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PERMITTING OF STORMWATER DISCHARGES

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IS THAT TEFLON IN YOUR FRYING PAN KILLING YOU?

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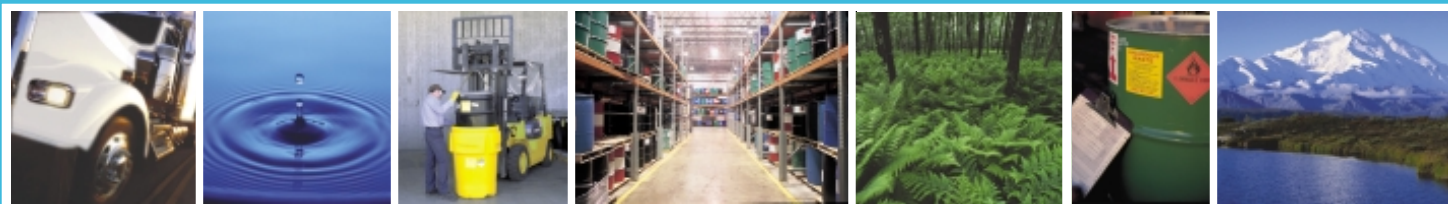
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Photo courtesy of FEMA
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COVER PHOTO: VIEW OF CACTUS IN AHWATUKEE FOOTHILLS, PHOENIX, ARIZONA.

From the Editor



The Journal (as always) is working to reach new readers and maintain up-to-date information on subscribers. We currently have over 3250 readers on our mailing list. This is a very large part of the Arizona environmental community, but there are still more potential readers out there! Please help the Journal to continue to grow by

recommending us to your co-workers, colleagues new to the area or new to the field, and others you think are interested in environmental management and safety issues. It's easy to subscribe - just fill out a form at www.ehshomepage.com, or call 480-422-4430 x42. Also, please remember to contact us when you change your mailing address. If you prefer, you can have the Journal sent to your home instead of your office.

A tip on contacting the Journal using email — when you email the Journal or myself, please include in the subject line a key word to indicate your message is related to the Journal, for example, "JEMA," or "Journal." Unfortunately, I now get at least 40 to 50 junk emails every day, and unless I recognize the sender name or the subject line indicates it is Journal related, they get deleted without being opened.

Thanks to Matt Conway, CHMM, and Rob Barnett, REM, of Ping, Inc. for their article describing the successful results of implementing ISO 14001 at the Ping facility (see page 6). Also thanks to Ed Latimer, Ph. D., P.E., of AMEC Earth and Environmental for the article on stormwater permitting in Arizona (see page 8).

If you would like to write an article about a project or issue you have worked with, I would like to hear from you — just call!

Sincerely,

Jim Thrush, M.S.

Journal of Environmental Management Arizona

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Photo: Ping Employees Assemble Clubs in "Production Cells"

Swinging Into Action

PING's Environmental Management System

In the fall of 2000, PING, Inc. was awarded certification to ISO 9001 and 14001. Today, PING, best known for its custom fit, custom-built golf clubs, competes in a \$4 billion golf equipment industry that is highly innovative and competitive. In this atmosphere, continuous improvement is a must – especially in the realm of environmental management.

by Matt Conway, CHMM
and Rob Barnett, REM

Why ISO 9001 and 14001?

PING chose ISO certification for several reasons:

- ISO 9001 and 14001 are internationally recognized standards.
- Certification adds value to PING in the way it is perceived by others in the business world.
- PING wanted the benefits of improved quality and enhanced environmental awareness that ISO certification provides.
- Customer satisfaction, continuous improvement, and environmental stewardship were emphasized by the ISO standards and this emphasis meshed well with PING's culture.
- No other competitor in the golf industry had been certified

to both the ISO 9001 and 14001 standards. PING wanted to be the first.

Immediate benefits of ISO 14001 certification recognized by PING included:

- Considerably enhanced internal communication.
- The generation of useful information to allow more effective decision making.
- Improved sharing of responsibilities for environmental compliance and stewardship.
- Companywide focus on improving the workplace environment and becoming more proactive in pollution prevention.
- Greater awareness on the part of design and production groups regarding their impact upon PING's environmental performance.
- Transforming the functions of the Environmental/Safety Department into a revenue-generating mindset to help improve the financial performance of the company.

Achievements

Now, 5 years later, what long-term results is PING realizing through the implementation of its ISO 14001 EMS? PING has been accepted as a member of the Arizona Environmental Strategic Alliance and has applied for EPA Performance Track membership. Both of these organizations require superior

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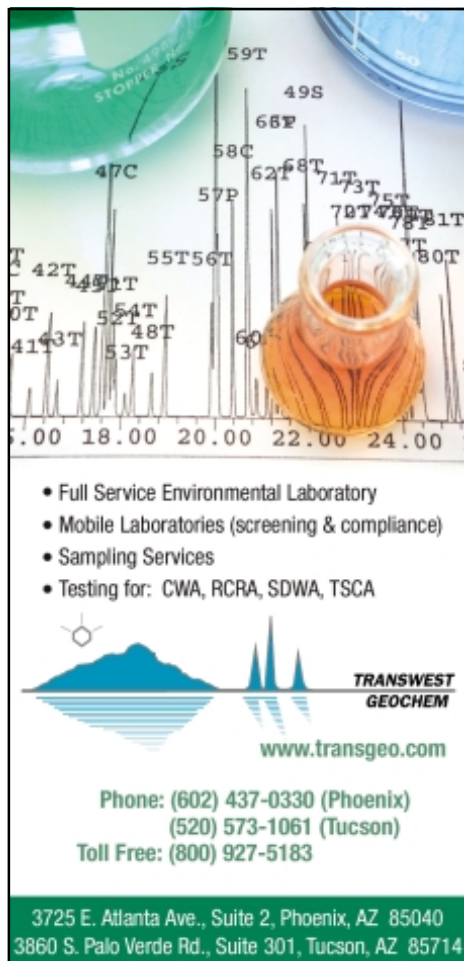
environmental performance and continuous improvement. A few examples of our successful implementation of the EMS are presented below. Please note that the information presented here has been normalized to account for annual production differences.

Air Emissions

Using 1997 as a baseline level, PING has seen almost a 40 percent reduction in air emissions (Figure 1). Programs that have helped contribute to this reduction include replacing two solvents used to clean spray paint guns with a single lower-VOC cleaner, replacing and installing air pollution control devices with greater control efficiencies, discontinuing the painting of certain golf clubs, and the installation of in-line oil/water filters which eliminated the need to operate fluid reduction equipment. As seen in Figure 1, emissions have fluctuated slightly between 2001 and 2004 due to introduction of new products. However, during that same period, PING has had some of its most successful years on record.

Hazardous Waste

Since 1997, PING has reduced its generation of hazardous waste by almost 66 percent (Figure 2). Environmental management strategies included removal/conversion of a chemically intensive finishing process, implementing waste segregation activities, and expanding the laundered towel program to include non-production departments throughout the facility. In addition, reductions in overall solvent usage has decreased the amount of solvents that PING recycled on-site, further reducing the amount of hazardous waste generated from the recycling process.



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Water Usage

PING has realized about a 23 percent reduction in water use from the 1999 baseline level (Figure 3). Elements contributing to this success include process changes (e.g. conversion of a chemically and water intensive putter finishing process), and upgrading water fixtures. As part of PING's EMS, corrective actions/suggestions play a large role in our success. Due to a simple suggestion from an employee, PING decided

to not over seed the test range during the winter months. The over seeding project alone has saved almost 8,000,000 gallons since 2001.

Electrical Usage

Over an 8 year period, electricity use at PING has declined by approximately 50 percent (Figure 4). Renovations provided opportunities to engineer energy savings into building systems and included replacing lighting fixtures, installing new building insulating materials, and modifying air handling units. Other energy saving measures includes upgrades to energy management software, discontinuing the use of more energy-intensive equipment, and the decision to use T-8 lamps ("green lights") throughout the facility. Furthermore, during the energy crunch last summer, PING was able to reduce its electrical demand and still maintain a 100 percent production rate.

Internal Communication

A major goal of the Environmental Department at PING was moving from a "reactive" mode to a "proactive" model. One method to achieve this was the increased communication of the Environmental Department with the Design,

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Fig. 1: Total Air Emissions
Pounds/Production Units 1997 - 2004

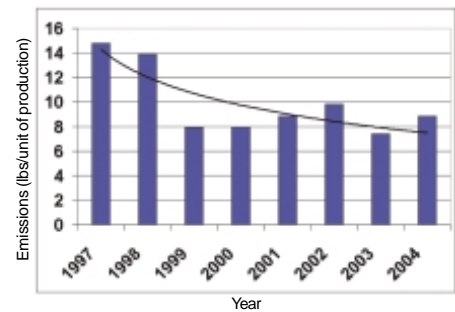


Fig. 2: Total Hazardous Waste Generation
Pounds/Production Units 1997 - 2004

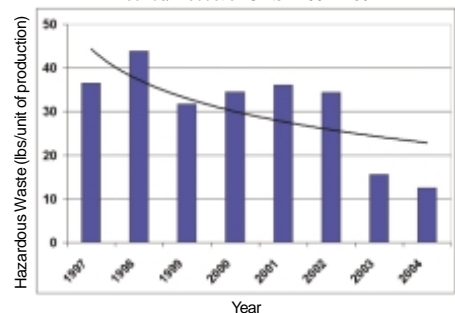


Fig. 3: Total Water Use
Gallons/Production Units 1999 - 2004

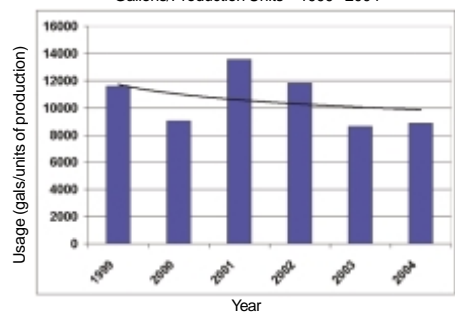
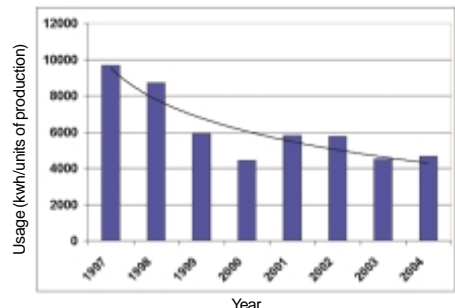


Fig. 4: Total Electrical Use
Kwh/Production Units 1997 - 2004





Photograph courtesy of FEMA

Permitting of Stormwater Discharges

From Regulated Industrial Facilities in Arizona

by Ed Latimer, PhD, P.E.

The National Pollutant Discharge Elimination System (NPDES), which is authorized by the Clean Water Act, includes an industrial stormwater permit program to minimize the impact of stormwater discharges associated with industrial activity. Operators of industrial facilities included among the various categories/sectors of regulated activity

described in 40 CFR 122.26(b)(14) require authorization under a NPDES industrial stormwater permit, unless conditionally excluded (non-exposure).

Background

Since the mid-90s in Arizona, stormwater discharges from regulated industrial facilities have been permitted under the Environmental Protection Agency (EPA-Region IX) by way of a Multi-Sector General Permit (MSGP). The MSGP is one large permit divided into numerous separate sectors that are defined by standard industrial classification (SIC) codes and narrative descriptions. The original federal MSGP was issued in 1995 and amended several times in 1996 and 1998. Its last revision occurred in 2000, and was published in the Federal Register (65 FR 64746) on October 30. Since then, regulated industrial facilities in Arizona have been authorized to discharge stormwater as long as they remain in compliance with the terms of the latest permit.

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On December 5, 2002, Arizona received authorization¹ from the EPA to operate the NPDES Permit Program through a state-level program named the Arizona Pollutant Discharge Elimination System (AZPDES) Permit Program, with the Arizona Department of Environmental Quality (ADEQ) as the permitting authority. Besides the responsibility of writing the permits, ADEQ's authority includes compliance inspections and enforcement.

Arizona did not have a stormwater general permit for industrial activity at the time of authorization; therefore, the state adopted the federal MSGP (or "MSGP-2000"). In general, the application and compliance requirements were kept the same with the only main exception being not having to comply with Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) permit requirements since these do not apply under the AZPDES program. The MSGP-2000 will expire October 30, 2005².

What is a General Permit and How does it Work?

The general permit is both a permit and a handbook for compliance. It has a preamble (or fact sheet) that summarizes the factual, legal, policy and methodological questions considered in drafting the permit. The permit itself:

- defines eligibility for coverage;
- tells precisely how to obtain coverage;
- gives directions for preparation and implementation of the required Stormwater Pollution Prevention Plan (SWPPP);
- describes what records to keep and how, what, and when to report;
- has a section of standard conditions found in all NPDES permits;
- tells how to terminate permit coverage; and
- provides a section of definitions.

The SWPPP is written by the permittee and should contain activities that are effective in improving and protecting stormwater quality. In order to adequately allow for variation within the regulated category of discharges, the general permit has broadly written requirements. It is the permittee's responsibility to interpret and implement the general permit requirements by making any decisions needed to create a plan tailored appropriately to the specifics of the activities and of the site.

What Differences Exist Between the AZPDES MSGP and the MSGP-2000?

Over the past several months, the Water Permits Section of ADEQ has been working with stakeholders to develop and refine the state's version of the industrial stormwater general permit. ADEQ's current timetable calls for implementing the final version in October 2005.

Although the AZPDES MSGP draft relies heavily on the federal MSGP-2000, the Arizona version is different in some aspects:

- NHPA and ESA requirements, as well as discharges subject to new source performance standards, were eliminated;
- Permittees must meet special requirements when located within ¼ mile of protected waters (impaired or unique) of the state;
- If a discharge contains Total Maximum Daily Loads (TMDL)³ pollutants and it flows into 303(d)-listed waters of the state, the SWPPP must have specific controls or Best Management Practices (BMPs) to address those pollutants;
- Rather than managing the entire industrial facility, permittees may elect to delineate a drainage area within which all stormwater outfalls occur;
- References to groundwater were eliminated since Arizona's Aquifer Protection Program addresses groundwater;
- The requirement to explain in the SWPPP why certain BMPs were not selected is eliminated. However, the AZPDES MSGP

will provide a suggested list for many sectors⁴.

The AZPDES MSGP is organized into two main parts: Part I describes the requirements that all applicants must meet when seeking coverage under this permit. Part II describes the additional sector-specific requirements for industrial activities, subdivided into industrial categories called sectors. A permittee need only comply with the additional requirements of Part II that apply to the sector(s) of industrial activity for that facility. Be advised, however, that these sector-specific requirements are in addition to the basic requirements of all facilities specified in Part I of this general permit.

If Currently Permitted Under the MSGP-2000, What Happens When the AZPDES MSGP Becomes Effective Later This Year?

It is currently proposed that industrial activities in Arizona currently permitted under the MSGP-2000 will have 90 days after the effective date of the AZPDES MSGP to submit a new Notice of Intent (NOI) application. Existing coverage under the MSGP-2000 continues until discharges are authorized under the new general permit. It will not be necessary to submit a Notice of Termination (NOT) to EPA to officially terminate coverage under the MSGP-2000. However, owners/operators that fail to submit a new NOI within the deadline will find that their coverage under the MSGP-2000 has expired and their industrial facilities to be out of compliance with stormwater discharge permit requirements.

Steps to Receive and Maintain Permit Coverage

When Arizona implements its AZPDES MSGP later this year, the following permitting steps are expected to remain unchanged. The owners/operators of industrial facilities with discharges that require coverage under this general permit must:

- 1) Read and become familiar with the permit.
- 2) Prepare a SWPPP to achieve compliance with the general permit. The MSGP permit describes the scope and contents of the required SWPPP. A copy of the AZPDES MSGP must be attached to the SWPPP.
- 3) Complete and submit an NOI requesting coverage under the general permit⁵. Coverage starts as specified in the general permit. In general, most discharges have

Continued on pg 20

Associations Pages

AAI

AAI's Webpage:
www.azind.org

AAI's EHS Committee continues its cooperative relationship with Maricopa County's Air Quality Division. This group has held monthly lunch-time brown bag forums this year hosted at County offices and available via conference call. The next meeting is scheduled for Wednesday August 24th at 11:00 AM at Maricopa County Offices, 1001 N. Central Avenue, Suite 595 in Phoenix. The topic will be dust control.

Jeff Homer,
EHS Committee
Chairman



AAI's next monthly breakfast meeting is scheduled for Wednesday September 14th at 7:00 AM at the Phoenix Sheraton Hotel located at Broadway and 52nd Street in Tempe. For further information contact James Tunnell at 602-252-9415 or Jeff Homer at 480-441-6672.

ACHMM Thunderbird



UPCOMING EVENTS:

August- SUMMER BREAK- NO MEETING

September 21, 2005

Thunderbird Chapter meeting,
5:30, 6:00 - 7:30, Program:
Member Forum Series-

Accidental Spill Reporting-
Mike Ford, BryanCave

Oct. 19, 2005 Thunderbird
Chapter meeting, 5:30, 6:00 -
7:30, Program: Job Safety
Analysis - Chuck Paul ausky,
CP Safety & Env.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES!

The ACHMM National Conference is coming up in late September in St Louis. This is not just for CHMM's. The conference offers breakout sessions and seminars in a wide range of topics for all EHS professionals. Check out this event at <http://www2.kuce.org/achmm/index.php>

Mark your calendars for the **2nd Annual Gatekeeper Regulatory Roundup** on Feb 21-22, 2006!

The Thunderbird Chapter will once again team with EPAZ and AZSERC to offer a bigger and better event.

And don't forget to sign up for one of the upcoming **CHMM Overview Courses**. The Chapter will be offering the course again next April and possibly in March 06 in Tucson. Watch for details.

The Thunderbird Chapter wraps up the Member Forum **Chemical Spills Series** on September 21st. Mike Ford will lead a discussion on **Accidental Spill Reporting**.

Regular monthly dinner meetings start with a social/networking opportunity at 5:30 PM on third Wednesdays. Unless noted otherwise, meetings are held at the Old Spaghetti Factory, 1418 N. Central Ave., Phoenix. Details: www.thunderbirdchmm.org.

Chuck Paulausky,
Vice President



AZ Chapter Semiconductor Environmental Safety & Health Association

Contact Information:

E-mail : sesha@burkinc.com.

The Semiconductor Environmental Safety Health Association (SESHA) held their second quarter chapter meeting June 16, 2005 at the ASU University Club. The meeting brought in three speakers for timely and informative presentations. Katherine Gosiger with AZ Dept of Occupational Safety and Health spoke about NFPA 70E/NEC Arc Flash Hazards. Jane Williams, A-Z Safety Resources spoke on OSHA's Top 10 hot issues and Greg Fisher of Aegis Env. Strategies gave an overview of TSCA.

The Arizona Chapter of SESA is now planning the 7th Annual Mini-conference on Emerging EHS Technologies and Issues. The conference is scheduled for Fall 2005 at the Sheraton Wild Horse Pass. It will be held in conjunction with ASU's CREATE (Construction Research and Education for Advanced Technology Environment). The mini-conference brings in speakers, EH&S professionals and vendors from Arizona and neighboring states. Attendees once again will hear the latest information in EHS emerging technologies and issues and this year by teaming with CREATE the mini-conference will also provide information for Facilities and Construction Safety. Plan now to attend this yearly event.

If you would like to learn more about SESA or the benefits of membership like our career center and SERF updates, please send an e-mail to sesha@burkinc.com. If you want to be made aware of local chapter meetings and mini-conferences please contact Tim Jones at timothy.jones@onsemi.com or Dave Moyer at moyers@airproducts.com.

Tim Jones,
President





*Michelle R. Freeark,
President*

Arizona Risk Management & Safety.

Look for more information at www.saems.org or to download a registration form. Translation will be provided if needed. Seminar materials and lunch included in the reg. fee.

The new Exec. Comm. has defined goals for the 2005-06 administration that we hope to accomplish with support from members during the coming year. SAEMS will continue to support our existing projects and look for new opportunities to broaden our outreach for Southern AZ.

The City of Tucson recently received \$200,000 from an EPA Region 9 Brownfield Job Training Grant. The city plans to train students, place the students in environmental jobs, and track the students for 18 months. Pima County Community College and SAEMS will serve as the primary trainers. The training program will include a 40-hour HAZWOPER certification course, 10 hours of general industry training, and courses in media sampling, environmental site assessment, environmental compliance, lead and asbestos assessment training, and innovative technologies. In addition, each student will be paired with a mentor from SAEMS. The city and its partners, Pima County Community College and SAEMS, will assist in placing program graduates with private and public sector employers.

SAEMS will be hosting the 2nd Annual Tucson Gatekeeper Conference on January 18, 2006 at the Pima Community College Downtown Campus, more information coming soon.

The 2005 Binational Pollution Prevention Seminar: P2 on the Right Track will be held on Thursday, Sept. 22nd at the Pima Community College Downtown Campus. We will be offering a tour of a Tucson facility that is actively engaged in pollution prevention opportunities. This seminar is hosted by the Southern Arizona Environmental Management Society (SAEMS), ADEQ, Tucson Fire Department and the University of

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September 28: To be
Announced

October 26: Frank Bonil las,
Tucson/PC HHW Program;
HHW Program Transfer to
COT



*Ed Collette,
Secretary*

The next quarterly meeting of the Southern Arizona Safety Council & ASSE will be held on August 16 from 8:30 to 12 Noon. Everyone is welcome to join us at Granite Construction training room at 4115 E. Illinois Street, Tucson.

Coming soon to Tucson "TUCSON SAFETY EXPO" Sponsored by Arizona Builder's Alliance (ABA), ASSE & State Compensation Fund Arizona (SCFAZ)

supported by your Southern Arizona Safety Council (SASC) on October 6-7, 2005 at Doubletree Hotel @ Reed Park. The Southern Arizona Chapter would like to inform you about:

Trenching – Ten Commandments (Provided by Snell & Wilmer): 1) A competent person must inspect the trench prior to the start of work and prior to employee entrance. 2) Proper sloping or trench protection must exist at 5 feet or deeper. 3) Spoils must be at least 2 feet from edge or trench. 4) Ladders or ramps required when trenches are 4 feet or more in depth. 5) 25 feet is the maximum distance a person can be from a ladder or ramp. 6) Ladders must be tied off. 7) All trenches shields must at least extend to ground surface. 8) A trench shield must be within 2 feet of bottom of the trench. 9) Class B soils must be sloped 1:1. 10) Class C soils must be sloped 1.5:1.

American Society of Safety Engineers

For information:

visit <http://southaz.asse.org> for our
local chapter
or call 520-740-2656

Send Email to:
edward.collette@www.pima.gov



*Peter Kroopnick,,
President*

The 2005 Annual Symposium is coming up fast. Mark your calendars for Sept. 21st to the 24th, 2005, and join us at the Radisson Hotel in Flagstaff, Arizona. This year's topic, "Conservation & Innovation in Water Management" offers many opportunities for communication across the various fields of water science.

In addition to quality technical sessions and thought-provoking plenary sessions that AHS symposia always provide, we will host a special Conservation Forum featuring panelists from Tucson, Phoenix, Los Angeles, and Las Vegas. We will also have representatives from Flagstaff, Prescott, the Hopi Tribe, and the Navajo Nation. With participation of all of these shareholders, this forum promises to be an exceptionally rare discussion of Southwest water issues. Thursday evening's dinner will be held at the Museum of Northern Arizona with entertainment by Navaho Storyteller Sunny Dooley. Finally, we are offering two field trips: the Verde Train and a Fossil Creek Restoration trip.

Please visit the AHS website (www.azhydrosoc.org) for additional details, updates, and online registration information.

Arizona Hydrological Society



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

AZ ELM



For Information Visit
www.azelm.org or call
Rich Polito at 602-506-5102

It is particularly gratifying to get timely cross-media environmental information. I was very impressed with The Diesel Emission Reduction workshop & speakers on June 30 in Phoenix. I suggest you go to the West Coast Diesel Collaborative website at URL: www.westcoastdiesel.org to see some of the presentations for both the Phoenix & Tucson workshops held June 29th 2005. We at AZELM are proud to be part of this partnership and I strongly feel it is an act of long-range wisdom to promote environmental technology that recognizes American expertise. I would also suggest you contact Sue McDowell, U.S. EPA Region 9 @ 415-947-4188 if you would like to serve on a future educational committee. Moving Down the Road for Cleaner Air is a 1st in a series of forums aimed at bringing pollution prevention technology, funding and partners together.



Richard Polito

You heard about Air Quality on your TV, Radio, or the weather forecast in your newspaper. Air Quality forecast are now available in hundreds of US cities and you can access them from the internet www.epa.gov/airnow & www.phoenixvis.net. The Phoenix site brings you live Digital images from web-based cameras that are updated every 15 minutes.

Maricopa Air Quality is planning a Spray Coating application workshop in Sept. 2005. If you would like be educated on a technology that has potential to reduce emissions & has commercial value, then I encourage you contact us at 602-506-5102.

Valley Forward



For information, call
(602) 240-2408 or visit
www.valleyforward.org.

Nearly 28 million domestic, overnight visitors came to play in Arizona last year. And more people than ever before came to stay. The latest U.S. Census Bureau figures released in late June tell us that Phoenix is attracting more than 2,000 new residents a month, more than any other city in the nation. The 29,826 new residents who recently moved in gave Phoenix the nation's biggest population increase in terms of raw numbers. Gilbert and Chandler alone each attract 1,000 new residents monthly. Every Valley city is growing extraordinarily.



Diane Brossart,
President

How will all of those new people, and homes, and cars change this place? How will we keep the air clean, the faucets running, and people moving? How do we keep this Valley as livable as we want it to be? Here are a few of the recommendations that came out of our recent Livability Summit. Government officials need to create a framework for community dialogue and engage citizens to create public/private partnerships where possible, and to educate people on the consequences of lifestyle choices. Officials were chided for failing to show political courage, and setting the true cost of water and resources. They were encouraged to be more flexible in planning and regulating, urged to stop subsidizing sprawl and to revise building codes for current technology, and to truly plan regionally.

Business leaders were reminded the limits to future profits are ecological, not manmade and that efficiency in business practices is cheaper than fuel.

Growth in the Valley isn't the issue – it's *how* we grow. What kind of a livable community do we want to leave our kids and their kids? Think about it. And then take action.

Arizona Environmental Strategic Alliance



Our latest program is the
new AzREX.ORG
materials exchange web
site. Please visit the site
and sign on as a user. Best
of all, it is free.

Who is the Arizona Environmental Strategic Alliance? The Arizona Environmental Strategic Alliance is a partnership of business and government dedicated to finding innovative ways to improve our environment. The organization was founded with environmental leadership, integrity and social responsibility as goals. It is also an organization that recognizes the balance between environmental and economic sustainability. The Alliance provides education and mentoring opportunities, acts as an information clearinghouse, and champions various projects and programs to serve our mission.



Rob Barnett,
Chairman

The Alliance was formed with a set of principles to guide our efforts. These Principles comprise a code of conduct (or ethics) for Alliance members: **Management Commitment; Protection of the Ecosphere; Sustainable Use of Natural Resources; Environmental Restoration and Community Relations; Energy Conservation; Risk Management and Reduction; Environmental Education and Monitoring; Pollution Prevention and Source Reduction; Environmental Performance and Integrity; Public Responsibility and Reporting**

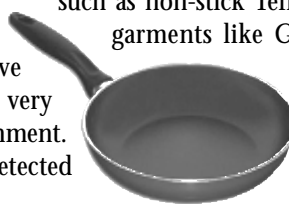
The Alliance is always looking for companies that want to be environmental leaders and work in partnership with the regulatory agencies to improve the env. in our state. The Alliance holds monthly meetings at various member locations. The next meeting is Aug. 18. If your company is interested in attending a meeting or applying for membership, please contact Jim Thrush at 480-422-7392 or Rob Barnett at 602-687-5000.



Larry Olson, PhD.

It's All About Chemistry Is that Teflon Frying Pan Killing You?

Recent news headlines have been full of reports that a compound used to make Teflon may be a “likely” carcinogen. The chemical, perfluorooctanoic acid (PFOA) and its salts, is used to make thousands of consumer products such as non-stick Teflon cookware, automotive and electronic parts, waterproof breathable garments like Gore-Tex, and stain resistant carpets. Perfluorinated materials have replaced all C-H bonds with unreactive C-F bonds, making them very persistent contaminants once they find their way into the environment. These types of bonds don’t occur naturally, so any such chemical detected in the environment has a man-made source.



PFOA and its salts are a starting material in making fluoropolymers and fluoroteleomers (small polymers) and should be present only in trace quantities in the product material. But PFOA may be produced through degradation, metabolism, or incineration of fluorinated polymers. The exact mechanism by which people are exposed to PFOA is not fully understood, but almost all of us are carrying small amounts of this chemical in our body. Studies of three different age groups in the general population in the U.S. showed a mean concentration of about 0.004 ppm PFOA in blood serum levels. Occupational exposure in workers at 3M and DuPont, the major producers of perfluorinated materials in the U.S., was much higher as might be expected, with mean blood serum levels of 1.7 ppm in one study.

Not much is known about the metabolism of PFOA in humans. Studies in rats show that PFOA doesn’t accumulate in fatty tissues, but partitions to the liver, kidney and serum. It readily crosses the placenta and is found in breast milk. Epidemiological studies in workers exposed to PFOA have shown an increase in cholesterol and triglyceride levels and T3 thyroid hormone levels.

In February 2005 a Panel of the EPA Science Advisory Board met to review a Draft Risk Assessment of the Potential Human Health Effects Associated with Exposure to Perfluorooctanoic Acid (PFOA). Their deliberations are on-going and have not been accepted by EPA. Even though there is no clear evidence in humans of a causal relationship between PFOA exposure and cancer, a majority of the Panel members felt that the current evidence from animal testing supported a finding that PFOA was a “likely” carcinogen in humans. This designation means the chemical has tested positively in more than one species, site or exposure route, even without evidence of human carcinogenicity. Two different studies in rats have shown PFOA to be a multi-site carcinogen. Other effects such as immunotoxicity or neurotoxicity are possible from PFOA exposure and must be evaluated before quantitative risk assessments for human exposure can be completed.

So what does all this mean? First, there is a need for much more data to determine how products might generate PFOA during use or disposal and what the actual concentrations are in air, water, soil, and biota. Additional studies must also be done, in both humans and animals, to better characterize the toxic effects of exposure. Right now, the evidence shows there is a risk that had previously gone undetected. How to put that risk in context with other chemical exposures that are part of our everyday world isn’t quite clear yet.

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



Michael C. Ford, Attorney

Legal news you can use

Regulatory Developments

ADEQ Releases New Policy For Environmental Permits Near Schools

On July 13, 2005, ADEQ released a new guidance document¹ entitled "Environmental Permits and Approvals Near Learning Sites." The crux of the policy is that ADEQ will evaluate certain types of permit applications "to verify that children at learning sites are protected." While the policy states on its face it "will not be used, in whole or in part, as a basis for licensing decisions," it also states that ADEQ will grant the permit request if the policy's requirements are met, and "may deny the permit application or plan approval consistent with the Department's statutory authority" if they are not. In light of these ambiguous statements, permit holders and applicants should carefully review the new policy, as it could inject substantial additional costs and uncertainty into the permitting process.

The policy is triggered by an application for a "permit or plan approval," which is defined broadly to include:

"Any approval granted by ADEQ for the operation of a solid waste facility or a hazardous waste treatment storage or disposal facility or the granting of an air quality permit, an individual Aquifer Protection Permit or an individual AZPDES permit, including reissuance and renewals of permits or plan approvals, expansions of facilities subject to such permits or plan approvals, and amendments to such permits or plan approvals which increase potential to emit pollutants or add new pollutants."

The issues raised by this provision include whether any facility expansion whatsoever triggers the policy, as opposed to only those that require a permit amendment, and how the "potential to emit" criteria, an air permitting concept, applies to non-air permits. Nonetheless, it is clear that a wide variety of permit-related applications will trigger the additional scrutiny called for under the policy.

The policy requires ADEQ to evaluate the application "to verify that children at learning sites are protected." "Learning sites" are defined as existing and planned public, private and charter schools at the K-12 level. The standards for determining whether children are "protected" are not specified, but the policy does require the evaluation to consider five potential

types of impacts of the facility on the school site.

Air Emissions Modeling: Air quality permits will be subject to emissions modeling performed by the applicant or ADEQ, to predict ambient concentrations of pollutants at "impacted learning sites." It is unclear how the "impacted" criteria is defined. If the modeling indicates an exceedance of "a relevant guideline or standard in the vicinity of a learning site" ("vicinity" is also undefined), the applicant will have the opportunity to add pollutant control equipment, change its work practices, or otherwise modify its operations to meet the standards.

Evacuation Modeling: All facilities will undergo another modeling exercise to predict the evacuation zone that might be impacted by an accident at the facility. The modeling will utilize "software generally relied upon by Arizona's municipal fire departments." If the modeling indicates a school within the "likely evacuation area," the policy calls for the applicant to be given the opportunity to make changes to its facility so that the school "would be outside the anticipated evacuation area." Presumably, the modeling software is standardized, and scientifically accepted, but it is unclear what modeling criteria are called for *e.g.* will a worst case scenario be assumed? This type of modeling exercise raises obvious terrorism and security concerns, similar to those raised with EPA several years ago in the context of the Clean Air Act Risk Management Plan program.

Zoning Consistency: The policy also indicates ADEQ will independently evaluate the facility's "consistency with local zoning requirements, including any necessary special use permits." This would appear to be a redundant exercise, and one outside of ADEQ's area of expertise, and possibly its authority, and it is unclear what impact an ADEQ determination of inconsistency would have.

Transportation Routes: The transportation routes used for the movement of hazardous waste as well as "material shipments" to and from the facility will also be evaluated "to ensure that such shipments are not made in close proximity to learning sites during normally scheduled school hours." Again, ADEQ's criteria for "close proximity" is unclear and undefined. Moreover, the transportation of hazardous materials is subject to a comprehensive federal regulatory regime. This issue thus raises issues of coordination and duplication with existing requirements, as well as the aforementioned security and terrorism concerns.

Public Involvement: Finally, "to assure full disclosure to the concerned public," the covered permit actions "may undergo expanded public participation, as determined by the Division Director prior to permit issuance." What constitutes "expanded public participation" is unclear, as is ADEQ's authority to require such an exercise in light of explicit public participation requirements typically prescribed in the applicable permitting regulations.

While the goal of the policy is admirable, at least in the abstract, it raises numerous significant issues for the regulated community, upon whom the lion's share of the implementation burden will undoubtedly fall, as well as for the public. These issues will have to be worked out through stakeholder discussions with ADEQ; through case-by-case application in the context of individual permit actions; through a formal petition for review, or through litigation (or some combination thereof). In any event, the policy should generate significant dialogue in the regulated community in the coming months, if it hasn't already.

1 In administrative law terms, the guidance purports to be a "substantive policy statement," which is defined as "a written expression ... of an agency's current approach to, or opinion of, the requirements of the federal or state constitution, federal or state statute, administrative rule or regulation, or final judgment of a court of competent jurisdiction.... A substantive policy statement is advisory only ... and does not impose additional requirements or penalties on regulated parties...." ARS § 41-1001.20.

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.



*Charlie Popeck,
President*

Southwest Sustainability Expo a Success!

The Southwest Sustainability Expo held at the NAU campus on August 5th to the 7th was a huge success once again. Governor Napolitano gave the opening address on Thursday evening and reaffirmed her commitment to expanding the use of solar energy

in Arizona. Representatives from the U.S. Green Building Council were on hand to congratulate her on the Executive Order that she signed a few months back requiring all state-funded buildings to be LEED Silver certified and to supply a portion of their energy from renewable sources. Many vendors from all over the country participated in the trade show portion of the show, and the USGBC provided educational programs as we do every year including "The Costs and Benefits of Green Building", "The Future of Green Building" and "High-Performance Schools". The Education Committee of the USGBC Arizona Chapter offers free educational programs if your company or association is interested. Please contact me if you would like to learn more about Green Building or the USGBC in Arizona. I can be reached at 602-512-0557 or Charlie@egreenideas.com.

US Green Building Council Arizona Chapter



*Barry Westerhausen,
Sergeant at Arms*

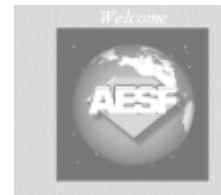
The Arizona AESF (American Electroplating and Surface Finishers) would like to welcome all who are interested in metal plating, metal finishing, surface cleaning, metal coating, and environmental issues affecting the industry to join us. Hot topics for 2005 will be proposed reduced chrome exposure limits.

This will most likely increase production cost and

product price. The AESF is working to arrange high profile speakers for each region. Meeting times and speakers will be announced at the end of summer.

All are welcome to attend; you do not need to be a member to attend. If you would like to be notified of upcoming AESF events and receive our news letter or have your business/business card listed on the news letter please call or send an e-mail to Barry Westerhausen at bwesterhausen@lachim.com (480) 206-4107 or Mark Thede at markthede1@cox.net (480) 695 4344.

AESF



*Eddie Martinez,
President*

July's Speaker included Kathleen Graf, Permit Engineering Division Manager, Maricopa County Air Quality Department. Kathleen Graf is the recently named Permit Engineering Division Manager in the Maricopa County Air Quality Department. Her areas of responsibility include engineering support, review and preparation of Air Quality Permits for both Major

(Title V) sources and Minor (Non-Title V) sources within Maricopa County. Ms. Graf is currently responsible for developing and implementing changes within the Division to address concerns over the Title V Program that were described in EPA's May 2005 Notice of Deficiency. Kathleen gave us an update on the recent audit and took questions from the audience.

We did not have a meeting in August, but kept busy with planning the 2006 Gatekeeper Regulatory Roundup (February 21-22, 2006 at the Chaparral Suites) and with electing new board members. President-Eddie Martinez (Del Mar Analytical), Vice-President-Julie Hoskin (ADEQ), Treasure-Mannie Carpenter (GECSA&B), Secretary-Laura Malone (Levine-Fricke), Chairperson of the Board-Lisa Culbert (McPhee Environmental Supply).

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 <http://www.epaz.org> for more details regarding upcoming meetings and our monthly mixer location or contact me at (480) 785-0043 Ext. 234.

EPAZ



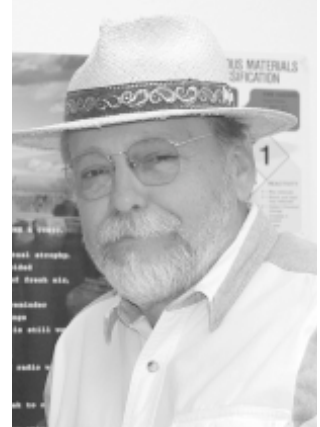
August - No luncheon meeting will be held, but the mixer will be hosted on the 31st in Tempe. See the website for the exact location.

September - Our luncheon meeting on the 8th will feature a presentation by Chad B. Barnes, PE, and Ed Latimer, PhD, PE from AMEC. The presentation is titled "Overview of the New AZPDES Industrial MSGP Program." The mixer will be held on the 28th and location will be forthcoming.

Sustainability and Sustainable Development:

" . . . What's good for GM is good for the Country!"

Charles Wilson, GM President, 1952



Nicholas R. Hild, PhD.

Recent news that some of the largest corporations in the world are dumping employees in a futile attempt to bolster their bottom line reminded me of the bad times our economy suffered through in the late 1970's. But, these times seem to be a lot worse than those. Back then, the energy 'crunch' lasted only a year or two and the pick-up in the economy began in the early '80's with lots of technology workers called back to work after being out only long enough to collect all their unemployment checks.

I remember those days very well when one of our local semiconductor firms, (who's name shall remain anonymous except to note that it was Arizona's largest employer at the time) had a popular motto that accompanied its "not invented here" strategy: ***"...every device sold and shipped was wrapped with a dollar bill..."*** In other words, they kept doing the same things (wrong) over and over, losing money while saying they were making it up in volume output! And, we all know what that strategy did for that company.

What got me thinking about those days, besides the news articles about GM's pending layoff of 25,000 employees, was Jon Talton's column in the AZ Republic (June 9, '05) and his note therein that ***"...a popular definition of insanity is continuing to do the same thing over and over while expecting a different result."***

In sustainability terms, historical expansion of the U.S. economy began right after World War II with jobs in the rust belt industries raising Union-driven quality of life for blue collar workers and white collar workers alike, to the point that the automobile industry represented all that was good for Americans: Charlie Wilson was sitting on top of the heap when he testified at a Senate hearing that what was good for America was driven by what was good for GM and vice versa.

But, its clear that those who then charted economic growth pathways for today's wealthiest nation were short-sighted. They clearly did not take into account the three essential elements for a sustainable society that John Elkington so eloquently defined as the "triple bottom line" in his 1998 treatise, ***Cannibals With Forks***. They did not understand that the single-minded focus on growing the economy was doomed for failure in the long term without the other two legs of the 3-legged stool: natural capital and social capital, to have equal standing with economic capital.

So, today, we are reaping the spoils of that short-sighted planning. We see out-sourcing eliminating thousands of jobs, and mass layoffs in vain efforts to turn a short-term profit that will, once again, encourage stockholder investments. Indeed, after the GM layoff announcements, GM stock immediately gained a point and a half, seeming to prove that the strategy was already working! But, as Talton noted, ***its sheer 'madness.'***

Such insanity for the short-term benefit will not sustain economic growth. How long will it take for our industry moguls to understand that, without a focus on the triple bottom line, the future will be even more bleak 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.

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For registration and a complete list of courses, fees, and course descriptions including site specific training, see our web site: www.east.asu.edu/seminars/.

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news briefs

Turner Laboratories' Shari Bauman Receives Honor

❖ Shari Bauman, of Turner Laboratories, Inc., recently received the 40 Under 40 Award for professionals active in business and community affairs. The 40 Under 40 Awards are presented by the Tucson Business Edge, the Citizen's business-to-business publication.



Shari Bauman

The award ceremony was August 17th at the Manning House in Tucson. Shari's selection was based on her contributions to Turner Laboratories, professional organizations such as SAEMS, and her community involvement in the Young Jewish Professionals group. Shari can be reached at 520-882-5880.

Students Learn Effects of Air Pollution

❖ Honeywell and Valley Metro partnered recently to present "Air Pollution and the Effects on Humans" to 80 sixth-grade students at the Phoenix Advantage Charter School. Betsy Turner,

Employer Services and Training Coordinator from Valley Metro, described how pollution can damage lung tissue, and Honeywell intern Bikky Pimonpan led an air pollution contest for the students. Contact Lynn Newman, Honeywell HS&E Specialist at 480-592-7070 for information on this or future partnerships.

Matt Capalby new Director of ADEQ's Northern Regional Office

❖ Arizona Department of Environmental Quality Director Steve Owens recently announced that he has appointed Matthew Capalby as director of ADEQ's Northern Regional Office in Flagstaff.

"Matt Capalby is well known throughout Northern Arizona and will do a terrific job of overseeing our Flagstaff office operations," Owens said. "Matt will help us continue to ensure that residents of Northern Arizona receive the attention and service they deserve from ADEQ."

A Kingman native, Capalby served as ADEQ's Community Liaison for Northern Arizona during 2003-2004. Prior to that time, he served as assistant director of the Mohave County Economic Development Authority, chairman of the

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affecting
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Kingman Area Chamber of Commerce's Business and Government Relations Committee, and commissioner of the Kingman Municipal Utilities

Commission and Kingman Planning and Zoning Commission. He also served seven years as a rescue crewman and medic in the U.S. Coast Guard.

Innovative Waste Utilization Drops Appeal of Permit Revocation

❖ ADEQ Director Steve Owens announced recently that Innovative Waste Utilization (IWU) has abandoned its effort to overturn ADEQ's revocation of the company's hazardous waste permit which shutdown the company's South Phoenix facility in February 2003.

ADEQ revoked IWU's permit and ordered IWU to cease operations at its hazardous waste collection facility in South Phoenix on Feb. 26, 2003 after law enforcement officials arrested several employees at the facility on various drug-related charges associated with the illegal removal and distribution of drug lab waste being processed at the facility. IWU's action means that the facility will remain closed.

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For Sponsorship Information: Glynis Coulter (520) 794-0446



If you are implementing an EMS, want to join the ADEQ Performance Track Program, or want to take fuller advantage of pollution prevention principles, this seminar is for you. Please join us for this information packed event!



Conway/Barnett: Ping EMS *Continued from pg 7*

Manufacturing, and Facilities Engineering Departments. Engineering groups were trained on environmental and safety issues that affect the company as well as their associated costs (both potential and actual). In addition, the Environmental Department takes an active role in weekly Engineering meetings. New designs and processes are reviewed in their early stages of development, affording the Environmental Department the opportunity to discuss potential environmental/safety concerns as well as recommend more environmentally-friendly solutions. Notifications and approvals that require environmental and safety review are completed through a web based product data management system.



Virginia Suarez, Ping Employee, inspects the polish on golf club heads.

In order to facilitate communication of procedures, work instructions, as well as other company information, PING established an internal web page. This internal site allows every employee quick and direct access to all procedures, work instruction, forms, updates, goals, news as well as a direct link to a home recycling information page (earth911.org).

Bottom Line

Was it worth it? With a strong commitment from management, setting up an EMS did require the help of a consultant with the resulting associated costs; however, PING has had a quick return on investment in many ways. Obviously, we have improved compliance, and saved money in waste disposal, water usage and electricity. However, the biggest reductions (up to 90%) were in the areas of reacting to change, a reduction in the use of outside consultants, and decreased legal costs. Savings in these three areas allowed PING to recover the implementation costs in the first 2 years. In conjunction with our ISO 9001 systems, PING has increased market share and currently manufactures the number one selling G2 family of irons and the number one selling G2 driver.

What's Next

One of the key elements of ISO 14001, and any good EMS is continual improvement. Some of the programs PING is exploring to further improve its environmental performance include chemical substitution in its club assembly area, implementation of lean manufacturing initiatives, potential water recycling, and increased use of recycled products. Additionally, PING is evaluating incorporating its safety program into the management system.

PING continuously hones its ISO systems, strengthening

its environmental objectives, and is always looking for opportunities for improvement. The participation of all employees has been instrumental in continuously adding value at all levels of the organization and in all operations. PING has always been recognized as a leader in innovation – environmental management notwithstanding.

Matt Conway, CHMM is Senior Environmental/Safety Engineer for PING, Inc. in Phoenix, AZ. Matt can be reached at 602-687-5000 or by email at mattc@PINGgolf.com.

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Latimer: Stormwater Discharge Permits

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authorization five (5) business days after the date that a complete and accurate NOI is submitted.

4) Implement the SWPPP and periodically assess performance. The SWPPP should be modified as necessary to ensure meeting the program/plan's goals and the general permit requirements. Changes must be clearly documented in the plan.

5) Report, inspect and/or monitor as set forth in the general permit.

6) Keep records, make information available, and interact with other entities and the public as set forth in the general permit.

7) Comply with all provisions of the permit until the permit expires or upon submission of a Notice of Termination (NOT) due to the industrial facility closing, significantly altering its operations or configuration, or changing ownership/operator.

8) Renew permit coverage (steps 1 through 7 above) every five (5) years when the governing MSGP expires and the renewed MSGP is issued.

FOOTNOTES:

1 Does not include Indian country lands, where EPA-Region IX continues to be the permitting authority for all regulated stormwater discharges.

2 Each general permit has a five-year term that starts on the date of publication in the Federal Register.

3 A TMDL is the maximum daily amount (load) of a water quality parameter or "pollutant" that can be carried by a surface waterbody without exceeding surface water quality standards. TMDLs involve waters that are identified as impaired on the state's 303(d) List.

4 The suggested lists of BMPs are not intended to limit the creativity of facility operators in developing alternative BMPs or applications for BMPs that increase cost effectiveness.

5 The MSGP NOI form can be downloaded from the AZPDES page of the ADEQ web site: <http://www.azdeq.gov/environ/water/permits/azpdes.html>.

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PROSPECTING:

For Environmental
 Business

**E-Bids and Reverse
 Auctions: Industry
 Opinions Here!**



Welcome back to the Journal and I hope this finds everyone enjoying a prosperous summer with business as hot as the weather! For this issue of Prospecting, we have compiled and summarized responses to an informal survey relating to the procurement of environmental services through e-bids or reverse auctions. The wide variety of opinions coming from both buyers and sellers in our industry was quite interesting and you might be surprised at some of the perspectives, especially those coming from procurement specialists.

For those who may not be aware, e-bids and reverse auctions are a procurement method typically used by larger organizations to purchase products and services through an on-line event where vendors submit live bids for the business. Vendor bids can change throughout the event and the firm with the lowest price at the end of the event is awarded the business. Very much like E-Bay. The company hosting the event typically will hold training sessions and will provide specifications for the product or services being purchased.

From the Buyer's Perspective:

E-bids seem to work pretty well when it comes to purchasing items that can be specified in detail, like tangible products or very routine services. Problems arise, however, when procuring services where variations in approach can be key to the end result. Responses to our survey from procurement folks indicate they get the best price most times. However, friction can sometimes be created among long-time vendors who feel the focus on price sends a message that their established relationship has little worth. Additional friction can be caused internally if the result of the purchasing event does not meet the needs of the end user, even though a good price was secured. Procurement specialists stress the importance of working closely with the end user prior to the event. However, a few end-users that responded indicate that this rarely happens and feel that end-users should have more involvement and a greater say in what is contained in the solicitation.

From the Seller Perspective:

Responses from most vendors indicate that participating in these events is a necessary part of doing business with some clients, but little focus is placed on them as a source of new opportunities. Most show frustration relating to the strict attention to price and the inability to submit supplemental information. Most reverse auction events provide little, or no, opportunity for a feature-benefit discussion



Joe C. Holmes

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Holmes:

E-Bids and Reverse Auctions

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or creative approaches related to a vendor offering which puts participants in position of asking the question, "how low am I willing to go?" Similarly to the discussion above, clear specifications in the request are very important, and are typically lacking.

Common Ground:

Everyone seems to agree that reverse auctions can be a powerful tool to procure items that are easily compared to one another, like products. But procuring services is very different and the importance of involving end users in the development of the solicitation should not be understated. The buyer can also help by providing significant detail to vendors relating to product specifications or scope of work before the bid is held, with enough time for questions and clarification. Those participating as sellers should take full advantage of all opportunities provided prior to the event such as training and Q&A sessions to clarify the request and understand the intent and desired outcome of the solicitation. Sellers can also help improve future events by providing feedback to the requester after events, whether they win or lose.

Until next time.... thank you for all the comments and please keep the suggestions coming!

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

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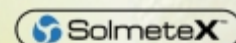
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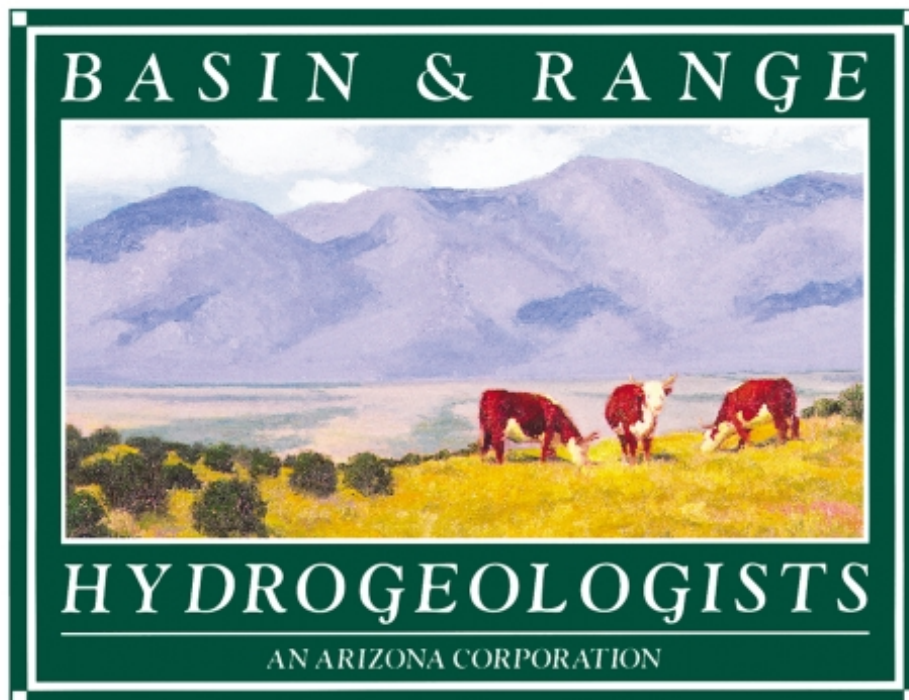
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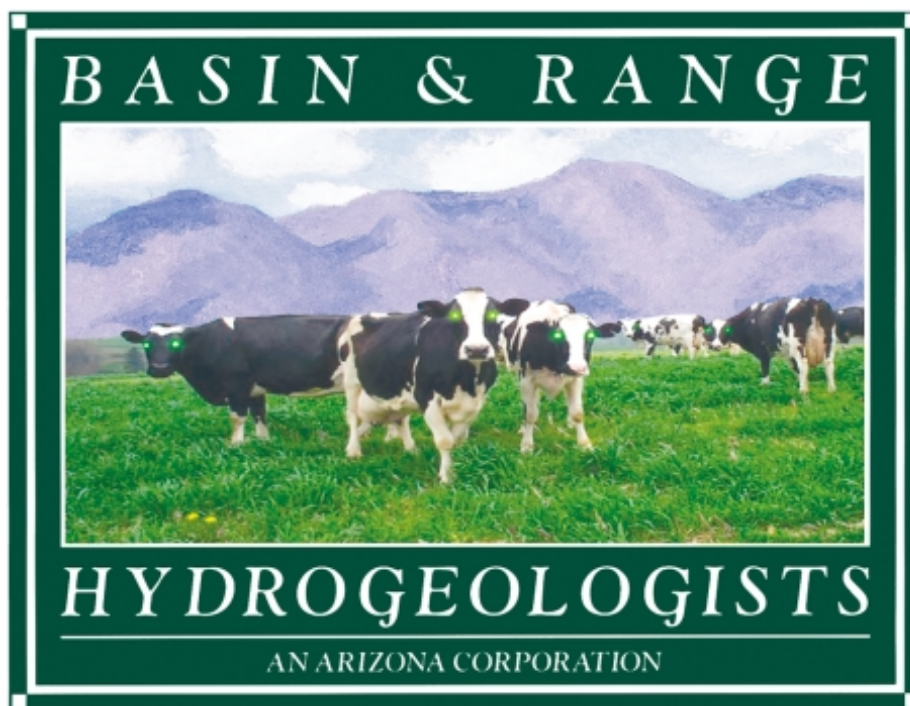
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