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NEW REGULATIONS TO AFFECT MARICOPA COUNTY

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PRINCIPLES OF RISK COMMUNICATION

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From the Editor



I often choose a cover photo for the Journal that illustrates some key aspect of one of the main articles. In this issue, Mannie Carpenter (*see article starting on page 6*) discusses the impact of significant new dust/PM-10 emission regulations in Maricopa County, so when I happened to drive pass a construction site recently, with huge billowing clouds of dust rising into the air, I thought the image would nicely fit the topic. However, I did not have a camera with me on that day, so I missed the shot. It was a windy day, and as I found out later, the ADEQ had issued the year's first high pollution advisory for particulate matter for that day (May 21). The photo you see on this issue's cover is from the next day, when winds were more calm.

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

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COVER IMAGE: JOURNAL PHOTO ILLUSTRATING DUST FROM CONSTRUCTION ACTIVITY, MAY 22, 2008. PHOTO TAKEN NEAR PECOS ROAD IN AHWATUKEE, ARIZONA.

Dust: PM-10 Emissions

new regulations
to impact
Maricopa County



Dust abatement efforts at construction site near Pecos Road, Ahwatukee May 22, 2008

By Mannie L. Carpenter, P.E.

Unless you have been living in a cave for the past year, you have probably heard a lot more publicity on the impact on air quality from dust, more properly referred to as particulate material or PM. Of particular concern is PM that is so small that it behaves like a gas. These very small particles remain suspended in the air for long periods of time and, when inhaled, can enter deep into the lungs like a gas. This behavior is observed when particles of matter, either liquid or solid, have an aerodynamic diameter of about 10 microns or smaller. These small particles are called PM-10 or PM₁₀.

Health Effects: PM-10 & PM Fine

Many studies have identified a connection between the amount of PM-10 present in the air and adverse health effects in exposed people. Some of these studies noted hospital admissions for respiratory problems correlated with times when PM-10 concentrations were high. People with respiratory ailments such as pneumonia, asthma and emphysema as well as the old and very young can be severely affected by high concentrations of PM-10. Even otherwise healthy individuals also suffer reduced respiratory capacity when exposed to high concentrations

of these fine particulates. Other health affects connected to exposure to PM include development of chronic bronchitis, irregular heart rhythm, heart attacks and premature death. Because of these concerns, PM-10 is one of six priority pollutants regulated under the Clean Air Act of 1970 (the CAA) and its various amendments. Under the CAA, the U. S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for PM-10 and other priority pollutants. For PM-10, the 24-hour NAAQS is 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Recent studies have shown an even greater detrimental effect from a sub-set of PM-10 called *PM Fine*. *PM Fine* is defined as PM with an aerodynamic diameter of 2.5 microns or less and is also referred to as PM-2.5 or PM_{2.5}. These particles are so small that they are able to get into the individual air sacs in the lungs called the *aveoli* (or *alveoli*). Once inside the aveoli, it is difficult if not impossible for the body to dispel them, so they have the effect of accumulating. In the aveoli, the particles are in very close contact with the blood and can more readily transfer chemicals of which they may be composed into the bloodstream. Because of their greater potential for adverse health effects, the EPA has established an even more stringent 24-hour NAAQS for PM-2.5 of 35 $\mu\text{g}/\text{m}^3$ and an annual arithmetic mean NAAQS of 15.0 $\mu\text{g}/\text{m}^3$.

Visibility

In addition to the health effects from PM discussed above, PM in the air also results in reduced visibility which decreases enjoyment of many of our natural wonders. Reflection of light from these suspended particles causes haze and reduces visibility. PM has also been identified as a significant contributor to the *Brown Haze* seen over metropolitan areas like Phoenix and Tucson. Although perhaps not as serious as the health

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issues, these quality of life issues are important to all of us who live here and to those who would visit our state and spend their hard-earned money here in the process.

Sanctions/Failure to Achieve NAAQS

If the reasons discussed above are not sufficient to motivate us to find ways to reduce the concentrations of PM in the air, there are other compelling reasons to be considered. Failure to achieve the NAAQS within specified time-frames carries some very heavy penalties imposed by the federal government called *sanctions*. The most onerous sanctions imposed on areas that fail to meet the NAAQS on schedule are loss of federal highway transportation funding and imposition of emissions offset requirements on new sources of PM emissions. The Maricopa County Air Quality Department (MCAQD) estimates the cost of sanctions could be up to \$8 billion. Most areas of Arizona currently appear to be meeting the NAAQS for PM-10 and PM-2.5. The Phoenix Metropolitan Area (PMA) is the only area in Arizona that has not met the PM-10 NAAQS. The Nogales area is the only area in the state that does not appear to be meeting the PM-2.5 NAAQS.

The compliance date for Nogales to meet the PM-2.5 standard is in the future. However, the compliance date for meeting the PM-10 NAAQS in the PMA was by December 31, 2006. In order to meet the PM-10 NAAQS, the PMA had to not exceed the standard for more than once per year on average over 3 years. In order to avoid imposition of the sanctions mentioned above, the Maricopa Association of Governments (MAG)², the governmental board with the responsibility for coordinating measures to achieve compliance with the NAAQS, had to develop and implement a "Five Percent Plan" for PM-10. The MAG Five Percent Plan submitted to the EPA in December 2007, provides measures to reduce emissions of PM-10 by at least an additional 5% each year beginning in 2008 and going through 2010. Other requirements of the federal regulations governing Five Percent Plans actually require more than 5% per year reduction. If the NAAQS is exceeded at any time during this period, the plan will have to be extended for additional years, each with at least 5% further reductions in PM-10 emissions, until 3 consecutive years without violations are achieved. The MAG Five Percent Plan includes 53 committed control measures and additional contingency measures which are expected to reduce annual PM-10 controlled emissions in the Maricopa County Non-Attainment Area from the projected 2007 (base year) total 96,445 tons per year to 72,901 tons per year in 2010.

PM-10 Emission Sources

The committed control measures in the MAG Five Percent Plan were based on 2005 emission inventories which were projected out to 2007. Figure 1 (this page) shows a breakdown of the various sources of PM-10 emissions in the projected 2007 total PM-10 emissions. As illustrated, the primary sources of PM-10 emissions in the Maricopa County Non-Attainment Area are travel on paved roads including trackout (17%), travel on unpaved roads (17%), residential and commercial construction (12% each), and road construction (7%). Figure 2 (see page 10) shows the expected impacts on PM-10 emissions in 2010 from the major committed control measures.

Recent Regulations

Support and authority to implement these measures involved new legislation by the Arizona Legislature, revisions to the Arizona State Implementation Plan, revisions to the Maricopa County Implementation Plan, revisions to Maricopa County Rules and Regulations, and revision or establishment of many city codes, ordinances and budgets. Most

2007 PM-10 Emissions with Committed Control Measures Total = 96,445 tons/year

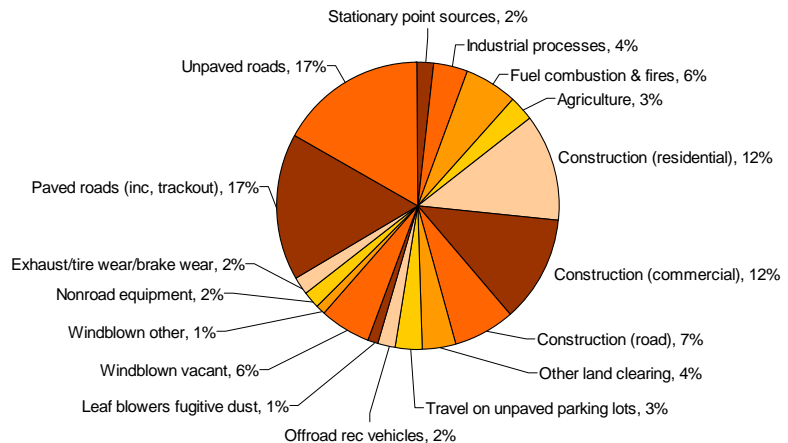


Figure 1.
2007 Maricopa County Nonattainment Area PM-10 emissions
by category (Source: Maricopa Assoc. of Governments Five Percent Plan)

notably, Maricopa County added 90 new positions in 2007 to deal with these changes. This total included 51 additional dust control inspectors and 5 additional enforcement positions. These increases represent nearly tripling the number of inspectors and doubling the number of enforcement officers. In 2007, Maricopa County settled enforcement actions resulting in collection of over \$5.3 million in fines

Continued on page 10



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Citizens Speak Up at a Town Hall Meeting

Photo courtesy of FEMA/Andrea Booher

Principles Of Risk Communication

Who are these people, and why
do they hate me?

By John D. Godec

Just before the public meeting, as I stood talking with two local residents, I felt a tug on my sleeve and looked down at the most adorable little girl. "My mommy says you're trying to kill me and my baby brother," she said matter-

of-factly. "I hate you."

In five years and hundreds of public meetings for the Arizona Department of Environmental Quality, I'd been yelled at, cursed, and threatened but this little girl – who looked like my own daughter at that age — got to me.

How could normally rational parents be so outraged and instill such hate in a child?

Public involvement practitioners understand the value of authentic, early involvement by people whose lives are affected by the projects with which we are involved. But too often we find ourselves dealing with situations after positions become polarized, lines have been drawn in the sand, *victims* are angry, and trust and credibility is gone.

Dealing with these situations requires very different skills.

Anger comes from frustration. People become frustrated with their lack of power (perceived or real) involving decisions that affect their lives. People get angry when they think that they've been let down, misled, or lied to.

Arguably, almost anything in life poses some risk. Peter Sandman, an authority on risk communication, points out that risks that harm people are not necessarily the risks that bother people. Most of the work by Sandman, Lawrence Susskind, Vince Covello and other researchers speaks to environmental health and safety risks, but the principles are applicable to risks of all kinds.

Change poses risk. People who believe that they'll lose more than they'll gain view change as an unacceptable risk. Frustration and anger results when people think that they have no influence in determining if or how change will occur. Susskind says that *losers* are far more inclined to oppose the change than are *winners* inclined to support it. For the *losers*, the risks are very real and very personal, while benefits seem much more abstract.

As Abraham Lincoln said, "Public sentiment is

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everything. With public sentiment nothing can fail; without it, nothing can succeed.”

There are an almost endless variety of *publics* for every situation. We tend to hear from the people who are most angry about a situation, so we tend to gear our reactions to them. This “tilting at windmills” is understandable, but we can’t ignore the “other” publics. Most people’s opinions and level of concern change over time. People who ignored the issue become overnight activists when they suddenly discover that they stand to lose something. Conversely, some peoples’ passion may revert to apathy if their perceived losses are minimized.

There are no cookie-cutter answers to any public participation project or in dealing with situations that have already gone bad, but there are basic principles that need to be adapted, understood and followed:

- **Plan carefully and stay flexible.** Developing a communication plan for your situation is the first step, but don’t assume that the situation will remain as you’d first planned it. Issues, concerns and people change. Adapt your approach to these changing needs.
- **Respond carefully and never trivialize people’s feelings.** Listen not only to the words being said but also to the context. Understand the feelings and values of the speaker. Learn why they are saying what they are saying. When you respond, consider not only your words, but also their context.
- **Respond humanely and don’t use jargon.** Professionals tend to understand and speak their own language. It is important to *translate* technical terms and to use plain language. Communicate in the language and culture of your audience.

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● **When people speak emotionally, don’t just respond with data.** Scientists, engineers and other professionals are trained to deal with issues professionally and dispassionately. People whose lives are affected by the decisions of these professionals may react very emotionally and take it very personally. And if you were in their shoes, you would too. Empathy can lead you to understand and respond well to other people’s feelings.

● **Be accessible, honest and open.** Be willing to meet people on short notice, on their turf, in ways that work for them, and under circumstances that they

control.

- **Don’t be defensive, stake out the middle.** When we are attacked, even verbally, it is human nature to defend with a force equal to the offense. In situations where trust is already low and concern is high, it is necessary to assume a more neutral position.
- **Acknowledge past misbehavior when it’s appropriate.** It may drive your lawyers crazy, but remember that an apology is not necessarily an admission of guilt. Be prepared to apologize, repeatedly if necessary.
- **Admit to problems.** It may be difficult for professionals to admit that they don’t have all of the answers when asked. Granted, you should be well prepared and you should have done your homework, but it is ok to tell people *what you know, what you don’t know, and what you’re trying to find out.*
- **Explain achievements with some humility.** When faced with public criticism it is natural to want to remind your critics of your successes. In a crisis you may be able to draw on the goodwill that you’ve banked in the past, but you have to draw from that account carefully, and only when people allow you to do so.
- **Be accountable and involve people in decisions.** It is important to inform and include people at the earliest possible stage, even if they are already angry. The longer you wait, the more hardened and outraged people are likely to become. Find appropriate ways to give some control to the people affected. Use a neutral facilitator.
- **Dig out people’s real concerns.** Peoples’ emotions may make it difficult for you to determine the cause of their true fears or outrage. It may take time and it may be unrelated to the issue at hand, but it’s important to understand.
- **Work with the media.** Space limitations won’t allow us to discuss media relations in any detail here, but if your situation is possibly newsworthy it’s in your best interest to learn to work effectively with reporters. You either take advantage of it or it takes advantage of you.
- **Communicate with smaller groups and with compassion.** The best communication occurs one on one. The more people that you add, the more difficult it becomes. Your goal is to build relationships, and that will take time.

John D. Godec is President of Godec, Randall & Assoc. He was previously Director of Issues Management for Motorola, and communications director for ADEQ. He is a Certified Professional Facilitator®, a master trainer for the Int’l Assoc. for Public Participation, a member of the US Institute for Env. Conflict Resolution, and helped develop a risk and emergency communication protocol for the Nat’l Governors Assoc.. John can be reached at 602-266-5556 or by email at jgd@godecrandall.com.



Regulatory Developments:

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Mike C. Ford, Attorney

Dust: Carpenter

Continued From Pg 7

and penalties. Most of the violations were from inspections in 2006—before they hired these additional inspection and enforcement personnel.

In March 2008, MCAQD revised regulations governing control of PM-10 generating activities to implement committed measures in the Five Percent Plan. Significant revisions to the rules are described below.

Rule 200 – Permit Requirements

- Revised Earthmoving Permit to Dust Control Permit
- Established requirement for subcontractors performing dust generating operations at a site under a General Contractors Dust Control Permit to register with MCAQD and display registration number while on site

Rule 280 – Fees

- Increased fees for annual Dust Control Permit (formerly Earthmoving Permit) to \$350 (0.1 to 1 acre) and \$350 plus \$77/acre (greater than 1 acre)
- Provided for partial refund of Dust Control Permit fees if project cancelled prior to beginning dust generating activities
- Established fees for Basic and Comprehensive Dust Control Training of \$50 and \$125, respectively
- Established a \$50 subcontractor registration fee
- Various other changes to fees that are not Dust Control related

Rule 300 – Visible Emissions

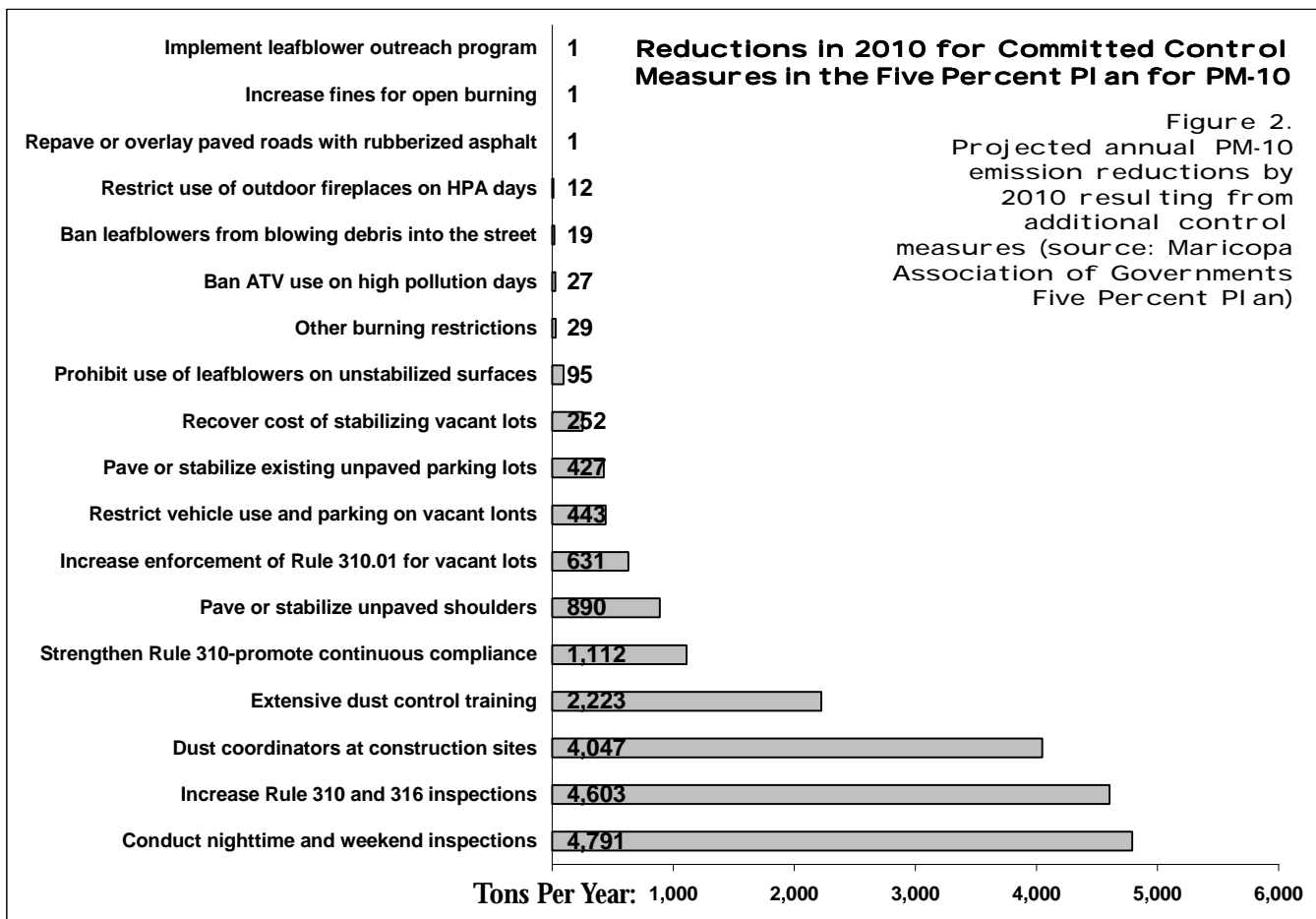
- Revised the rules for compliance with 20% opacity limit to allow no more than 3 minutes aggregate in any 60-minute period, rather than 3 consecutive minutes in a 60-minute period

Rule 310 – Fugitive Dust from Dust Generating Operations

- This rule was extensively revised, including clarification and consolidation of requirements from other guidance documents and instructions
- Daily recordkeeping requirements clarified or modified
- Permanent stabilization requirements following completion of dust-generating activities modified and clarified
- Zero visible emissions allowed beyond property line unless working within 25 feet of property line
- Dust Control Coordinator required onsite at all times when dust generating activities occurring for sites larger than 5 acres
- Site Superintendents, water truck and water pull drivers required to have Basic Dust Control Training for sites over 1 acre
- Training for Dust Control Coordinators and site superintendents, water truck and water pull drivers required every 3 years
- Trackout over 25 feet requires immediate clean-up (previously 50 feet) and end of day (defined as not later than 8:00 p.m.) for less amounts, including gutters, sidewalks and curbs
- Haul truck loading requirements revised to not have any portion of load higher than sides
- Subcontractors are required to register with MCAQD when working on sites with dust permits and permit holder must keep record of contractors on site

Rule 310.01 – Fugitive Dust from Non-Traditional Sources of Fugitive Dust

- The requirements for maintaining stabilized surfaces for open areas, vacant lots, unpaved parking lots and unpaved roadways (including alleys) have



been strengthened and extended significantly

- County can stabilize area of Non-Traditional Sources if owner does not respond and collect cost of stabilization from owner
- Requires owners to implement control measures to prevent PM-10 emissions from Non-Traditional Sources and to report to MCAQD when such measures are taken/required
- Establishes requirements to implement control measures for livestock activities
- Requires owners to control erosion-caused deposition of bulk materials onto paved surfaces

In addition to the rule changes described above, the Maricopa County Board of Supervisors also adopted or revised several ordinances in February and March 2008 governing PM-10 producing activities including operation of leaf blowers, off-road vehicle use in unincorporated areas, residential woodburning, and vehicle parking and use on unstabilized vacant lots. The new rules as well as the recently adopted ordinances can be found by clicking on the Rules & Regulations tab from the MCAQD website at www.maricopa.gov/aq.

Impact on Businesses and Property Owners

These rule changes will have significant impacts on Maricopa County businesses and property owners. Construction companies and their subcontractors are most significantly impacted, especially by the new personnel training and record keeping requirements. The Basic Dust Control Training for superintendents at sites from 1 to 5 acres and for water pull or water truck operators requires a minimum 3-hours of classroom training. Comprehensive Dust Control Training for Dust Coordinators at 5+ acre sites is a minimum of 6 hours of training. Perhaps more significant than the commitment of time for training is the availability of certified training classes. Trainers have to be certified by MCAQD. Although Maricopa County has been offering Train the Trainer courses to certify individuals to provide this training, some have reported difficulty finding a class with available space. Companies that have large numbers of individuals requiring training have gotten in-house personnel certified as trainers to provide the required training to their personnel. Some industry organizations have arranged for their members to receive training through their organization.

Daily recordkeeping requirements in the new rules have expanded the information that needs to be recorded. Daily stabilization and VE observations are required when dust generating activities have occurred. The list of subcontractors conducting dust generating activities at the site is required to be updated daily. The list of individuals at the site who have received either basic or comprehensive training must be updated daily.

At sites with more than 5 acres of disturbed surface area, a Dust Coordinator is required to be present whenever dust generating activities are occurring. This requirement has prompted many companies to train more than a single Dust Coordinator to allow for vacations, personnel turnover and other possible absences that would otherwise require shutdown of the jobsite.

What you should do now

- Don't wait for an inspection to find out if you are in compliance with these new rules
- Go to the MCAQD website at www.maricopa.gov/aq and read the new rules and ordinances and determine whether they apply to you or your company
- If you need a Dust Control Permit and don't already have one, apply

now (violations could be costly)

- Don't wait for the week before training is due to register for required training classes
- Review stabilization options and test methods in Appendix C of the MCAQD Rules
- Identify most cost-effective options for long-term stabilization of disturbed surface areas, unpaved parking lots and open or vacant land—water may not be the best option
- If you are a covered subcontractor, get registered and provide your registration information to your site superintendent
- Become familiar with the dust control plan at your jobsite and follow it

Footnotes

1 PM with an aerodynamic diameter of greater than 2.5 microns but less than 10 microns is referred to as *PM Coarse*, but there is no separate NAAQS for this fraction. The PM-10 NAAQS applies to the total of PM Coarse and PM Fine.

2 MAG is composed of representatives of the cities inside the Maricopa Municipal Planning Area, Maricopa County, the Gila River Indian Community, the Salt River Pima Maricopa Indian Community, the Fort McDowell Yavapai Nation, the Arizona Department of Transportation and the Citizens Transportation Oversight Committee (ADOT and CTOC are ex-officio members of MAG for transportation-related issues).

Mannie L. Carpenter is a Senior Project Manager with Geotechnical and Environmental Consultants, Inc. (GEC) in Phoenix, Arizona, with 28 years of experience in a variety of environmental and engineering fields. He is president of EPAZ and a member of the Maricopa Association of Governments Air Quality Technical Advisory Committee. Mannie can be contacted at 602-393-4800 or by email at mcarpenter@gecaz.com.

Below: Construction activity near Pecos Road in Ahwatukee, May 22, 2008



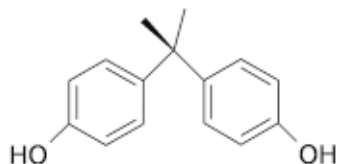


Larry Olson, PhD.

It's All About Chemistry

How Much of a Threat is Bisphenol A?

It seems that everywhere we turn these days there is another report of a chemical posing a threat to our health. Many involve seemingly innocuous products that we use routinely without a second thought. One of the most recent involves a chemical called bisphenol A (BPA) [bis(4-hydroxyphenyl)dimethylmethane], shown below.



It is a high volume chemical (2.3 billion lbs produced in the U.S. in 2004) used in the manufacture of polycarbonate and epoxy phenolic resins. These are found in everything from computer parts to CDs to mobile phone housings. But the critical uses for general public exposure involve food and beverage containers with internal resin coatings, polycarbonate containers such as baby bottles and water bottles, dental sealants and fillings, and epoxy coatings of water storage tanks or pipes.

Human exposure to bisphenol A is widespread. It was found in 93% of the urine samples in a study conducted by the CDC in 2003/04, in blood and tissue samples, in breast milk of lactating women, and in ambient air and dust samples. There is evidence that BPA can migrate from polycarbonate food or

beverage containers and that the degree to which this occurs depends upon temperature.

But the key question is not whether we are exposed to BPA but whether the dose is sufficient to cause harm. Remember Paracelsus' maxim that "All substances are poisons; it is the dose that makes it poisonous." Here the evidence is somewhat mixed. According to a recent draft National Toxicology Program Brief on Bisphenol A (Draft version released April 14, 2008), studies with laboratory rodents show "clear evidence" that exposure to high doses of BPA during pregnancy and/or lactation can reduce survival rates, birth rate and growth of offspring and delay onset of puberty in males and females. However, dose levels (> 500 mg/kg bw/day) were far in excess of the highest estimated daily intakes of BPA in children (<0.0147), adults (<0.0015), or workers (0.100 mg/kg bw/day). Lower dose levels in laboratory animals, more similar to human exposures, have been associated with neural and behavioral changes, precancerous lesions in the prostate and mammary glands, and early onset of puberty. Only a limited number of studies in humans have been done. The draft NTP report concluded that there is "negligible concern" over reproductive effects in non-occupationally exposed adults and "some concern" for neural and behavioral effects in fetuses, infants, and children at current human exposure levels.

A confounding problem in using animal studies is that the route of exposure affects the way in which bisphenol A is metabolized. Most ingested BPA is bound to glucouronic acid to make it more water soluble before it is excreted. Only free BPA is considered biologically active, so the rate at which this conversion occurs is critical to determining risk. Since blood from the GI tract is shunted directly to the liver, much of ingested BPA is conjugated with glucouronic acid before it circulates to the rest of the body, unlike BPA administered by non-oral routes. Also, fetuses and neonates have little or no UDP glucuronidase so they have a very limited ability to metabolize orally ingested BPA and have a much higher circulating concentration than older animals given an equal exposure.

For these reasons, the NTP panel decided not to consider many of the lower dose animal studies that showed toxic effects because they used non-oral routes of administration. This is a controversial decision and another NIEHS workshop on BPA, dubbed the Chapel Hill panel, vehemently disagrees. They concluded that "human exposure to BPA is within the range that is predicted to be biologically active" based on animal studies and expressed a "great cause for concern with regard to the similar adverse effects in humans."

So what should you do? BPA appears to be of relatively little risk to non-occupationally exposed adults, but appears to pose a bigger threat to infants and children. Limiting their exposure seems only prudent. Avoiding microwaving polycarbonate bottles or putting hot liquids in them is a simple first step.

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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Associations Pages

The Journal of Environmental Management Arizona invites environmental, health and/or safety organizations in Arizona to contribute news articles about their associations. Contact the editor at 480-422-4430 x42.



EPAZ

www.EPAZ.org

At our April meeting, Mr. Don Hesselbrock of Corporate Security Specialists, Inc. described security considerations in an industrial or commercial environment. Most companies do not invest in security plans or systems until after a major loss has occurred. Most problems could be prevented by properly planning and implementing a security system that protects from internal as well as external threats.

On May 2, EPAZ held our 4th annual Scholarship Golf Tournament at Club West. Many thanks to Allied Waste, our premier sponsor, and all the other sponsors and golfers who supported the EPAZ Scholarship Fund by their participation.

Mr. Pete Allard of GEC addressed the May meeting with an overview of the recently released ASTM Standard Practice E2600 for vapor intrusion assessment. Mr. Allard is on the ASTM committee that developed the new practice and provided insight into this new protocol. The committee is requesting feedback and comments from companies and individuals who are implementing this new practice.

Greg Mehall of ASU is scheduled to present on the Mars lander project in June. Our July meeting will be held in Flagstaff, AZ. Check our website for the meeting location and time.

EPAZ holds monthly luncheon meetings on the 2nd Thursday of the month from 11:30 am to 1:00 pm. EPAZ also gathers on the fourth Wednesday of the month for a casual cocktail mixer. Visit our web site at www.epaz.org for more details or contact Mannie Carpenter at (602) 393-4800.

Mannie Carpenter,
President



SESHA AZ Chapter Semiconductor Environmental Safety & Health Association

www.seshaonline.org

The local Arizona Chapter of SESH held a one-day miniconference on Earth Day, April 22nd. It was held at the Hilton Garden Inn in Phoenix.

There was a lot of interest in the topics presented. The morning covered silane safety, abatement and sensor technology. The afternoon covered environmental topics appropriate for Earth Day. A representative from APS described their investment in solar energy technology. An Intel representative discussed corporate sustainability programs, and an Architect from Arrington Watkins presented information on LEED. Earth Day trivia questions were asked throughout the day and prizes given to those with correct answers. Exhibitors included DOD Technologies and Ninyo and Moore. We thank our breakfast and lunch sponsors who were Air Products and Honeywell Analytics. The Steering Committee is planning another Chapter meeting in the third quarter, so stay tuned . . .

Christine Pomeroy,
President



www.azchamber.com

The Arizona Chamber of Commerce and Industry's Environment Committee will hold its annual Environmental Summit on August 13th, 14th and 15th at the Hilton El Conquistador in Tucson (see advertisement page 3). The conference will consist of a session on Wednesday afternoon August 13th focusing on County air issues, a full day of sessions on Thursday August 14th and the Chamber's annual Environmental Summit Gold Tournament on Friday August 15th. Golf will be played at the Hilton El Conquistador Golf Course. Speakers will cover a variety of emerging pertinent topic on industrial environmental compliance. Please mark your calendars and plan to attend. More information can be obtained by contacting Jeff Homer at 480-441-6672.

Jeff Homer,
Co Chairman
Environment
Committee



www.SAEMS.org

A tradition on many campuses around the country is "The Last Lecture." A faculty member is asked to deliver a hypothetical final lecture on what matters most. Since the SAEMS "changing of the guard" meeting will be at the end of June, this is my last "lecture." I have gained a greater appreciation of the time and effort that goes into running a volunteer organization. A lot of hard work and planning goes on behind the scenes. The result is the continued excellence of seminar, scholarship selection and all the other activities SAEMS supports. I'm grateful for the wise counsel the executive board gave me this year. I commend the new executive board to you. It is a good mixture of seasoned veterans and newcomers. They will get SAEMS second twenty years off to a good start. An organization is only as good as its members. SAEMS has the best members in the world. Thanks for your support and patience with me the past year. I look forward to my new role of being a tribal elder.

Jeff Christensen
President



Grand Canyon Section Air & Waste Management

www.awma-gcs.com

We would like to extend a special thank you to C.V. Mathai, A&WMA International President, for speaking at our March meeting. C.V. is also a long time member of the Grand Canyon Section and we are proud that he is representing A&WMA for 2008.

Our spring site tour was an overwhelming success with approximately 45 individuals attending. This year we visited the

Arizona Public Service Saguaro Solar Trough Power Plant. Jeff Lee, plant manager, gave us a great tour of this state of the art plant.

The Grand Canyon Section will take a break for the summer with no meetings scheduled for June, July, and August. In September we will be back in Phoenix to kick off our fall schedule. Later this summer we will announce our fall speakers and meeting locations.

Beginning in September A&WMA-GCS will be moving our normal meeting date to the fourth Thursday of the month. The move is simply an attempt to conflict less with other organizations and give more people an opportunity to attend. Check out our website at www.awma-gcs.com for upcoming events and dates.

Kale Walch,
President



ACHMM Thunderbird

www.thunderbirdchmm.org

We had a great turnout for the "Essentials of Hazardous Materials Management," course in May. Eleven attendees benefited from the knowledge of 14+ EHS professionals covering a wide range of topics. The feedback has been very good. Most of the attendees are pursuing their CHMM certification. I want to wish them luck and hope the course was helpful!

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. **Calendar Items:** **June** – Luncheon Meeting, ASU/MARS Project "Behind the Scenes". **July 3** – T-Bird Happy Hour, TBD. **July** – Luncheon Meeting in Flagstaff. **August 7** – T-Bird Happy Hour, TBD. **August** – Boeing Tour- Details TBA. **September 7-10** – ACHMM National Conference, Minneapolis, MN

Chuck Paulausky,
Board Member



www.eia-az.org

The EIA-AZ Chapter is gearing up for a new session of our Contractor's Forum. The forum is made up of a group of volunteers from varying professions such as contractors, specialty contractors (asbestos, lead-based paint and mold remediation), consultants, owners and regulators. They come together as concerned individuals in an effort to insure compliance in a fair and equal manner. If you are interested in learning more about the Contractor's Forum or would like to participate, please visit our web site at <http://www.eia-az.org> or call 602-437-3737 ext. 123 for information on all upcoming events sponsored by EIA-AZ.

Laura Adams,
President



www.azalliance.org

The Alliance recently had the opportunity to showcase its programs and those of several of its members at a meeting of the Arizona State Senate Natural Resources and Rural Affairs Committee chaired by Senator Jake Flake. An invitation to make a presentation at the April 2, 2008 meeting was extended by Senator Amanda Aguirre, a member of the Natural Resources Committee and also a member of the Alliance's Advisory Council. An overview of the Alliance and its mission set the stage for ensuing presentations by Alliance member organizations Intel, Ping Golf, and the City of Scottsdale highlighting a few of the key environmental accomplishments within in their respective programs. Senator Flake thanked the Alliance and its members for the overview and indicated that it was good to see examples of environmental leadership practices at work in Arizona. A video of the presentation can be viewed by visiting the Strategic Alliance website at www.AZAlliance.org.

Scott Davis,
Chairperson



www.azhydrosoc.org

The AHS continues to work on the 2008 Annual Symposium. The Annual Symposium is scheduled for September 20-24, 2008 in Flagstaff. We have partnered with the American Institute of Professional Geologists to make this an outstanding event. Please visit www.aipg.org/2008/AIPG-AHS-3IPGC.htm for more information.

The Tucson and Phoenix Chapters are also busy hosting seminars. The Tucson Chapter continues to offer interesting monthly meetings. In May, Todd Shipman from the AZGS spoke about "Cracks in Arizona". The Phoenix Chapter hosted a Surface Water Seminar on May 15th at the Arizona Dept. of Water Resources. This seminar was sold out and all who attended felt it was well worth their while.

Jeanie Merideth with AHS has decided to move on to other ventures and the new Society Manager will be Nick Melcher who recently retired with USGS. He is looking forward to working with AHS in a new capacity as the Association Manager. For other AHS information please visit our website at www.azhydrosoc.org.

Jeanie Merideth,
Society Manager



ASSE American Society of Safety Engineers

Ed Collette, former Secretary for the ASSE Southern Arizona Chapter and the Env. and Safety Mgr. for Pima County Reg. Wastewater Reclamation Department's Conveyance Div. was successful in leading the CRWRDCD to a national FIRST... it became the first public or private organization in the US to receive 3 management standard certifications simultaneously. The certifications ISO 9001:2000 for Quality deals with requirements for a quality management system; ISO 14001 for Environmental addresses various aspects of env. management; and OSHA's 18001 for Safety addresses health and safety standards and requirements.

Gerry Coley, SCF Arizona Loss Control Consultant and the Treasurer of our Southern Arizona Chapter of ASSE, recently earned the designation of Certified Safety Professional (CSP). The CSP is the most sought after safety certification in the United States.

Shari Di Peso,
Secretary





Sustainability and Sustainable Development

Nicholas R. Hild, PhD.

*"What's good for GM is
good for the nation . . ."*

*Charles E. Wilson, former
GM President*

In a previous article for the Journal, I mentioned how important it is that we get "sustainability" branded—that we somehow make "sustainability" something that we not only want to let other companies know about but that we can "sell"—well, guess what? That seems to be happening now, at least with all the big companies who have products they manufacture/sell—it seems that a majority of the Fortune 500 and a lot of the smaller companies, too, are establishing an "Office of Sustainability" to try and green their bottom lines while showing their customers what they are doing to soften their environmental footprint.

What got me thinking about this was a recent article about Wal Mart's sustainability efforts, across all their retail and distribution facilities worldwide. So, here's hoping that the old GM adage— *'...as GM goes, so goes the nation'*—has been replaced by...

*"... as Wal Mart goes, so goes the nation...toward
sustainability planning that *benefits the environment*..."*

The reason this is really important is that there is a niche here that environmental professionals need to be aware of for future jobs that have heretofore never been in existence in corporate America. The *'position'* of Corporate (Guru) of Sustainability is a whole new career opportunity. Whereas, in the last decades of the 20th century, EH&S professionals found themselves only being invited to the table to provide advice to CEO's and Boards of Directors about environmental compliance and health issues, today's EH&S professionals can look forward to a time when they are going to be invited to actually sit on the board—as a VP in charge of making sure the CEO and Directors make the right choices—choices that not only *enhance* the

company's community image but truly engages employees and communities in making sustainable choices for the company's future growth.

What that means is, environmental professionals have opportunities that were never anticipated in the days when EH&S functions were looked at as a necessary "drain" on the bottom line. EH&S professionals have expertise that the current slate of Directors don't—we just need to take advantage of the current popularity of *'sustainability'* as a must-have ingredient in every company's five year plan.

Babson College Professor and business management author, Thomas Davenport, noted recently that all the management experts to whom CEOs and Presidents of major companies get their advice from, seem to be saying the same thing— *"...managers are time-strapped and hungry for easily digestible advice wherever they can find it..."* Babson says today's most pressing themes include globalization *"... and sustainability would appear to be at the heart of the globalization strategies that international companies have to embrace."*

So, EH&S professionals unite! Take a page from Governor Napolitano's eloquent prose she recently used when endorsing two new Board Directors for the Arizona Economic Resource Organization (i.e. the Guv is Chairperson of the private non-profit group)—she called (them) *"agile innovators with a track record of increasing competitiveness and making strong economic decisions that have benefited the state"*—such eloquence in verbiage can easily be modified to fit your resume' when you submit it to the CEO as you point out how *your* technical expertise in sustainability strategies will be invaluable to the company if you can be allowed to actually provide your input at the highest level.

And, you no longer have to be looked at as a necessary drain on the bottom line; you can be a resource and a critical (technical) thinker who will be a key contributor to the company's future.

Even the Wall Street Journal recently pointed out that the top influential business consultants who provide management advice are slowly changing their focus from 'profits' to *"sustainable profit strategies..."* as companies find themselves looking for advice on benefits planning for health care and how manager's decision-making at all levels can impact the *greening* of corporations. Therein lies opportunity: when it knocks, don't complain about the noise.

Sustainability may have already become a part of the corporate lexicon but EH&S professionals need to ensure that *your* expertise is provided at the highest levels in corporations if it truly becomes 'company policy' rather than lip service for the stockholders. Otherwise, what we've done (or left undone), will clearly be visible to our children's, children's, children.

Nicholas R. Hild, PhD., Professor, Environmental Technology Management, Arizona State University College of Technology and Innovation, has extensive experience in Environmental Management in the southwestern U.S. Dr. Hild can be reached at 480-727-1309 and by email at DrNick@asu.edu.

Alliance Strategic Planning Sessions



Arizona Environmental Strategic Alliance Board Members, Advisory Councilors, and guests met several times in Phoenix this spring for a series of strategic organizational planning sessions. The strategy sessions, completed in May, have helped the organization focus in on the three core benefits that members seek from the Alliance: Collaboration between industry and government; outreach & mentoring to other organizations; and goal setting and recognition. The Alliance also selected several project focus areas for the upcoming 2008/2009 period.

The Alliance, formed about 15 years ago to promote environmental leadership and encourage performance beyond compliance, offers members an

informal setting to meet with and work toward common goals with other leading businesses and representatives of ADEQ, EPA, and Maricopa County. For more information contact the Alliance at 480-422-7392 or visit www.azalliance.org.



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News Briefs

Air Quality Violators Pay Over \$533,000,000 in April and May

❖ The Maricopa County Air Quality Department announced recently that \$296,417.03 in air quality violation settlements made during the month of May 2008, and \$236,933.06 in air quality violation settlements made during the month of April 2008.

A list of all settlement cases for April and May can be found on the county website at www.maricopa.gov. The three highest settlements for the two months were:

DR Horton, Inc./Dietz-Crane signed a settlement agreement for \$40,534 on May 16th to resolve six alleged air quality violations. The alleged violations include:

failure to prevent visible fugitive dust emissions from exceeding 20% opacity; failure to implement control measures before, while and after conducting a dust generating operation; failure to clean up trackout; failure to install, maintain and use a suitable trackout control device; failure to comply with the stabilization requirements for open areas, vacant lots or disturbed surface areas and failure to comply with the requirements for open storage piles when not conducting stacking, loading or unloading operations. These alleged violations occurred at two locations: 123rd Avenue & Pinnacle Peak Road in Sun City and Watson Road & Southern Avenue in Buckeye. DR Horton/Dietz Crane's office is located at 8125 N. 23rd Avenue, suite 100 in Phoenix. The settlement amount was paid in full on May 28, 2008.

Imix Group LLC signed a settlement agreement for \$36,176 on May 6th to resolve eight alleged air quality violations. The alleged violations include: failure to limit fugitive dust emissions to 15% from any crusher; failure to permanently mount watering systems on inlet and outlet of all crushers; failure to submit an Operations and Maintenance Plan for each emission control system; failure to submit an approved Dust Control Plan within 60 days of permit issuance; failure to notify the Air Quality Department in writing of startup of non-road engines; failure to permanently mount watering systems on outlet of all shaker screens and failure to permanently mount watering systems on all material transfer points. These alleged violations occurred at 7505 S. 143rd Avenue in Goodyear. Imix Group's office is located at 7225 N. 110th Avenue #6 in Glendale. The settlement amount was paid in full on May 6, 2008.

Pulice Construction signed a \$64,030.00 settlement agreement on April 23rd for 17 alleged air quality violations. Those violations cover sections within Maricopa County's dust control rules including failure to control and clean up trackout. A complete list may be found in the table below. The violations occurred at the following locations:

- SR 202 Red Mountain Fwy. in Mesa
- Power Road & McKellips Road in Mesa
- Power Road & McDowell Road in Mesa
- Ellsworth Road & University Drive in Mesa
- I-17 & Carefree Highway in Phoenix
- Loop 101 & 64th Street (Mayo Blvd.) in Phoenix

Pulice Construction is located at 2033 W. Mountain View Rd. in Phoenix. The company paid its settlement amount in full on April 23rd.

ADEQ Announces \$140,000 Penalty Against Universal Propulsion Company

❖ ADEQ Director Steve Owens announced recently that Universal Propulsion Company (UPCO) will pay a \$140,000 civil penalty for hazardous waste and air quality violations at the company's Propulsion Systems facility located at 25401 N. Central Ave. in Phoenix. ADEQ issued four Notices of Violation (NOVs) to the company between 2002 and 2006 for violations concerning the hazardous waste ammonium perchlorate, a man-made inorganic salt used since the late 1940s as a component in solid rocket fuel, munitions and pyrotechnics.

"We are committed to ensuring that UPCO's

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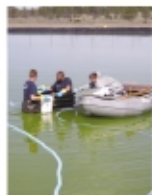
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12 hours when a fire at the facility caused more than 3,000 pounds of the propellant ammonium perchlorate to explode. The explosion propelled the perchlorate into the environment and burned vegetation. ADEQ inspectors found the propellant was improperly stored. A follow-up inspection in December 2002 showed that the substance was then being properly and safely stored. But in March 2004 ADEQ discovered that the company was once again failing to properly manage, store and label perchlorate. ADEQ also found the company was violating its permit by failing to install the required control devices to prevent explosions. Perchlorate, when ingested, can restrict the absorption of iodide by the thyroid gland. Continual disruption of the thyroid gland can impede the ability of the gland to produce thyroid hormones that regulate metabolism and growth. Infants and pregnant women are particularly susceptible.

In September 2004, ADEQ again inspected the facility in response to complaints by local residents of smoke and noise from open burning. Air quality violations included open burning of waste without a permit, failure to submit a list of alternative disposal options to ADEQ, and failure to properly document weather conditions during open burns.

In October 2004, UPKO entered into a Consent Order with ADEQ which restricted further open burning and required additional monitoring of emissions until an alternative method of disposal was found. In late 2004, UPKO permanently shut down its burning operations and in early 2005 began off-site disposal of

operations do not pose a risk to residents in the area as long as it continues to operate there," Director Owens said. "This penalty reflects the serious nature of the violations that have occurred at this facility." The facility manufactures ejection seat rocket motors, cartridge actuated devices and other explosive devices, many of which rely on perchlorate as their propellant. UPKO has informed ADEQ that it is in the process of phasing out operations in the north Phoenix Propulsion site.

In September 2002, hundreds of residents living in the area of UPKO were evacuated for

hazardous wastes which had been formerly burned.

In addition to paying the \$140,000 civil penalty, the company also will pay \$25,000 to Phoenix Children's Hospital for use in the Air Quality Flag Program, which monitors and informs students, parents, and community members about daily air quality.

IMC Magnetix of Tempe to Pay \$130,000 Penalty for Hazardous Waste Violations

ADEQ Director Steve Owens announced recently that IMC Magnetix Corp. will pay \$130,000 for violations of federal and state regulations involving the handling and storage of hazardous waste at its facility at 1900 E. Fifth Street in Tempe. ADEQ issued a Notice of Violation (NOV) in 2003 for 11 major violations by the company, which manufactures aerospace components. ADEQ inspectors observed cotton swabs coated with toxic methyl ethyl ketone (MEK) and residue containing cadmium and lead tossed in the trash and lead solder drippings on the floor. The company failed to determine that material containing MEK, a solvent, and the cadmium-lead residue were hazardous wastes. The company also stored hazardous waste without a permit and kept hazardous waste in large containers that were improperly labeled or not labeled at all. It also failed to update its contingency plan or to make emergency arrangements with local officials. "The company handled hazardous waste in a careless manner, endangering the public and its own employees," Director Owens said. "In some instances, company officials claimed that their toxic waste was not hazardous. The penalty reflects the seriousness of the violations."

In August of 2004 ADEQ issued IMC Magnetix another NOV for mishandling hazardous waste after the City of Tempe Fire Department found potentially explosive waste that was improperly stored and had not been properly disposed of. Seventeen state and city agencies cooperated to remove the waste, which was removed by a robot and exploded off-site.

In addition to the \$130,000 penalty, IMC Magnetix must implement and maintain an Environmental Management System for more than two years and retain a third party to perform two annual compliance audits.

Continued on page 21

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RCRA: The Keys to Compliance

The Southern Arizona Environmental Management Society Inc. hosted its annual RCRA seminar Thursday, May 22, 2008 in Tucson at the University Marriott-Tucson. The event is a one-day, two-track seminar packed with Basic RCRA, DOT reviews, Workplace Safety, Advanced RCRA, RCRA Inspections and Enforcement, and Compliance applications. In addition, attendees had an opportunity to visit environmental vendor booths and network during breaks and lunch. The SAEMS RCRA is always one of the best attended and valuable environmental conferences in the state. For more information on SAEMS, visit www.saems.org.



**SAEMS RCRA
Committee Members**



KEY at Left:

1. Frank Bonillas,
2. Ken Asch
3. Craig Boudle
4. Lisa Cuestas
5. Shari Bauman
6. Sarah Sillman
7. Heather Shoemaker
8. Casilda Quinones
9. Barb Ricca
10. Kelly Huxtable
- Front row, L to R,*
11. Deb Huie
12. Gerardo Mayoral



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Newsbriefs

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US EPA Settles with Sun State of Tempe for Alleged Dust Violations

❖ From October 2004 to February 2007 Sun State allegedly failed to comply with Maricopa County rules during earth moving and dust generating operations at construction projects. Maricopa County inspectors discovered the following violations:

- failure to install a trackout control device to remove particulate matter from vehicles
- failure to immediately clean up dirt tracked out 50 feet beyond the site, and
- failure to water down disturbed surface areas while conducting earth moving operations.

"Maricopa County's particulate air pollution is a serious problem, and companies not complying with dust control regulations are one of the primary causes," said Deborah Jordan, the EPA's Air Division director for the Pacific Southwest region. "The EPA works closely with the County to enforce them and send the message that non-compliance will not be tolerated."

The primary cause of particulate pollution in the Phoenix area is wind blown dust from construction and home development sites, road building activities, unpaved parking lots and roads, disturbed vacant lands, and paved road dust.

As part of the settlement, all current and new Sun State employees involved in dust-generating activities must complete dust-control training, the company must certify every six months that training is up-to-date, and employ a qualified dust control coordinator at all Maricopa County sites equaling or exceeding 5 acres in disturbed surface area.

Particulate matter, including dust, affects the respiratory system. Particle pollution is a complex mixture of extremely small particles and liquid droplets in the air. When breathed in, these particles can reach the deepest regions of the lungs, and is linked to a variety of significant health problems — ranging from aggravated asthma to premature death in people with heart and lung disease.

The elderly, children and people with chronic lung disease, influenza, or asthma are especially sensitive to high levels of particulate matter. Particle pollution also is the main cause of visibility impairment

in the nation's cities and national parks.

Maricopa County exceeds the national health standard for particulate matter, or dust. The EPA has classified the county as a serious non attainment area for particulate matter. The Clean Air Act requires the state to submit a plan containing measures that will reduce airborne particulate matter five percent a year until the area meets the federal air quality standard.

The settlement will be published in the federal register and finalized following a 30-day public comment period and court approval. (See dust related article, page 6).



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Selling in the Down-turn



When business is booming, selling is easy. When the trend turns downward, office attitudes about the effectiveness of the sales and marketing team can, let's say, evolve into, "What have you done for me lately?", "Hey rain-maker, it's a little dry," "Can you do more than eat lunch and play golf?" These aren't typically voiced, to be sure, but the words don't have to be spoken when business that has been pouring in turns to a trickle, revenue numbers dip, and the operation needs a solution.

Bring it! Those who have made our career in sales and marketing thrive in such an environment. Bleak economic news doesn't have to mean gloom and doom: it's an opportunity to demonstrate the value of our role in the organization. It isn't easy and sometimes not much fun to be the one everyone looks to for the quick-fix. But the core of the job description is to bring in business and when times are tough, it's time to perform.

The best solution, of course, is to position your organization so an economic down-turn doesn't significantly impact you in the first place. But when it is inevitable, there are a few things that can help the cause.

Lead the charge! In most cases bringing in new business can't be done by one person (even in good times), so getting as many people involved as practical can shorten the wait time. Sales people are in a good position to step up, lead the effort, solicit and gather ideas, and maintain enthusiasm toward the goal.

Pick low-hanging fruit. Closely evaluate current strategies and tactics, and brainstorm for ideas that will yield results quickly. This boosts confidence, as well as business. Although it may seem obvious, it's critical to gather everyone's input, particularly in a group setting. Exploit the collective market intelligence of your organization - you never know which small nugget of information will reveal a hidden opportunity.

Get out! My friend, Jerry Worsham, said, "Sales & marketing is a contact sport." Meet with clients, prospects, subcontractors, even competitors and work-mates. Resurrect old contacts and see as many people as possible. When business is slow, people have more time for you, so take advantage and gather information about the market and use it to your benefit.

Work smart *and* hard. Show colleagues that you mean business and that you take the responsibility of growing the business seriously. Although you're leading the effort, don't resist the

sometimes-menial tasks to get the work done. It's contagious, and your example will generate support from across the organization.

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



Joe C. Holmes



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