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Evidence-Based Environmental Health and Housing

By Frank C. Gomez, Dr.P.H., REHS



Frank C. Gomez, Professor in Health Sciences, Touro University International

The recent interest in evidence-based medicine (EBM) has led to other disciplines examining the relevance and need for new and valid information. Why is evidence-based environmental health important to environmental health specialists?

Often we are required to develop environmental health policies and draft related state and local regulations. The basis for these policies and regulations is usually founded on an identified public health need and supported by a well-established public health doctrine, environmental health science, and epidemiology. Rarely are these policies and regulations based on current evidence-based science.

There are logical reasons why evidence-based environmental health is often lacking in environmental health practices. The primary reason is that there continues to exist an inadequacy in the sources of information available to environmental health specialists. For example, some environmental health specialists still rely on *Municipal & Rural Sanitation* by Ehlers & Steel even though this textbook was last printed in 1965. Another and more insidious problem is that most environmental health specialists are no longer current in the latest science in their field study and lack the skills to read and properly interpret scientific publications in environmental health. This opinion is supported by the Institute of Medicine's 1988 report *The Future Of Public Health*

(IOM, 1988). The Institute of Medicine (IOM) report found that “inadequate research resources” were targeted at identifying and solving public health problems and that public health practice was largely disassociated from its academic base. The report also found that “public health professionals were slow to develop strategies that demonstrate the worth of their efforts to legislatures and the public.” (Scutchfield and Keck 2003).

Regardless of whether you support or disagree with the IOM report in the context of today's realities in public health, the following realizations cannot be denied: 1) the demand for current information in every program area of environmental health is strong and there exists a daily need for such information at all practicing levels of environmental health; 2) there continues to exist an inadequacy in peer reviewed sources of environmental health information; 3) there is an increasing disparity between the value of knowledge derived from experience and the value of knowledge based on the latest science (particularly among environmental health management); and, 4) the increasing inability of the environmental health staff to take the time to find, read, and assimilate the latest relevant environmental health information. This deficiency has led to many environmental health specialists making decisions or establishing policy based on “old science”, if any science at all.

EVIDENCE-BASED ENVIRONMENTAL HEALTH SCIENCE IN HOUSING

The environmental health science of housing is complex and extends across almost every program element of environmental health. Health risks

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PRESIDENT'S MESSAGE



Vickie M. Sandoval
2004-2005
CEHA President

The CEHA Board of Directors met on Friday, July 16, 2004 for a board retreat. The purpose of the retreat was to develop the CEHA Strategic Plan. In order to accomplish this task, the following steps were taken to achieve the strategic plan:

Review of CEHA's Mission Statement

Analysis of the Strengths, Weakness, Opportunities and Threats (SWOT) of CEHA

Determination of how the organization will look in the future

Development of a consensus on long term and short term priorities

Development of three to five year goals

Identification of how the organization will remain responsive to members

Additionally, board members were trained in:

Board Roles and Responsibilities and the Best Practices for Board Committees

How to involve board members and committees

The development of board structures necessary to implement the Strategic Plan

The retreat started at 10:00 AM and ended at 5:00 PM with only a one-hour break for lunch. The board worked hard to arrive at a consensus about the issues we felt were most important to CEHA. Prior to the board retreat, each board member had been given copies of strategic plans from previous years. Each board member came prepared so as not to hold up the process of the development of the strategic plan.

The retreat was facilitated by Grace Hammond, a consultant. One of the first break-out group sessions she had us do was to develop a group resume of "what you bring to CEHA." For me, this was a challenging task. I had never really thought about what skills I possessed and what I could bring to an organization.

During one of the best work groups the Board was asked to list all of CEHA's accomplishments. To mention only a few: CEHA hosts annual AESs and Updates; conducts training sessions such as personal safety training; tracks legislation impacting

environmental health through a process referred to as Legislative Review; is a forerunner in the development of professional associations for environmental health, recognizes people through scholarships and awards; and is a strong force in defeating legislation that would result in "bad public policy". As you can see CEHA has accomplished many things.

The Board felt CEHA is facing many critical issues. However, we chose five critical issues we wanted to work on and made these our priority: 1. continuing education, required or voluntary 2. developing public outreach to communities, schools and colleges, 3. developing a system for communication at all levels within the organization 4. developing and increasing CEHA's legislative involvement 5. insuring CEHA's financial solvency.

The next step was to develop goals. The final step in this process was to structure CEHA's committees around our goals as follows:

Goal 1: In order to develop a continuing education program the board decided to involve the CEHA President and the EHSRC (Environmental Health Registration Committee) representative on the REHS committee.

Goal 2: In order for public outreach to occur, the Public Relations Committee, the Website Committee, and the AES Committee must all be involved in campaign development.

Goal 3: In order to develop a system for communication at all levels within the organization, the use of CEHA's publications, website and Annual Educational Symposiums for communication should be utilized and overseen by the Executive Committee and be brought back to the board.

Goal 4: CEHA already has an active legislative committee. Maintaining closer contact with legislators will help increase our visibility, and by involving the Committee Whip should help direct the activity of the Legislative Committee.

Goal 5: The educational events, AES and Update, already provide a source of revenue. Having a more active Finance Committee can help direct the solvency of the organization.

The retreat was a very successful planning meeting. I became more familiar with each board member and developed a closer relationship with many. I saw a dedicated group of individuals of whom many were there on their own time.

On Saturday, July 17, 2004, a board meeting was conducted. In addition to the standing action items of approval of minutes of the previous meeting and approval of the financial report, one of the action items considered was the approval of the RFP (request for proposal) for the new Executive Secretary/ CEHA Support Services. There were four items for approval with this report, which consisted mainly of approving changes to the policy and procedures where the consultant would not be doing work that committees are already assigned. Another action item was the approval of the critical issues and goals

established during the retreat. If you would like a copy of the agenda and the minutes, please feel free to contact me.

On July 21, 2004 I attended the AB 885 Stakeholder meeting in Sacramento as the CEHA rep-



representative. The Stakeholders included members of the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), various counties and cities, realtors, California Onsite Wastewater Association (COWA), United States Environmental Protection Agency (USEPA), industries, a concerned citizen, an environmental representative, California Conference of Directors of Environmental Health (CCDEH) and the California Environmental Health Association (CEHA). Ted Walker, John Ricker, Richard Wilson and I took turns representing CEHA for the various topics on the agenda. The discussion items were:

*Qualified Professional
Conventional Systems
Supplemental (Alternative) Treatment
Systems
Impaired Waters
Management
MOU*

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Continued from cover

ties are exposed to multiple health risks that contribute to higher mortality rates for these areas. Public health programs, and in particular environmental health programs, should focus their activities on reducing the health risks to persons in the lower SES areas, while minimizing the exposure to these risks to all persons in their jurisdiction. This is just prudent public health practice. However, to implement this policy we must first understand the basic relationships that impact the health of the community. The first, and probably the most important, is socioeconomic status.

What are the relationships between socioeconomic status and health? Evans and Kantrowitz (2002) concluded that "a particularly salient feature of poverty for health consequences is exposure to multiple environmental risk factors." They reference a finding that for rental units in the United States, 10% percent of households with incomes below the poverty line rely primarily upon hot air units without ducts, and 4% use unvented gas heaters as their primary heat source. Also, levels of toxic indoor air pollutants (NO₂ and CO) were found to be higher in low-income, inner-city residences when compared to national averages. Exposure of persons to radon levels in the home was found to be related to income levels in rural counties in New York.

Asthma is also a problem that poses a higher risk to inner-city residents. Sarpong, Hamilton, Eggleston and Adkinson (1996) found that exposure to cockroach allergens and antibody sensitivity is associated with socioeconomic status. They found that 0% of high-SES children and 46% of low-SES children tested positive for antibody sensitivity.

The disparities found in exposure to cockroach allergens based on SES also extend to drinking water in many areas in the United States. Cieselski, Handzel and Sobsey (1991) found that 44% of drinking water provided migrant farm workers in North Carolina tested positive for coliform and 26% for fecal coliform. Coliform and fecal coliform tests performed on drinking water in other farm areas of North Carolina found no positive tests. In another study, Calderon, Johnson, and Craun, et al found that nearly 50% of the low-income Chicano populations residing along the U.S./Mexico border in Texas (Colonias) lack safe drinking water. The researchers attribute the lack of safe drinking water as the reason for the region's excessive morbidity rate for waterborne diseases, which is three times the rate when compared to the overall morbidity rate for Texas.

Residential crowding or overcrowding affects people in many different ways. Evans (2001) reports that parents in crowded homes are less responsive to their children than parents in less crowded homes. It is also reported that parents in crowded homes tend to be harsher and more punitive with their children. Evans (2001) also reports that "many of the effects of overcrowding are related to various psychosocial problems experienced by the residents." Baum, Revenson, and Singer (2001) state that "Crowding, like noise, functions as a stressor, elevating blood pressure and neuroendocrine parameters." Other studies have indicated that infectious diseases are more likely to be found among vulnerable subgroups such as people in prisons, or in refugee camps and that overcrowding in residential units is associated with psychological distress.

An important finding of another study by Evans, Lepore, and Allen (2000) found there is "no evidence to substantiate the widespread perception of cultural differences in tolerance for crowding." The significance of this study for environmental health specialists is that many jurisdictions fail to actively enforce overcrowding standards based on the belief that it is culturally based. Actually, overcrowding is an economically based problem.

What is the link between housing quality and health? This is an area that goes to the heart of any housing inspection program in environmental health. It is also a very difficult area to research because of the difficulties controlling confounding variables that also affect the health of an individual that are not related to housing quality. Studies in environmental health epidemiology must be very carefully reviewed and must be precisely stated. With that word of caution, it can be stated that the preponderance of evidence suggests that substandard housing is associated with more unintentional injuries than compliant housing, and that the unintentional injury rate is significantly higher among young children and the elderly.

Recently, Wright, Mitchell, Visness, and Cohen (2004) studied various reasons that may explain the variation in asthma morbidity between differing low SES urban neighborhoods. They theorized that there may be an association between exposure to community violence and caretaker-reported asthma symptoms. Their study, the Inner-City Asthma Study, found an "increased exposure to violence predicted higher number of symptom days ($p=0.0008$) and more nights the caretakers lost sleep ($p=0.02$) after control for SES, housing deterioration, and negative life events."

However, they concluded that "the mechanism linking violence in asthma morbidity need to be further explored." Although the results were statistically significant, maybe more studies are needed before these findings can be accepted with confidence. On the other hand, the strength of the study was the credibility of the researchers and the value of the findings should not be overlooked while public health officials look for further validation of the study.

The Wright, et al study is presented above for another reason. It's an example of the value of evidence-based environmental health. An environmental health professional and/or decision-maker should understand the meaning of the "p" values presented above. (A "p" value is the result of a statistical test and is the probability that the observed difference could have been obtained by chance alone.) The value of the study to environmental health and its influence on policy and decision should also be readily understood.

A study that may have an effect on environmental health policy and decision-making was one conducted by Bullard (1990). It found an association between inadequate heating systems in residential units and the presence of dampness, molds, and other allergens with respiratory health problems when compared to residential units that were compliant.

Besides the relationship between SES and housing, there is also a relationship between environmental health factors, SES, and the school and work environment. In fact, these differences are also related to neighborhood quality. Low-SES neighborhoods, independent of household SES, are associated with higher mortality from all causes, a greater cardiovascular risk in men and women; cardiovascular disease; and mortality from injuries. (Davey Smith, Hart, Watt, Hole, and Hawthorne 1998.)

The quality of the neighborhood is an important factor that has an indirect, although a significant impact, on the individual and community's health. It is a factor which has been undervalued in environmental health and is often reflected in policy, as well as, regulations. For instance, Macintyre, Maciver, and Sooman (1993) found that lower SES sections of Glasgow, Scotland, when compared with higher SES sections, "had fewer shops, paid more for food, had dramatically fewer recreational opportunities, were further from mass transit stops in combination with lower rates of car ownership, and had poorer street cleaning and maintenance." Other studies have found that low-income children have less

access to parks. Furthermore, playgrounds in low SES areas are more hazardous when compared to those in higher SES neighborhoods. Additionally, young children of low SES families are much more likely to have no areas to safely play near their homes when compared to children from higher SES families (Townsend 1979).

Consideration of the health and safety of children, particularly in low SES environments, is also important because of the long-term influence of "poor social circumstances" in childhood to risk of certain diseases in adulthood. Smith, Hart, Blane, and Hole (1998) investigated the association between "poor social circumstances" and adulthood mortality in Scotland. They found that adverse SES had a "specific influence on mortality from stroke and stomach cancer in adulthood, which was not due to the continuity of social disadvantage throughout life." (Smith, et al 1998)

Why is it important to understand the relationship between SES and housing? The answer is found in the mission of environmental health. We practice in one of the few professions that includes all of the elements of environmental health, as well as having a true social mission which serves various communities. Indeed, the housing program of the local health department can significantly minimize the root causes of poor health and low self-esteem among those persons residing in low SES areas. This is why evidence-based environmental health is important to our profession.

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Dr. Gomez received his Master of Public Health and his Doctorate of Public Health from the University of California's School of Public Health. He has over 30 years of experience in environmental health and public health. He also has over 22 years of collegiate teaching experience in three universities. He has taught a wide range of environmental health/public health courses including research courses in public health sciences. Dr. Gomez retired from the County of Los Angeles after 29 years of service as the Environmental Health Training Coordinator. He is currently a Professor in Health Sciences at Touro University International.

PAST PRESIDENT'S REPORT

By Dick Pantages, REHS
CEHA President 1987-88

Did you know that there are thirty-seven living Past Presidents of CEHA? Forrest Walker was the President in 1959-60, and is the oldest living Past President. This represents a large, untapped resource in our midst. These Past Presidents have, I would guess, somewhere over 700 years of experience in the field of Environmental Health! They also have well over 100 years of experience as members of the Board of Directors of CEHA.

So there's very little, if anything, in the field of Environmental Health, or in the operation of CEHA where there is not at least one Past President who can say, "Been there, done that!"

What this can provide to the members is a repository of knowledge and experience that can help you with your career in Environmental Health or in CEHA.

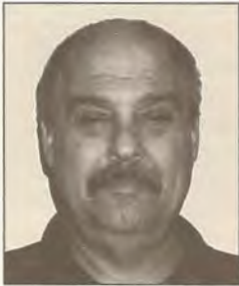
There are fewer people enrolling in Environmental Health programs and many of those already in the field are nearing retirement. One of the things that can really help is to have a mentor. The Past Presidents provide an invaluable resource here. Too often, in the day-to-day pressure of the job, the senior staff doesn't have the time to mentor the newer staff. I know that I tried to do some mentoring in my 35 years on the job, but I regret that I did not do the job that I should have.

Now, many of the Past Presidents are not troubled with the pressures of a day-to-day job and have the time to help. If you'd like to get in touch with one of the Past Presidents for some mentoring, advice, or just to see what it was like in "the old days," contact me, and I will put you in touch with a willing and able Past President. Don't waste this resource.

For those of you who would like to contact me for any reason, here are the details. E-mail is best: DickPantages@comcast.net My phone is 510-713-7767 and my fax is 510-795-9475. My address is 35522 Woodbridge Place, Fremont, CA 94536-3378

Are Whirlpool Tubs in Hotels Really Clean? and Why is the Cold Water Hot?

By Robert Puryzcki



Robert Puryzcki

On a recent "ride along" with a local health inspector, a number of new items were noted on her checklist of things to look for during a routine health inspection for multi-

occupant facilities. In the past the usual items for concern were rodent or insect infestation, lack of hot or cold running water, or sanitation related violations. The former half-page list had grown to two pages of items that could be considered violations of current health and safety codes.

A more recently occurring problem is the proper cleaning and sanitizing of hydro-jet or whirlpool tubs. These whirlpool tubs are not the stainless steel tub fixtures you would see in a locker room facility to treat athletes with muscle or joint pain, but rather the type found in a modern hotel or leisure retreat facility. Here the short term occupants might add bath oils or soap ladeo bubbles to create a more luxurious atmosphere than the typical all-star quarterback with a bad hip joint might require. The purpose, however, is the same for both applications. Water jets and circulation loosen up muscle tissues and relieve stress-related problems. The sports-related tubs are very rarely, if ever, used by more than one person at a time. Three or four sports hydro tubs are usually set up next to each other in a common area to allow monitoring and patient treatment, and are not meant to provide a party atmosphere situation. The after use cleaning procedures of these stainless steel tubs can be easily handled with heavy duty cleaners and solutions that will remove or destroy any known bacteria or personal residue that may be left behind, and as such, are very low on the list of potential health hazards. It is another story however, with the modern acrylic or light weight whirlpool tubs that have become so popular in hotel and resorts. On Monday the cleaning crew has arrived to service the room of the guest that has just checked out. Regardless of how it has been used, and even though there are no regulations regarding the cleaning and sanitizing of whirlpool tubs, these tubs

should be cleaned in a manner that ensures the health and safety of the next guest. But is this really possible or practical?

One of the problems is that the cleaning solutions used for the stainless steel sports tubs will eat a hole through the light weight tub surfaces used today. This problem, however, can be resolved by following the manufacturer's directions on not only what cleaning materials to use, but how to apply and remove them. This will work for surface sanitation, but what about the pump assembly and the twelve to fifteen feet of piping around the tub itself for the jets and return lines? How do you get inside the piping and fittings, and how can you be assured that all residue and bacteria has been removed? The manufacturers that were contacted were quick to respond with a cleaning check list and procedure to clean the jet system on these tubs. In a residential application, this procedure calls for monthly flushing and sanitation with soap or bleach with hot water flushed through the pump system. It also calls for a twice fill and drain cycle in this procedure as well as a ten minnte rnn cycle between each procedure. This is a time cycle of 27 minutes to fill, rnn, drain, fill, run, drain and then clean the surface of a standard tub. As stated, these procedures apply to a residential application. How does it apply to a commercial use, as in a hotel or resort, when the cleaning person is on a strict schedule and the turn around may be every day? If most hotel guests knew enough to be concerned, they would demand a complete sanitation of the tub system before they or their children use it. Unfortunately, there is no way for the guest to be sure that the whirlpool tub has been properly cleaned and sanitized. What appears to be a very clean and sanitized tub may be harboring unseen bacteria in the jet piping and pump assembly hidden underneath the tub that are waiting to be unleashed on an unsuspecting guest. Perhaps a standardized check list needs to be developed by CEHA to establish minimum criteria to follow for just this application.

Another new addition to the list of inspection items is mold. What type or what color are just a few of the questions asked. In years past, mold was an everyday occurrence. It could be under the kitchen sink or next to the bathtub wall partition.

Mold grew on the ceiling in the bathroom or was found under porch areas. It was all mold to us, and fit into one category. Today, however, with lawsuits and medical emergencies developing from this material, one must be very careful on the approach taken when mold is encountered. Mold has probably been the topic of more staff meetings in the past few years than in the past twenty. Is the mold issue going down the same road as asbestos and lead paint did a few years ago? Will specialty companies be forned to handle this situation, or will regulatory ageocies be designated to oversee them? Will the problem require legislation and enforcement along with licensing and public awareness campaigns? Will public hysteria take over at the mere sight of mold in a building? How will tenants or condominium owners react when the discovery becomes public information? It appears to be a very sensitive issue at this point.

The health inspector's checklist that was used for multi-occupant buildings has a section for proper plumbing fixtures and how they should be used. In many instances, the occupant will repair or remodel the plumbing system with or without the owner's or manager's knowledge. The use of cheap or unapproved fixtures or faucets may create a health hazard unknown to any of the building's occupants. Low inlet connections allowing the potable water system to come in direct contact with the sewage system are an all too common occurrence. The submerged fancet or spray handle that lacks the proper backflow prevention has the potential to allow raw sewage to flow back into the potable water system under the right conditions. In some cases, sewer line stoppages can be solved by merely attaching an unapproved "balloon nozzle" on the end of the garden hose and simply running the hose down the cleanout and turning the water on. The balloon expands and may push the blockage down the line. This creates a hazardous direct connection from the potable water system to the building sewage system.

A complaint of hot water in the cold water system created quite a mystery in a multi-occupant building. There was, in fact, hot water in the cold water system throughout the building. After many hours of searching, however, the problem was dis-

covered. The maintenance man had been questioned many times over if he had made any changes to the water system. Each time the answer was "no". When it was discovered that each apartment had a new ball valve shutoff gadget attached to the shower arm on each unit, the maintenance man explained that the owner said to install these items to save water. The purpose of the water saver valve was to allow the tenant to turn the water off to the shower head while washing themselves. Then when the washing was done, they would turn the valve on again and allow the water to rinse them off. The idea was to save a few gallons of water. The problem was that the wall faucet had both hot and cold handles on, and when the water flow to the shower head was blocked off by the water saver valve, the higher pressure hot water pushed back into the lower pressure cold water line. Suddenly you have hot water coming out of the cold water lines downstairs. The owner was told that he would have to remove all of the water saver valves if he wished to solve the water mixing problem. A few months later the same building had the same problem - hot water in the cold water system. All the water saving valves had been removed and building maintenance indicated that no changes had been made. After investigation, the source of the cross-connection was found to be a new portable dishwasher. The dishwasher had hoses attached to the kitchen sink with a "y" fitting attaching both hot and cold hoses from the dishwasher to the kitchen sink spout. The same problem happened; the hot water once again had a path of least resistance and pushed back into the cold water supply. The owner indicated that notices were sent to all tenants notifying them that all plumbing fixtures were to be left alone and that portable dish washers were not allowed in his building.

Another consideration is to insure that the toilets are working properly. If the wash basin is not working you can wash your hands in the kitchen sink, and vice versa. Dishes can be washed in the bathtub if needed. The toilet however has no substitute. If it is not working, all things stop. Sometimes the tenant will take it upon himself to repair a broken toilet. In some cases, untested items are purchased. These items were not built to prevent a cross connection to the potable water supply, and usually are submerged in the toilet tank. If a backflow condition were to occur, the water in the toilet tank would be siphoned back into the potable water downstairs. Studies have shown that the water in the

toilet tank is far from potable, and in many cases is considered contaminated with everything from bowl cleaners to chemical air fresheners. A proper inspection process includes lifting that toilet tank cover, and peeking inside to see if the proper type of ballcock has been used.

Another item that may be overlooked is the roof cooling tower. The now famous Legionnaire's Disease was found to have started in a cooling tower without a proper backflow device or air gap on the potable water connection to the cooling tower. Contaminated water was siphoned back into the potable supply through a low inlet connection and was spread throughout the building's potable water system. The national news carried the stories for weeks about the fatalities and sickness that came about from this incident.

More potential problems can be present in the garden area of the complex. The garden may look nice with all the flowers and landscaping, but a killer may be lurking in the bushes. Low inlet heads and improper sprinkler control equipment can be a serious health problem. The plumbing code requires that all irrigation feed lines be protected by a properly installed approved backflow device of some type. The minimum protection is an approved atmospheric vacuum breaker (AVB). This device must also be installed a minimum of six inches above the highest sprinkler head to allow gravity drainage back when the system is shut off. If the system is used along with a booster pump, then a pressure vacuum breaker (PVB) or reduced pressure device (RP) must be installed. These devices will prevent the irrigation water from going back into the potable supply. Lack of a backflow assembly can be a very serious problem if there are chemicals such as weed killers or fertilizers that have been added to the system. Without proper protection, these dangerous chemicals which have been mixed with the water can possibly back flow into the potable water supply.

In closing, a good rule of thumb to follow while completing your inspection checklist is to use your knowledge and senses. They are your best tools. Look for problems or potential problems. If it looks out of place, ask yourself why. Touch furnaces or radiators to see if they are working. Feel the water; is it hot enough for sanitary usage? If you smell sewage, find out why. It may indicate a stoppage or broken drain line. Listen for mechanical sounds that are not normal, a broken heater fan or garbage disposal screech.

Robert Purzycki has been a licensed plumbing contractor for over thirty years. Most of that time has been spent as an inspector and backflow tester. His early years were spent doing the usual residential repairs on water heaters, furnaces, and plumbing related problems. Eventually backflow and cross connection problems became the building block for all future work. His plumbing code expertise and numerous technical magazine articles led him into the Plumbing Heating and Cooling Contractors Association (PHCC) of Los Angeles, where he was recognized as the association's contractor of the year. He became president at the state level, and was recognized as state contractor of the year. He then wrote a best selling, detailed code book on backflow and cross connection for the National Association of PHCC's 6,000 plus members. He has also chaired the National PHCC Backflow Committee. Currently he sits on the University of Southern California Manual Review Committee as well as numerous other backflow working groups.

Please feel free to contact him at anytime.

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The state agreed that the REHS should be included as one of the professionals in the design, site evaluation and other functions related to on site water treatment systems, with a certification for all qualified professionals.

As the agenda items were discussed and as input from each stakeholder was given, it became clear that after two and a half years, the input the stakeholders had provided was not considered. Based upon this, an "off agenda" item ensued. The outcome was very positive; a subcommittee was established consisting of a representative from each stakeholder. CEHA and CCDEH each have a place on this subcommittee. A two-day "marathon" meeting to develop the regulation took place on September 7 and 8, in Sacramento. Ted Walker who served as the Liquid Waste Section Chair for CEHA for 11 years, represented CEHA.

I am very proud to be serving as your president and to be involved with so many dedicated professionals.

Lastly, I continue to want to hear from you about any ideas, suggestions, or concerns you feel are important to our profession and organization. Please feel free to e-mail me at my new e-mail address: slm@usamedia.tv

Got Radon?

By Richard Blood



Richard Blood

FACTS ABOUT RADON

Radon-222 is a radioactive gas released during the natural decay of thorium and uranium, which are common, naturally occurring elements found in varying amounts in rock and soil. Odorless, invisible, and without taste, radon cannot be detected with the human senses. Radon is measured in picoCuries of radon per liter of air (pCi/L). The average radon level in homes is about 1.3 pCi/L, and ambient outdoor radon levels range from 0.2 to 0.7 pCi/L. Radon-222 decays into radioactive elements, two of which are polonium-214 and polonium-218. Both of these radioactive elements emit alpha particles which are highly effective in damaging lung tissue. These alpha-emitting radon decay products have been implicated in a causal relationship with lung cancer in humans. The risk of developing lung cancer is directly proportional to the levels and duration of exposure to radon: the higher the radon concentration, the higher the lung cancer risk. The EPA recommends modifying your home if the results of one long-term test or the average of two short-term tests show radon levels at or above 4 pCi/L or 0.02 WL. You may also want to consider mitigation if the level is between 2 and 4 pCi/L. The concentration of radon daughters is measured in working level (WL) units. This is a measure of the concentration of potential alpha particles per liter of air.

The radon concentration indoors depends primarily on a building's construction and the amount of uranium in the underlying soil and rock. The soil composition, the degree of weathering, and the nature of the fractures of the rock under and around a house affect radon levels and the ease with which radon migrates toward a house. Normal pressure differences between the house and the ground can create a slight vacuum in the home that can draw radon gas from the soil and rock into the building.

Radon gas can enter a home from the soil through cracks in concrete floors, walls, floor drains, sump pumps, construction joints, and tiny cracks or pores in hollow-block walls. Radon levels are generally highest in basements and ground floor rooms that are in contact with the soil or

bedrock. Factors such as the design, construction, and ventilation of the home affect the pathways and sources that can draw radon indoors. Another source of radon indoors may be the release of dissolved radon from groundwater during showering and other household activities. Compared to radon entering the home from the soil and rock, radon entering the home through groundwater will in most cases be a small source of inhalation exposure. The current estimate is that 0.0001 percent of the radon dissolved in groundwater will be released to the indoor air through normal indoor water use. For example, if the concentration of radon in groundwater were 10,000 pCi/L the amount of radon released to the indoor would be estimated to be approximately 1 pCi/L.

TESTING FOR RADON

Since radon cannot be seen or smelled, the only way to determine if elevated radon levels are present is to analyze the indoor air. The two types of devices available to perform radon testing are passive devices and active devices. Passive radon testing devices do not need power to function. These include charcoal canisters, alpha-track detectors, charcoal liquid scintillation devices, and electret ion chamber detectors. Both short- and long-term passive devices are generally inexpensive. Active radon testing devices require power to function and usually provide hourly readings and an average result for the test period. These include continuous radon monitors and continuous working level monitors. There are short-term and long-term test protocols. Common short-term test devices are charcoal canisters, alpha track detectors, liquid scintillation detectors, electret ion chambers, and continuous monitors. A short-term testing device remains in the home for two (2) to ninety (90) days, depending on the type of device. Because radon levels tend to vary from day-to-day and season-to-season, a long-term test is more likely than a short-term test to measure the home's year-round average radon level. If results are needed quickly, however, a short-term test followed by a second short-term test may be used to determine the severity of the radon problem. Long-term test devices, comparable in cost to devices for short-term testing, remain in the home for more than three (3) months. Alpha track detectors and electret ion detectors are the most common long-term test devices. California law requires

that all providers of radon services to be certified and DHS maintains a list of certified radon laboratories, mitigators, and testers. The lists of providers of radon services are available on the radon program website <http://www.dhs.ca.gov/radon/>

MITIGATION MEASURES FOR RADON

There are several radon mitigation methods utilized to lower radon levels in the indoor air. (Fig. 1) Some techniques prevent radon from entering the home while others reduce radon levels after it has entered. EPA generally recommends methods which prevent the entry of radon. Although sealing cracks and other openings in the foundation is a basic part of most approaches to radon reduction, sealing alone is not recommended; it is best done in conjunction with other mitigation techniques to enhance effectiveness. The two most common techniques

utilized in California are sub-slab depressurization and sub-membrane depressurization. Sub-slab depressurization is used in buildings with slab foundations. Typically a hole is drilled through the slab in a central location of the building large enough to accommodate a 3-inch to 4-inch pipe and soil is removed from beneath penetration in the slab to create a void space. The suction end of a mechanical exhaust system consisting of solid piping and an inline electrical fan is inserted into the hole. The area between the hole and the pipe is then sealed. The discharge end of the exhaust is located above the roofline and away from windows and return air vents to prevent the radon-laden air from reentering the building. When the fan is in operation an area of low pressure is created in the vicinity of the suction point below the slab (Fig. 1). Radon will tend to migrate to this area of low pressure and be drawn into the suction pipe then exhausted out the stack into the air above the building where it is quickly dissipated. Sub-membrane depressurization, which is effective in buildings with earth-floored crawlspaces, uses a plastic membrane over the soil as a collection cover. Beneath the plastic membrane is a perforated drainpipe connected to the suction end of a mechanical exhaust system of solid piping and an inline electrical fan. When the fan is in operation an area of low pressure is created under the membrane and radon will be drawn into the perforated drain then out the exhaust pipe just as in sub-slab depressurization.

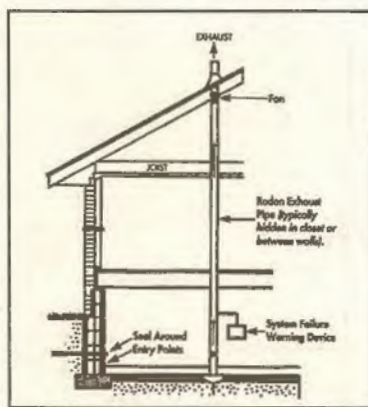


Figure 1. Typical Radon Mitigation System

A BRIEF EXPLANATION EPA'S MAP OF RADON ZONES

The 1988 Federal Indoor Radon Abatement Act directed the U.S. EPA to identify areas of the United States that have the potential to produce elevated levels of radon in indoor air. A project to do this was undertaken by the U.S. EPA, with assistance from the U.S. Geological Survey, and completed in 1993. This project resulted in radon zone maps being produced for each state (Fig. 2). Three different radon map categories, "Zone 1," "Zone 2," and "Zone 3" were developed. Indoor radon measurements, airborne background radioactivity measurements, geology, soil permeability, and building architecture trends were used to determine which zone best represents a given area. The U.S. EPA used this approach to assign a zone category to every county in the United States. The radon map zones are intended to show the following situations.



Figure 2. Zone Map

Zone 1: areas where the average of all indoor-air screening measurements was above 4 pCi/L

Zone 2: areas where the average of all indoor-air screening measurements was between 2 and 4 pCi/L

Zone 3: areas where the average of all indoor-air screening measurements was below 2 pCi/L per liter.

It is important to realize that radon map Zone 3 does not indicate areas where "no

buildings will have indoor radon problems." Neither does radon map Zone 1 indicate areas "where every building has a radon problem." Radon zone maps are not intended to determine if a home should be tested. Testing is the only way to measure the radon level in a building's air, regardless of map zone in which the building is located. It is expected however, that there will be more buildings with indoor radon measurements above 4 pCi/L in Zone 1, and fewer buildings with indoor radon measurements above 4 pCi/L in Zone 3. Thus, knowing where the different zones are located helps government agencies and non-profit organizations with radon programs to prioritize their activities.

The methodology utilized in establishing the radon map zones does not, however, identify "radon hot spots," localized areas of high radon potential that may have a substantial population at risk due to the population density. Radon hot spots have been identified in Ventura and Santa Barbara counties. These counties were initially given Zone 2 designation. After a detailed analysis of the available information and some additional indoor radon measurement from home testing, radon hot spots were recognized and the Zone 2 designations were changed to Zone 1 for both counties. A report and radon potential maps indicating the distribution and occurrence of radon for Ventura and Santa Barbara counties as well geological information regarding radon are available at the California Geological Survey's Hazardous Minerals Section website at: http://www.consrv.ca.gov/cgs/geologic_hazards/hazardous_minerals/index.htm

RADON SCREENING PROJECT

Presently there is limited information available on the distribution and occurrence of elevated indoor air radon for most of the counties in California. The approach of most of the studies to date has been population-based studies with relatively small sample size. There are soil types, rock units, and geological settings with above average concentrations of uranium (greater than 2.6 parts per million of uranium). At a concentration (in soil or rock) of 5ppm elevated indoor radon will begin to be observed in homes. At concentrations of 10 ppm a significant numbers of homes will have elevated radon levels. Marine sediments formed under anoxic conditions and granitic rocks are known to have an above average uranium concentration. Regions of California have marine sediments and granitic rocks with above average concentrations of uranium and correspondingly, a greater likelihood of elevated



Figure 3. Geomorphic Provinces of California

indoor levels of radon in the air. The geomorphic province of the Southern Coastal Ranges (Fig. 3) contains Miocene (23.8 to 5.3 million years old) marine sediments (Fig. 4). The statewide distribution of Miocene marine sediments is not all the same. Some contain elevated uranium levels and others contain elevated uranium. The Sierra Nevada geomorphic province (Fig. 3) is predominately composed of granitic rocks (Fig. 5). Some granitic rocks and some areas of the Sierra Nevada province have above average uranium concentrations. Significant areas are suspected of having elevated uranium levels. Currently DHS and the California Geological Survey (CGS) are attempting to conduct a radon screening project in the Sierra Nevada province (Fig. 2) counties of Amador, Calaveras, and Tuolumne (Fig.1). Plans are also underway for a radon screening project in San Luis Obispo County (Fig. 1) which is in the Southern Coastal Ranges province (Fig. 2). This effort is scheduled to begin in the fall and winter of 2004. Past



Figure 4. Miocene Marine Sedimentary Rocks (The Monterey Formation is present in some of these areas)



Figure 5. Distribution of Granitic Rocks in California

efforts to encourage testing in these areas by distributing free radon test kits show that only about 10 percent of the test kits were used. In order to gain more information, to increase the utilization rate of the test kits, and to help identify radon hot spots of environmental concern, county tax rolls and voter registration records are used as information sources for mailing letters to recruit individuals to test their homes for indoor radon levels. Homes selected for participation in the screening project were *not* selected at random. A pool of properties was selected from each specific rock unit in the screening area. The selection process for the recruitment pool factored in the area of the rock unit, the spatial distribution of the prospective sampling points, homeowner exemption, and the number of sampling points available within the rock unit. By sampling households on a variety of different rock units researchers hope to identify which rock units, if any, have a higher than normal potential for radon occurrence in the study area. Roughly 3,000 people agreed to participate in the radon-screening project. It is hoped that enough will be collected to conduct a valid analysis. If data are adequate, an analysis utilizing geologic information, National Uranium Resource Evaluation (NURE) data, and indoor radon test information will be performed. The results will be depicted on radon potential maps and accompanying reports will be made available to county government and the public through one or more media including the CGS website, hard copies, and CD-Rom formats. In the event that areas of high potential are identified efforts will be made to encourage the use of radon resistant construction techniques in the construction of new homes in the area.

For additional information such as radon epidemiological studies establishing the health risk associated with radon, testing devices and protocols, mitigation techniques, or radon resistant construction techniques for new homes, visit the EPA radon website at: <http://www.epa.gov/iaq/radon/pubs/index.html#radon>

THE CALIFORNIA RADON PROGRAM

The California Department of Health Services (DHS) has conducted an indoor radon program for thirteen (13) years, funded by a grant from the U.S. Environmental Protection Agency (EPA). The radon program, part of the Division of Drinking Water and Environmental Management, Environmental Management Branch (EMB), is staffed by one Staff Environmental Scientist who administers the program on a statewide basis. The objective of the DHS Radon Program is to reduce human exposure to radon in residential and school structures. The primary goals of the program are to encourage people to test their homes and schools, to mitigate their homes or schools when indoor air concentration of radon at or above 4 pCi/L are found, and to build radon resistant homes and schools in areas of high radon potential.

Mr. Blood is the Staff Environmental Scientist of the Radon Program of the Office of Drinking Water and Environmental Management Division, California Department of Health Services. He is a graduate of San Jose State University with a Bachelor of Science Degree in Environmental Health. Mr. Blood has over 21 years of experience as Registered Environmental Health Specialist with local county environmental health programs and the California Department of Health Services. Most of his work experience for local environmental health programs was in land use programs and consumer protection programs. Prior to his current assignment in the Radon Program his work experiences with the California Department of Health Services include Licensing and Certification Program, Medical Waste Management Program, and Pre-harvest Shellfish Sanitation Program. Mr. Blood has attended training provided by the Western Regional Radon Training Center on Radon Measurement and Mitigation.

If you have questions regarding radon or would like a free radon test of your home contact:

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Health Effects from Mold – Evaluating the Current Evidence

By Thomas H. Hatfield, REHS, DrPH,
John E. Schillinger, REHS, PhD, Owen H. Seiver, REHS, DPA

A substantial amount of uncertainty still exists regarding the potential health effects from exposure to mold in indoor environments. This uncertainty has led to a great deal of misunderstanding and misinformation. The Internet, for example, is replete with pages making a wide range of claims regarding health effects and the public can be easily confused by these often conflicting claims.

It has long been the responsibility of environmental health professionals to act as arbiters of such issues, but until recently there were no definitive sources for resolving these conflicts. The situation changed with the release this year of a report by the National Academy of Sciences entitled "Damp Indoor Spaces and Health." This document is an extensive literature review by an international panel of scientists selected by the Institute of Medicine (IOM). A web site for more information on this document can be found at: <http://www.nap.edu/books/0309091934/html/>.

Not surprisingly, the IOM report emphasizes the uncertainty of the literature. At the same time, it also identifies *health effects from indoor mold that are well documented*. In the interest of preparing the REHS to respond more effectively to questions about indoor mold and health, we briefly summarize the current state of knowledge according to this highly respected committee within the National Academy of Sciences.

The committee sorts out the evidence on health effects into three categories. Their approach should be familiar to those who have followed the EPA classification of carcinogens based on the weight of the scientific evidence. Alleged associations between indoor mold and health effects are sorted by:

- Sufficient evidence of an association
- Limited or suggestive evidence of an association
- Inadequate or insufficient evidence to determine whether an association exists

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Riverside County REHS Lobbies Politicians To Oppose Assembly Bill 2763

(aka: The Sushi Bill)

By Karen Tracy, REHS



Karen Tracy

Assemblyman Manny Diaz introduced a bill to the California legislature on February 20, 2004 that proposed to allow sushi, teriyaki chicken and manju served at temporary

events to be stored at up to 75°F for up to 24 hours. After 24 hours the food would have to be thrown away. The bill was created after the Santa Clara County Department of Environmental Health had visited a Japanese Festival in San Jose, CA. The inspectors found numerous problems and ordered a lot of the food destroyed. Apparently the local health department was not aware of the festival for 20 years, so the sponsors of the event felt the action by the local health department was "heavy handed" and not sensitive to Japanese culture.

When I heard what the bill proposed I started researching sushi and manju during most of my free time away from work. I felt this bill was very detrimental given the high temperatures here in the Palm Springs region and the high percentage of immune compromised individuals present (~65% in Palm Springs). I went to a couple of local Japanese restaurants to learn about sushi and manju and I discussed the bill with their sushi chefs. Much to my surprise they were as much against the bill as I was. I asked my staff to go to our area's restaurants that served sushi and interview their sushi chefs. We interviewed a total of nine facilities that served sushi. ALL of the sushi chefs were opposed to AB 2763. They too felt that sushi was a potentially hazardous food and it needed to be kept at 41°F or below if it was to be stored for any length of time. In addition, they felt the quality of the sushi would be very bad if it was prepared and left out of proper temperature for more than a couple of hours.

They felt the bill, if passed, would lead to a food borne outbreak that would damage the reputation of sushi.

I wrote letters of opposition to AB 2763 to the authors of the bill and the chair and vice-chair of the Assembly's Health Committee. Unfortunately my letters didn't have an impact at this point and the bill flew through the Assembly's Health Committee and Appropriations Committee with no opposition. On May 24, 2004, at the third reading of the bill in the Assembly it received 78 ayes in favor of the bill and 1 no vote. From there it went to the Senate. By this time I had compiled all of my research into a binder. I sent each senator on the Health and Human Service Committee the binder of material supporting my opposition to AB 2763. A copy of this document was presented to Gary Root, Riverside County Environmental Health Department Director, who then passed it along to Gary Erbeck, the Director of San Diego's Department of Environmental Health and Chair of CCDEH's Food Safety Committee. After reviewing the document Gary Erbeck and Gary Root requested that I meet with the author of the bill and Andrea Margolis, a consultant for the Senate Health and Human Service Committee, and represent CCDEH.

On May 26th I flew up to Sacramento and met with Justin Malan (Executive Director of CCDEH) and the Senate's Health & Human Services Committee representative, Andrea Margolis. After we met with Andrea, Justin and I went over to Assemblyman Diaz's office to speak to one of his assistants about the bill.

Assemblyman Diaz overheard our conversation with his staff and came out to discuss his bill with us. He was very impassioned about his bill and would not hear our public health concerns regarding it. We got an idea of what "we" were up against.

June 4th Mr. Yoshikawa, of the Palm Springs Otani Japanese Restaurant, and I met with State Senator Jim Battin (our local representative who is a member of the Health & Human Services Senate Committee) at his Palm Desert office. I presented him a copy of the information I had compiled and discussed the dangers of the food service proposed in the bill. Mr. Yoshikawa discussed the safe handling of sushi with Senator Battin and answered any questions he had about the Japanese food items named in AB 2763. As we left Senator Jim Battin he promised he would vote against the bill at the Senate committee hearing. This was a good example of regulators and industry working together

on a common goal. Working together we presented a much stronger argument against the bill.

I flew back up to Sacramento on June 15th and met Richard Sanchez, the Assistant Director of Sacramento County's Environmental Health Department. The two of us went to each of the thirteen senators on the Health and Human Services Committee offices at the Capitol. We met with the senators' staff and we soon saw that culture was a big consideration for the politicians. It was frustrating to discuss the science behind our public health laws and have the politician's staff weigh that equally (or sometimes not so equally) with traditions and culture. I came back a little dispirited. At least I had the full Capitol experience on this trip and got to see Governor Schwarzenegger.

We must have had an impact because Assemblyman Diaz's office called the next day to schedule a meeting with CCDEH to discuss the bill. Justin Malan and Tom To, Director of Yolo County, met with Assemblyman Diaz's staff June 21st. In response to the meeting Justin and Tom thought the bill would get amended to something that CCDEH could support. I continued to make phone calls to the FDA, CDC and the California Sushi Academy to obtain letters of opposition to the bill. By June 29th Assemblyman Diaz had not amended the bill nor did he or his staff return Justin's calls or emails. We learned on the 28th that the bill would go to the Senate Health and Human Service hearing on June 30th.

When I received the letters of opposition from the FDA and the California Sushi Academy, I contacted Toshi Sugiura, owner of the CA California Sushi Academy about testifying at the Senate hearing in opposition to the bill. He and his executive director, Danielle Chase, arranged to speak at the Senate Hearing. I spoke to Danielle to see if they would be willing to bring a sushi platter of 20-hour-old sushi to present to the senators. Gary Erbeck arranged for Tom To and Richard Sanchez to speak against AB 2763.

The hearing was held on June 30th around 4:30pm. I tuned into the Senate Health and Human Service Committee via the internet. When the committee started its hearings the few senators that we believed would vote against AB 2763 were not present. I started making phone calls to their offices to ask if they planned on being at the committee meeting when AB 2763 was heard. Their staff told me they

would remind the senators about our position on the bill and our request for their presence when AB 2763 was heard. At the time of AB 2763's hearing Tom To and Toshi Sugira spoke against the bill. In support of the bill were two members of a San Jose Buddhist church who spoke and Assemblyman Diaz. They had no food service professionals speak in favor of the bill. Senator Ortiz appeared to have read some of the documentation against the bill. She and the other senators asked some excellent questions about the impact of the bill on food safety. Justin Malan and Richard Sanchez did an excellent job answering many of the senators' questions. Danielle was able to answer one of the questions and present the senators with a platter of 23-hour-old sushi that met the proposed code. * She knew what to prepare that would look and smell just right for the occasion. All of the senators laughed but no one would partake of the sushi. When it came down to the vote not one senator voted for the bill and seven (the number needed) voted against the bill. They did allow for the bill to be "gutted"/amended and reintroduced by the author (Assemblyman Diaz). The deadline for him to do this is August 31, 2004. Most believe the bill is DEAD for now. Assemblyman Diaz pledged that he would return again with the bill. For now it's a hard fought VICTORY for public health.

I'd like to thank all the people who worked with me to defeat this bad piece of legislation. First I'd like to thank Gary Root, Steve Van Stockum, Gary Erbeck and Justin Malan for giving me the opportunity to help defeat this bill at the State level and letting me help strategize "our" opposition to the bill. I'd also like to thank: Richard Sanchez, Thomas To; Toshi Sugiura and Danielle Chase of the California Sushi Academy; Mr. Yoshikawa, of the Otani Japanese Restaurant in Palm Springs, CA; Stephanie Shah, of the California Restaurant Association; Kevin Smith, Joseph Baca, Glenda R. Lewis, Richard Ramirez and Lisa Whitlock of the FDA; Dr. Arthur Liang, of the Centers of Disease Control; Domenic Losito, the Regional Director of Health Protection for Vancouver/ Coastal Health and editor of the *Environmental Health Review*, BC, Canada; Bill Kimura, of Pasadena Environmental Health Department and all

the other people who helped defeat this bill. I believe this is the first time so many people from so many backgrounds worked together to defeat a very bad piece of legislation. Hopefully it's not the last! I believe we were effective defeating AB 2763 because of the tremendous teamwork.

Personally what I learned from my Sushi Bill Adventure:

More than I could ever imagine about sushi and sushi chefs; and I know that even with my new knowledge I know extremely little about sushi.

To fight these outrageous bills we need to take a proactive stand immediately both personally and professionally. We need to "get involved" in the fight for public health.



We need to strategize our fight against these bills. It's just like wanting to win in sports. You need to have a plan of action and you need to modify it as you go based upon the players involved and their responses along the way.

We need to function as a team. Our profession is full of wonderful, diverse, and highly skilled individuals throughout the state, country and world. In this instance, I learned that certain politicians were not open to listening to me because I was not the appropriate race in their minds to be seen as an expert in cultural food. Personally I was disheartened by this experience, but when I saw what "we" as professionals were up against, it was time to pass the torch on to others that would be heard. In political systems there are things that are not fair or just...but it's the system we have to work with to win our causes.

Getting Involved! The defeat of AB 2763 (aka: the sushi bill) shows us that individual people CAN make a difference. Sometimes we hear about proposed legislation that we feel poses a risk to the public's health and we hope somehow the bill does not pass. In today's political climate we need to participate in the system to elimi-

nate bad legislation. As registered environmental health specialists, we need to take a more pro-active role in the political process. We need to get involved and add our voice to that of CCDEH's, CEHA's and other groups that take positions against bad legislation. The more feedback the politicians receive from us about a particular bill the better our chances are for them to take our position when it comes time to vote. It's like advertising on television. One commercial is not enough. Those in charge of marketing saturate us with a commercial to try to influence us. I believe to win most of the legislation battles we fight we need to look at successful marketing campaigns and use some of the techniques they use. I would hope that in the future, when bills like AB 2763 are pro-

posed "we" write immediately in mass to our State representatives and members of the committee who will first hear the bill. Taking an active role in State politics regarding environmental health issues is just another step in protecting the public's health. For most of us this isn't just a job it's a vocation. This profession tends to attract people who believe in what they do and want to have a positive impact in the communities they serve.

You may be asking how you can become pro-active politically. Here are a few steps:

Know Your Representatives: find out about your State Assembly member and State Senator. All of this information is easily available on the Internet. Go to www.ca.gov and then click on government and then legislation. You can also get information about the senate and assembly committees to write to their individual members.

Research Bills at: www.leginfo.ca.gov/. This site has copies of each bill proposed and where it is in the legislative process. At this site you can also subscribe to the bill so you are notified if there are any changes or action you need to know about while it progresses through the legislature. CCDEH and CEHA also track legislation that affects environmental health. Check www.ccdeh.org and www.ceha.org.

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Central Chapter – Does It Have a Future?

By Keith Winkler, REHS
Director, Kings County
Environmental Health Services

You are a member of CEHA's Central Chapter if you are from any of these nine counties: Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, and Tulare. So, what has been going on with your chapter? The fact is that Central Chapter has become inactive and both its President and President-Elect positions have been vacant for quite some time.

The situation is of concern to me as a member and former President of Central Chapter. The question that I'm posing to my fellow chapter members is this: does Central Chapter have a future? I understand that the CEHA Board of Directors has discussed the possibility of disbanding our chapter. Certainly, it could be split between adjacent chapters. Maybe that is the best way to go and maybe not. Ultimately of course, the decision should be based on what is best in terms of serving our membership in central California.

Despite the challenges posed by the large geographic area we cover, Central Chapter was quite active in the past, and I believe, made a valuable contribution to the professional development of environmental health specialists. Central Chapter hosted both the 2000 AES and the 2001 Northern Update. A very small group of people did the hard work of keeping the chapter going for a number of years. Having contributed their share and more, they eventually were ready to let others pick up the torch – but there were no others.

Perhaps we should have a dialog before pulling the plug on Central Chapter. Are you interested in revitalizing Central Chapter or do you have any colleagues that would like to get involved? On the other hand, should it be merged with one or more of the other chapters?

Either way, I would appreciate hearing from all of you about this topic.

Keith Winkler, REHS
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Sushi continued from page 13

Take Action: If there is a bill that you believe is detrimental (or beneficial) to the public and you have researched the bill and your local politicians then it's time to write a letter of opposition (or support). Do not use agency letterhead. You are writing as an individual and not representing your agency unless your management instructs you to write for them. Type your letter so it's easy to read.

Pick your issues. You don't want to be known as a "pen pal" – someone who writes constantly no matter what the issue.

Look up the correct way to address the politician you are writing to. In most cases for State Assembly members and Senators the correct address for them is "The Honorable (first and last name of the politician)" (i.e.: The Honorable Jim Battin).

Write the letter in your own words so it doesn't look like a mass mailing campaign. Introduce yourself, your background and explain your position. Be clear and concise with your wording. If you feel the bill is a risk to the public, clearly explain the risks involved with the passing of the bill.

Include your return address in your letter so your politician can reply to you if you ask for them to respond.

Go Visit Your Representative: If the bill is detrimental and you are willing to com-

mit the time, you may want to make an appointment to go visit with your local assembly member or senator. You will be representing yourself on your own time and not your agency, unless you are directed to do otherwise. Your local representative will be much easier to visit at their home offices than at the Capitol.

Don't give up! If the bill passes one side of the house start writing the members of the hearing committee on the other side and contact your other representative. I believe if I would have given up on the political process after the first letters I sent to the authors of AB 2763 and the leaders of the Assembly's Health Committee that AB 2763 would have passed both the Assembly and the State Senate with very little, if any, opposition from the politicians.

You can make a difference! Fight the good fight when you feel it's appropriate. You are an expert in your field of environmental health and it's important to express your opinion about legislation from time to time.

Karen Tracy has worked for Riverside County Department of Environmental Health since 1985. She has been a supervising REHS since 1998 in Palm Springs, CA. She received her BA in Environmental Biology from California State University of Fresno in 1983. She and her husband currently live in Moreno Valley, CA.

AB 885 Update

By Richard Wilson, CEHA Liquid Waste Chair

On July 21, 2004, the State Water Quality Control Board AB 885 project staff held the latest AB 885 Stakeholder meeting. President Vickie Sandoval, and Liquid Waste Section chair and past chair, Richard Wilson and Ted Walker, attended the meeting. The meeting was very formal, facilitated by a professional, with only one representative from each stakeholder allowed at the table at one time. CEHA's representatives rotated as needed to give excellent profession and technical input.

We are pleased to announce that the REHS issue has been resolved with the agreement that an education and certification process will be needed at some time in the future to meet the "Qualified

Professional" definition. CEHA will be an active player in the development of this certification, which will also be required of civil engineers. At this time, geologist may be approved only for review of site stability issues.

The stakeholder groups and the state were far from agreement on many process and technical rules proposed by the latest draft. There was agreement to create a 48-hour rule revision session with nine key stakeholder groups and three state staff. Ted Walker will represent CEHA and former CEHA technical advisory group representative, Terry Schmidtbauer will represent CCDEH. The session will be held from September 7 through September 8 at the CalEPA building in Sacramento.

Lancaster Symposium: "A Great Opportunity to Expand Your Environmental Horizons"

By Heather Buonomo

Each year CEHA participates in an international environmental health specialist exchange. More specifically, CEHA sends a delegate to the Chartered Institute of Environmental Health's (CIEH) annual Lancaster Symposium in Omskirk, England and in return receives a delegate at our AES. This year, I was lucky enough to be selected as the delegate representing CEHA at the Lancaster Symposium. And now you're going to be lucky enough to hear all about my experience!

I'LL START BY TELLING YOU A LITTLE BIT ABOUT MYSELF:

I began working with the County of San Diego in the Food and Housing Division about 13 months ago. Currently, I'm studying to take my REHS in November. I was definitely nervous about attending the conference since I was so new to the profession and early in my career. However my nerves were quickly settled by the warm welcome and many friendly and academically challenging conversations I involved myself in. It turned out to be an amazing experience! I was able to use and display the knowledge I possess as well as learn from others with more experience. I was truly able to expand my environmental health horizons by thinking outside the box and learning about totally new approaches to various aspects of our profession such as enforcement, compliance and education.

WHAT IS THE LANCASTER SYMPOSIUM?

The Lancaster Symposium, much like AES, is a 3 day conference that provides great educational lectures, exhibitions, and plenty of chances to extract valuable information from the many interesting people you meet. The Lancaster Symposium has a 3 year subject rotation (Housing, Health and Safety, and Food), this year the subject was Food and Health Partnerships. The



Heather Buonomo, front row, members of the 2004 Lancaster Symposium organizing committee.

speakers included a variety of environmental health specialists in governmental bodies, local authorities, and the private sector. Some of this year's topics included: Foodborne Diseases, Food Safety and the Obesity Epidemic, Practice of Storing Chilled Foods by the Domestic Consumer, and Food Standards Agency Update.

WHAT TO EXPECT AT THE LANCASTER SYMPOSIUM?

A typical day at Lancaster included: Starting the morning with a full English breakfast (eggs, sausage, ham, potatoes, beans, and toast!) followed by the morning sessions of lectures, exhibition viewing, lunch, and the afternoon lecture sessions (with intermittent tea and biscuit breaks, of course!). The second night of the Symposium a formal banquet is held and the visiting delegate is given the opportunity to say a few words on CEHA's behalf. The symposium is held at a University so the accommodations for the attendees are the university's dorm rooms. This provides additional opportunities to mingle and meet your fellow colleagues.

COST, EXPENSES, ETC...

Each delegate is responsible for his or her travel and expenses to England. CIEH pays for the delegate to attend the conference, including conference fees, room, and board. In past years, some local chapters have voted to supplement the cost of travel to the delegate. Another advantage of traveling abroad to attend the Lancaster Symposium is upon completion of the con-

ference, delegates have a great chance to travel and perhaps see a bit more of the U.K.

WHY SHOULD YOU GO?

The Lancaster Symposium offers an unforgettable opportunity to educationally advance your environmental health knowledge, regardless of what stage of your career you are in, as well as make friends and contacts that will last a lifetime. After attending the Lancaster Symposium I can honestly say that I feel I have accomplished both. I encourage all environmental health specialists to take advantage of the CEHA/CIEH twinning and apply to represent CEHA as the next Lancaster Symposium delegate.

Special thanks to Diane Eastman and the International Committee for coordinating our twinning arrangement, Julie DeGraw for encouraging me to apply and her passion for the profession, and Southwest Chapter for their support.



Mold continued from page 11

The committee makes two further distinctions:

- They distinguish studies that looked *only* at damp indoor environments as opposed to studies that determined the presence of *mold or other specific agents* within damp environments.
- They emphasize that these results are not applicable to immune-compromised individuals, who are at increased risk for fungal colonization or opportunistic infections.

With this as an introduction, the tables below summarize the findings regarding association between health outcomes and exposure to damp indoor environments.

Table 1. Associations between Health Outcomes and Exposure to Damp Indoor Environments

Sufficient Evidence of an Association

Upper respiratory tract (nasal and throat) symptoms
Cough
Wheeze
Asthma symptoms in sensitized persons

Limited or Suggestive Evidence of an Association

Dyspnea (shortness of breath)
Lower respiratory illness in otherwise healthy children
Asthma development

Inadequate or Insufficient Evidence of an Association

Airflow obstruction (in otherwise healthy persons)
Mucous membrane irritation syndrome
Chronic obstructive pulmonary disease
Inhalation fevers (non-occupational exposures)
Acute idiopathic pulmonary hemorrhage
Skin symptoms
Gastrointestinal tract problems
Fatigue
Neuropsychiatric symptoms
Cancer
Reproductive effects
Rheumatologic and other immune diseases

Table 2. Associations between Health Outcomes and Presence of Mold or Other Agents in Damp Indoor Environments

Sufficient Evidence of an Association

Upper respiratory tract (nasal and throat) symptoms
Cough
Hypersensitivity pneumonitis
Wheeze
Asthma symptoms in sensitized persons

Limited or Suggestive Evidence of an Association

Lower respiratory illness in otherwise healthy children

Inadequate or Insufficient Evidence of an Association

Dyspnea (shortness of breath)
Asthma development
Airflow obstruction (in otherwise healthy persons)
Mucous membrane irritation syndrome
Chronic obstructive pulmonary disease
Inhalation fevers (non-occupational exposures)
Lower respiratory illness in otherwise healthy adults
Acute idiopathic pulmonary hemorrhage
Skin symptoms
Gastrointestinal tract problems
Fatigue
Neuropsychiatric symptoms
Cancer
Reproductive effects
Rheumatologic and other immune diseases

Most of these effects are presented without any further discussion, as we expect them to be familiar to a registered environmental health specialist. Two health effects, however, deserve additional discussion. The first is *hypersensitivity pneumonitis* (HP), which is a complex syndrome of varying intensity, rather than a single uniform disease. HP is an inflammation of the lungs caused by sensitization to repeated inhalation of dusts containing organic antigens. These dusts can be derived from a variety of sources, including but not limited to molds.

The second condition is *acute idiopathic pulmonary hemorrhage* (AIPH), also referred to as hemosiderosis, which refers to the sudden onset of bleeding in the lungs of a previously healthy infant. Patients have acute, severe respiratory distress or failure, making it an obvious concern. Please note, however, that despite the serious nature of this condition, the evidence of its association with mold is considered inadequate at this time. While epidemiologic studies in this area are worthy of follow-up, and while we cannot rule out completely the possibilities for such an association, the committee decided that the evidence is not supportive at this time. The same can be said for all of the effects listed in this category.

What does this recent report mean in terms of strategies for responding to the public?

We suggest the following:

The committee makes it clear that *damp indoor spaces and indoor health is a public health problem*. For those who would dismiss dampness and indoor mold as completely unrelated to health, this highly respected committee of the National Academy of Sciences serves notice that the problem is indeed significant. At the same time, they call upon increased funding by the Centers for Disease Control and Prevention to gain a better understanding of health effects from indoor mold that have less than definitive evidence.

The committee also makes it clear that *many claims regarding indoor mold and health do not have adequate support from the scientific literature*. While indoor mold clearly is associated with a variety of health effects, it is not necessarily associated with all the claims on the Internet. The sorting out of known effects from speculative claims should be a critical and valuable role of the registered environmental health specialist.

The report deliberately focuses on *damp environments* rather than mold exposures. This is partly because the evidence can be sorted in a more strategic manner, but underscores a strategy for evaluating problems in the field: dampness is typically easier to identify in field evaluations. The mere presence of dampness in building materials under various conditions may be enough to initiate a concern.

The committee also makes it clear that there is a need for a coordinated public health response. That response is yet to be fully articulated, even by the IOM committee. Such a response would require a better understanding of the structural housing issues contributing to dampness in indoor environments, and a better understanding of the underlying microbiological issues for such a wide array of microbes. We intend to address these vital issues in subsequent issues of this bulletin.

Dr. Tom Hatfield is a Registered Environmental Health Specialist and Professor of Environmental Health at the California State University, Northridge. He recently completed a textbook for the National Environmental Health Association entitled "Risk Analysis for Environmental and Occupational Health Professionals."

Dr. John Schillinger is a Registered Environmental Health Specialist and Professor of Environmental Health at the California State University, Northridge. He is currently on sabbatical writing a textbook on the microbiology of mold and indoor air quality.

Dr. Owen Seiver is a Registered Environmental Health Specialist and Professor of Environmental Health at the California State University, Northridge. He is currently writing a textbook on housing and environmental health.

CCDEH COLUMN

By Jon
Morgan,
CCDEH
President



As we all continue to anxiously await for the announcement of Governor Schwarzenegger's proposal to streamline government via the California Performance Review (CPR) process, we are optimistic that our environmental and public health departments and CUPAs will benefit from the changes.



Jon Morgan

It appears the formation of a new "California Department of Environmental Quality (DEQ) is proposed and that the State Water Resources Control Board and the Regional Water Quality Control Boards may dissolve and be reconfigured into this broad proposed new agency.

Public hearings will be held, and the Little Hoover Commission will be very active and challenged. No matter what is proposed or adopted, however, it is a virtual certainty that many of our programs will be impacted following whatever moves to and from the proposed DEQ and the existing structure of Cal EPA, DHS and the Resources Agency will be impacted. CCDEH will discuss the proposed CPR reorganization at CCDEH's annual conference, September 14-17, 2004 and will provide comments in the next issue of the bulletin

CCDEH was established in 1956. The membership is comprised of environmental health directors and managers from 62 jurisdictions (includes 4 cities). In addition, a host of talented and dedicated REHSs support the various committees and Technical Advisory Committees (TACs) of CCDEH. The 62 jurisdictions of CCDEH are divided into four regional committees, Regions I-IV. The CCDEH Executive Committee includes four officers and a regional representative from each of the four Regions. The four officers serve four year terms evolving first from Treasurer to President Elect, President and then Past President. Each CCDEH Region nominates

and places into office their respective Chairperson into the first year Treasurer spot every four years and so on. CCDEH employs an Executive Director, Justin Malan, and a Manager, Sheryl Baldwin, in Sacramento to support the conference regarding legislation and administrative matters. Justin and Sheryl also support the CUPA Forum Board. CCDEH maintains a website at www.ccdeh.com. There is an ever increasing amount of information contained on the site including job announcements, salary surveys, etc. Tim Snellings, former President of CCDEH and Director of Environmental Health in Nevada County (now Director of Community Development in Yuba County), is our part-time contract webmaster.

In addition to the four Regions, CCDEH currently has seven (7) policy committees which serve at the direction of the Executive Committee. The seven existing policy committees and their chairpersons are:

1. Food Safety
(Gary Erbeck, San Diego County)
2. Hazardous Waste/Materials/CUPA Rep.
(Jerry Sipe, Plumas County)
3. Housing and Occupational Health
(Brad Banner, Placer County)
4. Land Use
(Ken Stuart, Contra Costa County)
5. Recreational Health
(Art Aguirre, Los Angeles County)
6. Solid Waste
(Dan Avera, San Bernardino County)
7. Data Management
(Brian Cox, Humboldt County)

The policy chairs perform these functions in addition to their regular duties with the support of other directors and the dedicated staff of all environmental health departments. As all REHSs know, it is very difficult and at times overwhelming to stay on top of our respective work duties let alone focus on proposed legislation and regulations and to guide environmental health in a positive and progressive manner.

With environmental health becoming more complex, we are proposing to combine the Housing and Recreational Health Committees into one "Community Environmental Health Committee" which would then be comprised of:

1. Housing
2. Vector Control
3. Bioterrorism

4. Organized Camps
5. Occupational Health
6. Body Art
7. Recreational Health (pools and ocean and freshwater bathing standards)
8. Environmental Health Tracking

It is likely the new broader Community Environmental Health Committee will need at least three TACs so those interested and dedicated REHSs should volunteer. This restructuring will be further discussed at CCDEH's annual conference on September 13-17, 2004, in Dana Point.

CURRENT CCDEH CONCERNS AND PROGRAMS

AB 885 (Statewide Individual Sewage Disposal Regulations):

For 2 1/2 years now, the State Water Resources Control Board has been "developing" the AB 885 regulations. The AB 885 statute required that regulations take effect on January 1, 2004 which, of course, has passed. The latest draft version now proposes to unilaterally require the pretreatment of septic tank effluent.

The members of our Land Use Committee continue to be extremely active and tenacious with this most disappointing process. At the risk of forgetting someone, thanks for the incredible energy that Bob Kennedy of Santa Cruz County and Ken Stuart of Contra Costa County continue to put into this process.

Body Art:

DHS has not been able to move the regulations authorized by statute in 1998. Heather Schmitt of Kings County and Eric Fung of Contra Costa County, both Sr. REHSs, have been providing support to DHS to "expedite" regulations. The delay has resulted in compromised public health protection. Congratulations to Monterey County which recently passed a local body art ordinance as led by Karen Schkolnick, Supervising Environmental Health Specialist.

Food:

After several years of extremely hard work by members and staff of the Food Policy Committee, CCDEH will introduce a new California food Code during the next legislative session in January 2005. In the spring of 2005, after the CUPA conference, CCDEH will sponsor a Food Safety Conference that will include sessions on the new proposed Cal Code and other emerging food safety issues.

CCDEH continued on next page

NEHA QUARTERLY REPORT

2004 AEC: Anchorage, AK

By Dick
Pantages, REHS
Regional Vice
President
Region 2 (AZ,
CA, HI, and NV)



If you missed this year's AEC in Anchorage, you missed one of the great ones! This was one of the best-attended AEC's in NEHA history. It has been said that there are two kinds of people: those who want to go to Alaska, and those who want to go back to Alaska. I was one of the former, and I'm now one of the latter.

Alaska is a vast, but very sparsely populated state. Outside of the cities of Anchorage and Fairbanks, the population density is about one person per square mile! Environmental Health in Alaska is very different than in the lower 48. Something like sending a biting animal's head to the lab to test for rabies can cost thousands of dollars by the time a plane is hired to retrieve it and deliver it to the lab.

Modern technology combined with traditional ways can cause new hazards, such as botulism. Traditionally, fish heads were placed in a pit in the ground to ferment. Plant material served as the liner in the pit. Now plastic pails or bags are used, allowing the process to go anaerobic, resulting in botulism! A fifty-pound sled dog in the Iditarod Race consumes 10,000 calories per day! By the way, the Iditarod was fashioned after a race to get diphtheria serum to Nome, Alaska, to stem an outbreak. So it had its genesis in a public health effort.

Many of the attendees arrived early and/or stayed late to visit some of the vastness and beauty that is Alaska. As we traveled after the AEC, we saw many people in little towns all over south central Alaska who had been at the AEC. One of the reasons to attend an AEC is the chance to visit different parts of this nation, to see what some of the Environmental Health problems are there, and also just to see the scenery and the historic sites. The other reason is to get your Environmental Health batteries recharged. There is a chance to meet new people, learn about new areas of Environmental Health, or about different approaches to some old areas of Environmental Health.

By the way, the presentations from over half of the AEC & Exhibition presentations are available on a CD-ROM, which was provided to attendees, and which is also available for \$18, including shipping and handling, from NEHA. Visit www.neha.org/aec or call 303-756-9090 to order a copy.

2005 AEC: PROVIDENCE, RI

You may have missed the chance to go to Anchorage, but start planning now to go to the 2005 AEC in Providence, RI. It will be held from June 26-29, 2005. If you are interested in making a presentation at next year's AEC, the call for abstracts is currently out. They are due by October 22, 2004. Keep watching the NEHA website and the *Journal of Environmental Health* for details. Remember, this is a beautiful and historic part of this nation, so you can get your EH batteries recharged and be a tourist, too.

For those of you who would like to contact me for any reason, here are the details. E-mail is best: DickPantages@comcast.net. My phone is 510-713-7767 and my fax is 510-795-9475. My address is 35522 Woodbridge Place, Fremont, CA 94536-3378.

CCDEH from page 17

Disaster Manual:

With input from dozens of REHSs throughout California, CCDEH is currently close to publishing our updated Disaster Manual. We market our (and your) expertise in this form to jurisdictions all over the United States. Please encourage your jurisdiction to obtain new copies so we can keep the production and revision process self-sustaining. We are also having the Disaster Manual translated into Spanish.

Development of the Registered Environmental Health Specialist:

Hundreds of REHSs have participated in the development of strategic goals for the REHS, including:

Developing educational strategies for environmental health protection.

Developing effective recruitment approaches for the environmental health profession.

Developing a Public Relations approach to environmental health protection.

Developing administrative programs for environmental health enhancement.

Developing forums/linkages with various organizations/agencies to promote awareness of environmental health protection.

CCDEH is developing an environmental health training matrix for the EHS and the REHS series and will release it soon. We hope to better integrate what we do with our other affiliates in CEHA, NEHA, NACCHO, APHA, CSAC, CAPCOA, RCRC, APWA, Cal EPA, FEMA, and many many other associations. There is a wealth of valuable, evolving and cost effective training and education out there. We just need to be more coordinated and aware of it. Don't forget that environmental health is public health and they are mutually dependent.

I believe the proposed hostile takeover of our profession by the California Board of Geology is likely no longer viable. However, as evidenced by the State Water Board staff's intent to exclude the REHS (and only accept an RG or a PE) from the AB 885 regulations, it is once again a wake-up call of how

important it is for us to stay active and aware. California's 2,000+ Registered Environmental Health Specialists (REHS), who are and have been the Lead Agency for the majority of all individual sewage disposal/septic system permitting, approval and inspections in California for more than 40 years were almost excluded from one of our most important public services.

At our September 2004 conference, CCDEH will be discussing proposed legislation to streamline our profession by bridging registration and licensing.

*Jon Morgan, Director/Executive Officer,
El Dorado County Environmental
Management Department
El Dorado County Air Quality
Management District
President, CCDEH
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The Lifecycle of a Bill

By Karen Tracy, REHS

You need to have a basic familiarity about how bills become law and a good strategic plan when you write letters of opposition (or support) to your State representatives or to members of committees. Bills must pass through many steps to become law. The steps involved in this process are briefly outlined below. More information can be found on the www.ca.gov (Legislation) website. Bills can originate in the Assembly or the Senate. There are thousands of bills proposed every year in California.

1. Start - An Assembly member or Senator is approached by an individual or organization to author a bill. The legislator sends the idea and language for the bill to the Legislative Counsel who then drafts it into a bill. This is then sent back to the legislator to introduce to either the Assembly or Senate at the first reading.

2. First Reading - This is when the Clerk reads the bill number, the name of the author and a brief description of the bill. The bill is then sent to the Office of State Printing. A bill must be in print for 30 days for public review and comments before it can be acted on. *This is an excellent time to write letters if "we" find out about legislation at the time of the first reading of the bill.*

3. The Hearing Committee - The bill then goes to the Senate or Assembly Rules Committee where it is assigned to the appropriate committee for its first hearing. During the hearing the author of the bill discusses their bill; people testify in support and opposition to the bill, and the committee acts on the bill. The committee can pass the bill, amend the bill or defeat the bill. It takes a majority vote of the committee to pass a bill. If the bill requires money it must also be heard by the Appropriations Committee. *The week prior to the hearing is a good time to send a letter to all members of the hearing committee and the author of the bill.*

4. Second Reading - Bills passed by the hearing committees are read for a second time in the house where they originated.

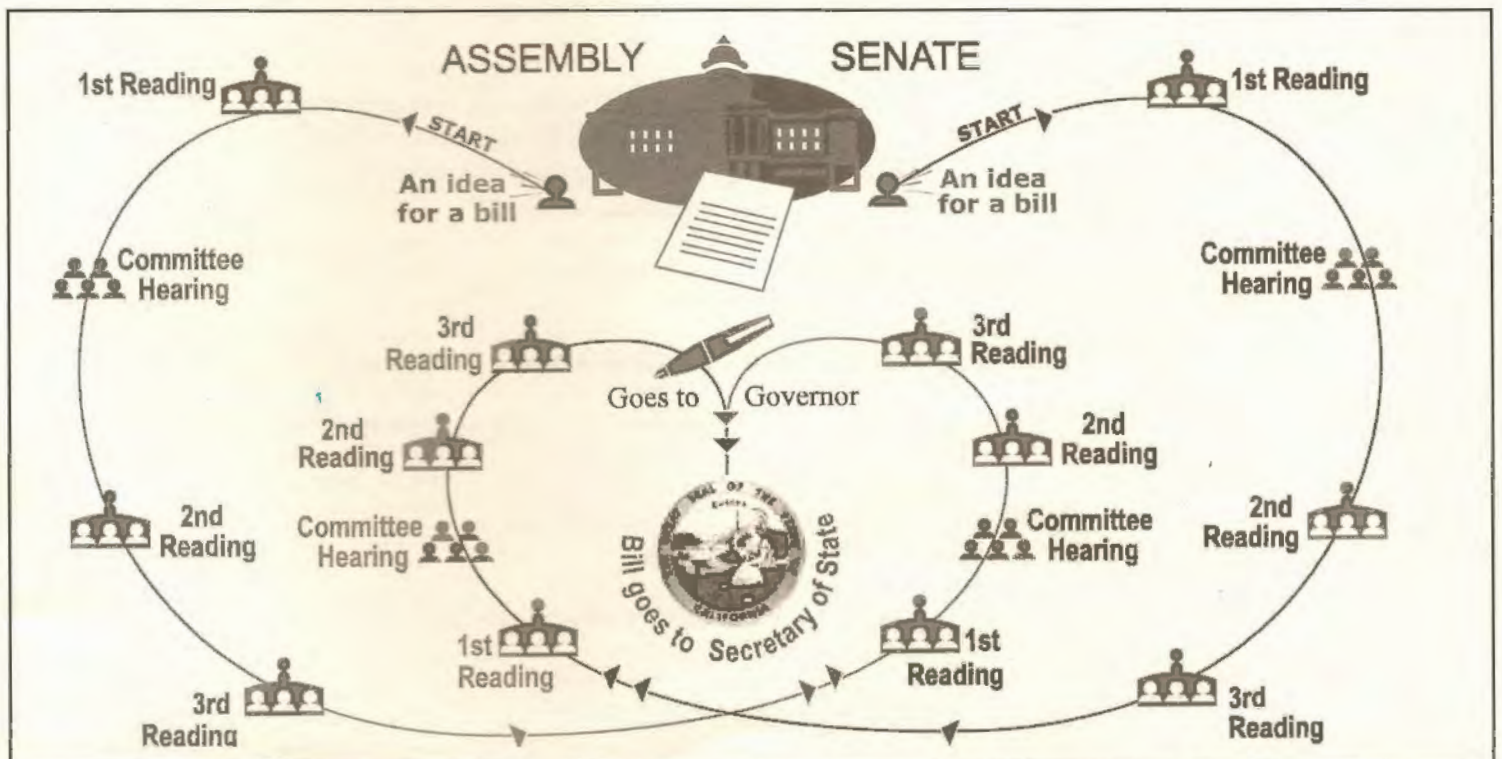
5. Third Reading - At the time of the third reading the author of the bill explains the bill and it's discussed by the members. Bills which take effect immediately or cost money require 27 votes in the Senate and 52 in the Assembly. All other bills require 21 votes in the Senate and 41 in the Assembly. *Prior to this step is another good time to write your representative about your position on the bill. If the bill is on the other side of the house from where it originated, "we" could still try to stop it from going further if we write in mass to our representatives and pos-*

sibly visit them in their home offices. At this point your letters and visits to your representatives need to focus very specifically on the potential risks of this legislation.

6. On to the Other Side - Once the bill clears the house it originated in it must go through the same steps in the opposite House. If a bill is amended in the second house it must go back to the house where it originated for concurrence on the amendments.

7. To the Governor - Once the bill clears both houses it goes to the Governor. Three things can happen to the bill: (a) the Governor can sign it into law; (b) it can become law without a signature; or (c) the Governor can veto the bill. A Governor's veto can be overridden by a two-thirds vote in each house. Most bills go into effect on January 1 of the next year. *If a bill "we" do not support has passed both sides of the House, "we" could try one more attempt to stop the bill by writing in mass to the Governor and asking him to veto the bill. The negative impact on the public's health would have to be made very clear in the letter to show the bill poses a significant threat. This would be worth the effort, but probably not very effective in most cases.*

8. To the Secretary of State - Bills to become law are sent to the Secretary of State for a final review and are then stamped with the California Seal.



STATEWIDE LEGISLATIVE UPDATE



CEHA Legislative Committee Summary for Legislative Session 2003-2004

The legislative session is a two year cycle. Currently it is at the end of the cycle and any bills remaining in the Assembly or Senate (house) have "died" or failed passage for this legislative session. Bills that are listed with a status of "enrolled" have been passed by each house, proofread and the complete final text is delivered to the Governor. Bills that are listed with a status of "chaptered" have been passed by the Legislature, signed by the Secretary of State (for resolutions) or Governor and enacted into law. For more information on the legislative process please refer to legislative sites such as www.leginfo.ca.gov or contact me by email at melinda.talent@mail.co.ventura.ca.us or 805/654-2811.

The last day for bills to be passed out of the house of origin was May 28, 2004. The last day for each house to pass bills was August 31, 2004. September 30, 2004 is the last day for the Governor to sign or veto bills in his possession on or after September 1, 2004. AB 1367 (Laird), AB 2901 (Pavley), SB 679 (Ortiz) and SB 1636 (Battin) were amended and no longer relate to environmental health issues so the bills were removed from the tracking list.

BILL	AUTHOR	TOPIC	STATUS
AB 83	Corbett	Bottled water – requires bottled water and vended water to meet requirements of CA Safe Drinking Water Act and enforcement by DHS.	Senate-Died
AB 387	Aghazarian	Hazardous materials-business plans: farms – exempts a farm business from filing a Business Plan for hazardous materials under certain conditions. No tracking methods for local agencies.	Senate -Died
AB 389	Montanez	Hazardous materials-brownfields (Calsites) – requires DTSC to revise and upgrade database.	Senate-Enrolled
AB 1068	Liu	Underground storage tanks-loans to small businesses program shift to State Water Board.	Senate-Enrolled
AB 1427	Maddox	Solid waste – biosolids alternatives	Senate-Died
AB 1454	Canciamilla	West Nile virus – require state and local agencies to contract with vector control agency to respond to outbreak. Impose state mandated local program.	Chaptered
AB 1699	Laird	Mercury lamps – Recycling Act. State mandated local program. No reimbursement to local agency.	Senate-Died
AB 1802	Bogh	Solid waste – illegal dumping	Chaptered
AB 1876	Chan	Public beach sanitation	Senate-Enrolled
AB 1906	Lowenthal	Underground tanks cleanup fees	Senate-Enrolled
AB 1933	Pacheco	Public records	Senate-Enrolled
AB 1934	Leslie	Bear Lake reservoir – recreational activity in body contact water; treatment; monitoring	Chaptered
AB 1942	Lowenthal	Hazardous waste facilities – modifications, post closure, permit renewals	Senate-Enrolled
AB 2159	Reyes	Solid waste facilities – cease and desist orders	Senate-Enrolled
AB 2254	Aghazarian	Household hazardous waste – used diesel filters	Chaptered
AB 2528	Lowenthal	Public water systems – notification of contaminants	Senate-Enrolled
AB 2572	Kehoe	Water meters on service connections	Senate-Enrolled
AB 2633	Frommer	Grease trap waste	Senate-Enrolled
AB 2763	Diaz	24 hour temp. exemption for teriyaki chicken, sushi and manjyo	Senate-Died
AB 2809	Canciamilla	Air pollution – confined animal facilities	Assembly-Died
AB 2826	Canciamilla	Solid waste – safe disposal	Assembly-Died

CEHA Legislative Committee Summary for Legislative Session 2003-2004 Continued

BILL	AUTHOR	TOPIC	STATUS
AB 2955	McCarthy	Underground tank program report	Senate-Enrolled
AB 2969	La Malfa	Hazardous waste – silver treatment	Assembly-Died
AB 3037	Dymally	Employee safety	Assembly-Died
SB 431	Ortiz	Bioterrorism preparedness funds	Assembly-Enrolled
SB 493	Cedillo	Hazardous materials - liability	Assembly-Died
SB 559	Ortiz	Hazardous materials – Brownfield sites	Assembly-Enrolled
SB 647	Sher	Environmental quality – requires lead agency to retain notice of determine for 12 months.	Assembly-Enrolled
SB 858	Ortiz	Public health – establish a new Department of Public Health to administer all public health programs. Shift of certain programs (epi., communicable disease, etc.)	Assembly-Died
SB 1159	Vasconcellos	Needles and syringe program	Assembly-Enrolled
SB 1171	Ortiz	Food establishments – nutritional info.	Senate-Died
SB 1180	Figueroa	Mercury lamp recycling	Assembly-Died
SB 1224	Ortiz	Hazardous waste violations reporting – air districts	Senate-Died
SB 1247	Soto	Air pollution – reduction of impacts from mobile sources	Senate-Died
SB 1302	Alarcon	Water vending machines and retail water facilities testing requirements.	Assembly-Died
SB 1362	Figueroa	Household needles disposal	Chaptered
SB 1425	Machado	Unsafe food – BSE testing and labeling	Senate-Died
SB 1493	Vasconcellos	Swimming pools – geothermal source	Assembly-Vetoed

50th Annual Greater San Diego Science & Engineering Fair 2004

By Edward Slater, Science Fair Co-coordinator

The Southwest Chapter of the California Environmental Health Association and the County of San Diego, Department of Environmental Health have partnered for more than 20 years to participate in the Professional Society division at the Greater San Diego Science & Engineering Fair. Together we provide judges, interview students, review their Environmental Health projects, and select two winners in each of the Junior and Senior Divisions. The winning students, together with their parents or teachers, are treated to lunch at regular a CEHA chapter meeting. The students are given certificates signed by the Director of Environmental Health and the CEHA Southwest Chapter President. Cash awards of about \$200.00 are provided to each winner to assist with their continuing education. The award money is raised by donations from DEH staff and from CEHA members. Students often bring their 'story boards' and give a brief overview of their projects at the CEHA lunch award presentation.

Past Science Fair projects have included studies of urban storm water run off, heavy metal pollution in San Diego Bay, effectiveness of various hand cleaners on bacteria, air pollution in San Diego County, use of recycled water on plants, effectiveness of insulating materials made from recycled paper products, effectiveness of various brands of detergents on remediation oils spills, effectiveness of radiation on destroying bacteria in ground beef, and the list goes on. It is impressive that these students are interested in environmental issues that affect us all. It is enlightening to see the student's use of the scientific method to investigate the problems they have identified. It is rewarding to meet them, to judge their projects, and to be able to acknowledge their success by presenting them modest cash awards.

I took over from George McCandless as DEH's head judge in 1995. For me the best part is meeting the students and sharing in their enthusiasm for their projects. There are usually at least 100 environmental health

related projects to be judged, overall Science Fair entries exceed 1000 projects. Once I start discussing a student's project it really is difficult to tear myself away, but it is imperative to move along, the two hours allotted for judging goes by very quickly. Read on, this years winning projects are described below.

CEHA/DEH Senior Winner, Liliana Guzman, from San Diego High School
Project: Relationships Between School Location Distance from Freeways And Pollution Levels

DEH Junior Award Winner, Rachel Phalan, from Prospect Avenue School, Santee
Project: The Effect of Liquid Detergent on Oil Spills

CEHA Junior Winner, Thomas Hammerly, from Saint Mary's School in El Centro
Project: Irradiation

Edward Slater is a Supervising Environmental Health Specialist for the County of San Diego, Department of Environmental Health.

CEHA CALENDAR OF EVENTS

September 20-November 22, 2004
 Environmental Toxicology and Risk Assessment
 Mondays, 6 to 9 p.m. Location: UC Riverside Extension, 1200
 University Ave., Riverside. Fee: \$375. Contact: (951) 827-5804 or e-mail

September 24, October 8, 22, November 5, 19, 2004
 Watershed and Storm Water Regulations and Management
 Fridays, 8:30 a.m. to 3:30 p.m. Location: UC Riverside Extension,
 1200 University Ave., Riverside. Fee: \$429 (includes textbook).
 Contact: (951) 827-5804 or e-mail sciences@ucx.ucr.edu
 sciences@ucx.ucr.edu

September 30, 2004
 Southern Update, Embassy Suites Hotel in Oxnard
 Contact: Diane Eastman
 Diane.Eastman@mail.co.ventura.ca.us

September 30-October 1, 2004
 Mission Chapter Certified Pool Operator Training (CPO)
 Embassy Suites Hotel in Oxnard
 Contact: Diane Eastman
 Diane.Eastman@mail.co.ventura.ca.us

October 8 and 15, 2004
 Water Supply Distribution and Water Treatment Operation
 Continuing Education Series: Module 1, Fridays, 8 a.m. to 5 p.m.
 Location: UC Riverside Extension, 1200 University Ave., Riverside.
 Fee: \$159 (includes materials and parking).
 Contact: (951) 827-5804 or e-mail sciences@ucx.ucr.edu.

October 23-November 13, 2004
 Hazardous Materials Releases: Prevention, Planning and Response
 to Accidents and Security Breaches, Saturdays, 8 a.m. to 4:30 p.m.
 Location: UC Riverside Extension, 1200 University Ave., Riverside.
 Fee: \$385. Contact: (951) 827-5804 or e-mail sciences@ucx.ucr.edu

October 28, 2004
 Northern Update, KVIE Television Station, Sacramento
 Contact: Colleen Maitoza
 maitozac@sacounty.net

November 8, 2004
 Bloodborne Pathogen Training and CPR Training for Body Artists
 Handlery Hotel, San Diego, CA.
 Contacts: Kathy.hartman@sdcountry.ca.gov

November 10-12, 2004, Global Forum of Food Safety Regulators,
 Bangkok, Thailand; <http://www.foodsafetyforum.org/global2/>

February 14-18, 2005, International Conference on Biopesticides 4
 Chiang Mai, Thailand, contact Dr. Duangkhae Sitthicharoenchai
 duangk@sc.chula.ac.th

April 7, 2005, World Health Day, <http://www.who.int/en>

April 25-28, 2005, AES, Monterey, CA Portola Hotel

July Lancaster Symposium
 North Western Centre, England [Get your application in now!]

July 10-13, 2005, 5th International Conference on Urban Pests
 Singapore, see www.icup2005.com.sg

October 2-7, 2005, SOVE 4th International Congress
 Reno, NV, contact Major Dhillon (909)340-9792

CEHA Board of Directors Meetings
 January 22, 2005; Southern California (Long Beach)
 April 25, 2005; prior to the AES, 1:00 p.m. to 5:00 p.m.
 April 29, 2005; post AES, 9:00 a.m. to 5:00 p.m.

Please Note: CEHA has a new mailing address. The new address is:
 CEHA, 77 Solano Square, PMB #245, Benicia, CA 94510
 Phone, fax and email remain the same at:
 (707) 751-0301 Phone (707) 751-0315 Fax
 CEHASupport@aol.com Email
 Please visit the CEHA website at www.ceha.org



California Environmental Health Association

77 Solano Square, PMB #245
 Benicia, CA 94510

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