's a DAM lie! Stay Safe!

including *Eye/Face, Respiratory, Head, Foot, Electrical Protective Equipment, and Hand Protection*. In many cases, OSHA refers to various ANSI Standards, which define the technical criteria for the design and application of different types of protection.

When selecting PPE, you need to consider things like chemical compatibility for gloves, the filter media for respirators, or the assigned protection factor for hearing protection, in order to ensure the PPE you choose is right for the application. The OSHA and ANSI guidelines, and manufacturer specs are very helpful.

Many of the other OSHA Standards have specific PPE requirements, as well. Hearing protection and Nonionizing Radiation requirements are covered in 1910.95 and 1910.97. Chemical-specific standards usually have PPE requirements. Bloodborne Pathogens and Confined Space requirements include PPE. Always look for these in the regulations that apply to your operation, whether it's building a widget, a house, or a dam.

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 the ACHMM Thunderbird Chapter, and he can be reached at: 480-694-1975, or by email at cpaulausky@cpsafety.net.

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news briefs

ADEQ Director Steve Owens Issues Statement on U.S. Supreme Court Decision Upholding AZPDES

Recently, the U.S. Supreme Court upheld the authority of the Arizona Department of Environmental Quality to operate the National Pollutant Discharge Elimination System (NPDES) Permit Program on the state level.

ADEQ Director Steve Owens issued this statement:

"From the beginning we have operated our state program in accordance with the Clean Water Act. Our state program provides adequate protection for endangered species, and we have always been confident that our program would be upheld in court. We are pleased with today's [June 27, 2007] decision and will now be able to move forward to administer our program to preserve Arizona's precious water resources without being under a cloud of litigation."

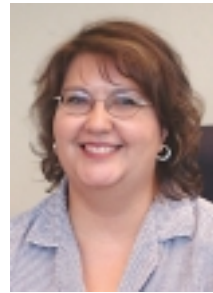
Arizona has administered the Arizona Pollutant Discharge Elimination System (AZPDES) program since December 2002 under a delegation agreement with EPA. In early 2003 ADEQ's authority to administer the program was challenged by Defenders of

Wildlife in Federal Court. Today's ruling by the U.S. Supreme Court upheld ADEQ's authority to administer the program. (Please see related column by Mike Ford, page 9.)

Edna Mendoza New Director of Office of Border Env. Protection, Tucson

Recently, ADEQ Director Steve Owens announced that Edna Mendoza has been selected Director of ADEQ's Office of Border Environmental Protection in Tucson.

"Edna has been working on border environmental issues at ADEQ for several years," Owens said. "She has the experience, knowledge and expertise to ensure that the important environmental issues along the international border continue to receive the attention they need."



Edna Mendoza

Edna is an Arizona native, born and raised in Nogales. She graduated from the University of Arizona with a major in biology. Edna has been working with ADEQ on border environmental issues for 13 years, including ADEQ's efforts with the Arizona-Mexico Commission, the Border 2012 Environmental Program and the Border Governors' Conference.

ADEQ's Office of Border Environmental Protection is based in Tucson at ADEQ's Southern Regional Office, where it works on border environmental issues related to air and water quality, waste from illegal border crossings and recycling, among other issues.

Kathlene R. Graf Joins Geomatrix

Geomatrix announced recently that Kathlene Rantz Graf has joined the Phoenix office of Geomatrix Consultants, as a Senior Air Quality Engineer. Kathlene brings more than 10 years of environmental engineering experience, in particular, expertise in regulatory agency processes as well as rules and policy interpretation. Prior to joining Geomatrix, she managed the Air Quality Permitting Division of the Maricopa County Air Quality Department (MCAQD), reporting to the Director.



Kathlene R. Graf

On joining Geomatrix, Kathlene stated, "Geomatrix provides a very talented group of experts in a collegial atmosphere. In moving from a regulatory role to a consulting role, I look forward to assisting clients in reducing their environmental liabilities while

improving the overall quality of air in the Phoenix area." Kathlene earned her B.S. in Chemical Engineering from Lehigh University in Bethlehem, Pennsylvania. She is a member of the American Institute of Chemical Engineers, the Society of



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Women Engineers and the Portland Cement Association. Kathlene can be contacted at Geomatrix at 480-348-1244.

Pima County Wastewater Management Conveyance Division Developing Business Management System

❖ The Pima County Wastewater Management Conveyance Division has promoted Edward Collette to Environmental Planning Manager to develop a Business Management System for International Organization for Standardization (ISO) 9001, ISO 14001, and Occupational Health and Safety Assessment Series (OHSAS) certification.

When completed, Pima County Wastewater Management will join only a few private companies and public enterprises throughout the world to achieve all 3 certifications. Ed can be contacted by email at e.j.collette@juno.com.

ADEQ to Inspect Haz Waste Shipments from Mexico

❖ Recently, ADEQ Director Steve Owens announced that ADEQ will be launching an effort to inspect shipments of hazardous waste coming from Mexico into Arizona at Arizona's three ports of entry in Nogales, San Luis and Douglas, the state's busiest crossings from Mexico.

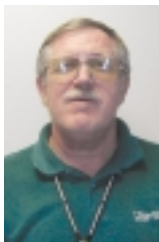
Owens said that the state budget recently signed by Governor Napolitano provides funding for ADEQ to hire three full-time hazardous waste inspectors to review waste shipments coming into Arizona from Mexico to ensure they are being transported safely in accordance with all requirements of state and federal law. ADEQ will post an inspector at each border crossing where the waste shipments are likely to occur.

"No one at either the federal or state level is inspecting hazardous waste shipments coming into Arizona from Mexico," Director Owens said. "We are pleased that we got the funding to perform this critical task." ADEQ had unsuccessfully sought funding for the inspectors last year from the Arizona legislature.

Under federal law, U.S.-owned manufacturing plants in Mexico, known as maquiladoras, are required to dispose of their waste in the United States. Federal law also permits other companies to bring their waste into the United States for disposal. Because Arizona has no hazardous waste disposal facilities, any waste coming across the border will ultimately end up in other states for disposal.

ADEQ inspectors will check Mexican hazardous waste shipments for compliance with applicable hazardous waste laws; track the amount, types and final destination of hazardous wastes; ensure that shipments are destined for facilities authorized to accept the waste; and ensure that the wastes are being securely shipped.

"Having full-time inspectors at the border crossings will help ensure that any waste coming into Arizona from Mexico is being transported through our state safely, legally and securely," Owens said.




Edward Collette

Owens noted that episodes involving waste shipments at the border in previous years underlay ADEQ's desire to have inspectors at the border. In 2004 at the Otay Mesa port of entry in California, opposite Tijuana, three companies shipped two loads of sludge that burst into flames, one at port and one on the open road near San Diego. And in 2005 a shipment of furniture fumigated with a powerful pesticide was intercepted that could have exposed Customs officials in Nogales to levels of the chemical 50 times higher than U.S. law allows.

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PROSPECTING:

For Environmental Business

Social Media in Our Market



Any sales and marketing effort today would be incomplete without a certain focus on utilizing the power of the internet to deliver your company's message to the marketplace. Within this domain, the use of social media is a component worth considering. The idea of social media entails using internet technologies to generate buzz in the general population about a certain topic. Buzz is created click-by-click, from individuals seeking and gathering information. The aggregate of what is searched for and collected determines what is most popular, thus, most relevant in the social media space. Blogs, media sharing sites (You-Tube, Google-Video, Pownce), news aggregators (Digg, Reddit), bookmarking sites (del.icio.us), on-line PR (PRWeb, Finditt), are examples of social media outlets that can bring an unbelievable amount of publicity and attention to a topic, once momentum has been generated. But what, if any, value does this have in our industry?

Because the general public controls what is considered relevant in social media, the information can be quite irrelevant when it comes to the business of EHS. However, some of the methods mentioned can target a focused population (our marketplace), elevating the way we interact with customers and prospects to a new level. One popular method is the blog. I would bet you'll agree that many blogs are overrated and deliver little value. However, a good blog with concise, focused content (and a good privacy policy) can become a source of information that your readers rely on for updates, information, current trends, innovations, tips from your company and more. Because blog subscribers can add comments and provide input, it is a great way to gauge what is important to them, allowing you to keep the pulse of your audience and continually improve your offering.

My overall opinion is that, aside from blogs, social media plays a pretty small role in the B2B sales & marketing effort, which is where much of the EHS business falls. The exception is if a company relies primarily on their website for lead generation or product sales because website traffic relies on search engines that are influenced by social media activity. In any case, social media is simply too powerful to ignore entirely and a certain level of understanding of how it works and how it is progressing should be considered as a potential component to your marketing efforts.

Thanks for reading and, as always, keep the suggestions coming.

Joe Holmes is National Director of Sales & Marketing with Environmental Data Management. Joe can be reached by email at Joe.Holmes@edm-usa.com.

Joe C. Holmes



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