



"Environmental and Public Health through leadership, partnership and science"

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CHIEF'S NOTES

By Michael Dorsey,
HMD Chief

In our August 2003 newsletter I discussed how the Department of Environmental Health (DEH) was beginning to look at ways to measure our performance through outcomes rather than outputs. This concept is not unique to DEH. Many government agencies are now looking more and more at outcome measures as a way of measuring performance. The California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) in collaboration with the California Resource Agency, the Department of Health Services, and an external advisory group consisting of representatives from business, public interest groups, academia, and local government established an environmental indicator project in 2000. The project, led by OEHHA, is responsible for developing and maintaining a set of "environmental indicators" for California.

Environmental indicators are measurements that track environmental conditions over time. Examples of environmental indicators include the level of air pollution, volume of solid and hazardous waste deposited in landfills, status of fish populations, and the extent of forest acreage. In April 2002, OEHHA published a 300-page report describing the process for the identification and selection of environmental indicators that were adopted as part of the EPIC system, and presented the initial set of environmental indicators. The report can be downloaded from the OEHHA website at: www.oehha.ca.gov. The Environmental Protection Indicators for California (EPIC) project is still in its formative stages. The various departments and boards within Cal/EPA are continuing to evaluate the current set of indicators on an ongoing basis, and identifying new indicators.

Recently the California CUPA Forum Board decided to participate in the EPIC project. The CUPAs for the County of San Diego DEH Hazardous Materials Division (HMD) and the County of Sacramento Department of Environmental Management will conduct pilot projects to measure compliance through education and outreach. HMD's pilot project will look at reducing the top ten combined hazardous waste, hazardous materials, and medical waste violations by 50% over the next two years in the biotechnology, biomedical, and research lab industries. BIOCUM, Bionet, and IEA will be assisting HMD with this pilot project. More specific details on the project description and progress will be provided in our next newsletter.



HMD's FEATURED EMPLOYEE

Cecilia Diaz

Cecilia is a graduate of Lafayette College, where she obtained her Geology degree in 1998. Upon graduation she accepted a field inspector position with Dade County's Department of Environmental Resource Management (DERM) in Florida. At Dade County she worked with both the Agricultural Waste and the Industrial Waste Programs conducting environmental compliance inspections at a variety of facilities. In October of 2000, Cecilia joined the Cleanup Contracts Program within DERM as a Hydrogeologist, where she oversaw all phases of site assessment and remediation for approximately 60 contaminated sites. She acted as a liaison between the public, consulting firms and other government agencies, in addition to her work in the field.

In November 2001, Cecilia moved to San Diego to work in HMD as an Environmental Health Specialist in HMD's San Marcos office. In 2003 Cecilia took an assignment with HMD's Underground Storage Tank Program. She is responsible for ensuring compliance for retail gasoline facilities on an annual basis, as well as inspecting underground storage tank systems undergoing new construction, repairs or upgrades.

(Continued on page 6)

RADON – A Real Danger?

By Ron Yonemitsu,
Health Physicist



Radon – you hear it mentioned here and there as a danger to our lives. What is radon? What do we need to do to protect ourselves? Is there anything we can do?

Radon is a cancer-causing, radioactive gas. Radon is a daughter-product that is produced NATURALLY as uranium decays in soil, rock and water. Radon is released into the air and into our homes through cracks in the foundation where it causes potential problems for us.

The Problems with Radon

- According to the Surgeon General’s warning, radon is the second leading cause of lung cancer in the United States. Estimates are that between 15,000 and 22,000 lung cancer deaths each year are caused by radon.
- You cannot see, smell or taste radon.
- You can test for radon but there are potential problems when testing your home.
- You can reduce the levels of radon in your home if necessary, but there are a few problems with some of the available corrective actions.

What are the Levels of Radon in your Home?

Since radon is naturally occurring, it can be found everywhere. Radon levels that that may require corrective action can exist at any home, whether it is old or new,

well sealed or drafty and whether it has a basement or not. Higher levels of radon are found in certain areas due to the terrain. Fortunately, San Diego County as a whole has tested to have low levels of radon.

Estimates are that one out of every 15 homes in the United States may have elevated radon levels, which the US Environmental Protection Agency (EPA) has set at 4 picocuries per liter (pCi/L) or more. The average indoor radon level is estimated to be 1.3 pCi/L and outside air to be 0.4 pCi/L.

Now, let’s say that you want to test your home. There are many options and some problems with each testing method. A free kit can be obtained from the state. This type of testing, short-term testing, is the quickest way to get levels but may not reflect possible seasonal differences. If you are buying a home you should ensure that the testing methodology follows accepted protocols. Some things to watch for are:

- Test should be conducted for a minimum of 48 hours.
- The house should have “closed-house” conditions for at least 12 hours before the test is conducted.
- The device used is not moved or tampered with during testing.
- The device is located in the lowest level of the home suitable for occupancy. Long-term testing lasts for more than 90 days and would reflect seasonal changes.

These are just some of the items one should look for when having a test done or reviewing test results. If you are buying a home you should ensure that all EPA Radon Testing Checklist items were

followed and that the following is true:

- The test was done in the last two years.
- There have been no renovations since the test was conducted.
- The test was done in the area where occupancy is expected.

Got Radon?

So, you have the test done and have elevated radon levels. In an existing home the costs maybe between \$800 and \$2,500 to install a radon mitigation system. Some elements in such a system may include:

- Gas-Permeable Layer
- Plastic Sheeting
- Sealing and Caulking
- Vent Pipes
- Junction Boxes



Dangerous?

Yes, radon is dangerous. Much like other things in our environment, radon increases our risk of dangerous consequences. Always keep any risk in perspective. See radon risk table below.

Need more information?

Here are some informative websites:

EPA Home Buyer’s and Seller’s Guide to Radon:
<http://www.epa.gov/iaq/radon/pubs/hmbyguid.html>

EPA Indoor Air Radon Homepage:
<http://www.epa.gov/iaq/radon/index.html>

State of California Department of Health Services-Radon
<http://www.dhs.ca.gov/radon>

CANCER RISK FROM RADON IF YOU SMOKE			CANCER RISK FROM RADON IF YOU NEVER SMOKED		
RADON LEVEL	If 1000 people who smoked were exposed to this level over a	The risk of cancer from radon exposure compares to...	RADON LEVEL	If 1,000 people who NEVER smoked were exposed to this	The risk of cancer from radon exposure compares to...
4 pCi/L	About 29 people could get lung cancer	100 times the risk of dying in an airplane crash	4 pCi/L	About 2 people could get lung cancer	The risk of drowning
1.3 pCi/L	About 9 people could get lung cancer	Average indoor radon level	1.3 pCi/L	Less than 1 person could get lung cancer	Average indoor radon level
0.4 pCi/L	About 3 people could get lung cancer	Average outdoor radon level	0.4 pCi/L	Less than 1 person could get lung cancer	Average outdoor radon level

This information is based on the National Academy of Sciences 1998 report, *The Health Effects of Exposure to Indoor Radon*.



By: Ellen Schulte,
Pollution Prevention Specialist

Many small businesses in San Diego County are learning the value of being “green” through the new **San Diego Area Green Business Program**.

The San Diego Area Green Business Program promotes environmental stewardship while enhancing economic vitality for the region. The program works to educate and assist small businesses on meeting their environmental compliance requirements and implementing pollution prevention and resource conservation. This free and voluntary program is currently available to small automotive businesses and restaurants with other industry sectors to be added in the future.

A **green business** maintains standards in all of these key “green” program elements:

- Compliance with environmental laws and regulations
- Pollution Prevention
- Energy Conservation
- Water Conservation
- Solid Waste Reduction and Recycling

Through its Hazardous Materials, Community Health and Food and Housing Divisions, DEH is currently leading the development of the program with many stakeholders including other environmental regulating agencies (air, solid waste, stormwater, water, wastewater); utilities; business associations and environmental community groups. This affiliation of stakeholders is helping to shape the program into a comprehensive multi-media approach for small businesses. This is the first **green business** program in Southern California and it is part of a statewide effort to promote **green business** practices for small businesses.

Why have a Green Business program?

In recent years, larger companies in San Diego have obtained tremendous cost

benefits through pollution prevention by voluntarily implementing best environmental management practices such as the international ISO 14001 standards and Environmental Management Systems (EMS). The Green Business Program is simply an EMS for small businesses.

DEH, with the assistance and input from a broad stakeholder group, developed self-assessment checklists to assist the automotive and food industries in implementing the key “green” elements, promoting pollution prevention and resource conservation.

Some of the benefits to **green businesses** include cost saving energy and water conservation measures, reduced generation of hazardous waste and improved worker safety by the use of less toxic alternatives to hazardous materials. Businesses can also boost their public image and attract new customers by being “green”.

Not only do businesses benefit through this unique program but it promotes successful collaboration among the many participating stakeholders. For example, regulatory agencies have benefited through the efficient use of combined resources, and trade associations along with environmental groups are creating positive links to our vital small business community.

How does a business participate?

To participate, any small automotive business or restaurant in San Diego county can simply contact the Green **Business Program** for information and any assistance they may need to complete the self-assessment checklist. The business then mails (or e-mails) the completed checklist back to the program contacts for review. Once it is reviewed, the business will receive a “Participant” sticker they can place proudly in their front window. Participating businesses will be encour-

“By using the easy to follow **Green Business Automotive Checklist** I was able to determine what my business was doing right & I learned what simple changes I could make to better protect our environment. It really helped me determine how well my business compared to a model Green Business” - Gary Anderberg, President of the Automotive Service Council and owner of Z-Whizz Complete Auto Repair.

Green Business Pledge

We believe a successful business is dependent upon a healthy environment.

We are actively working to show our environmental responsibility to our community by committing to the following objectives:

- Comply with all applicable environmental regulations.
- Conserve energy, water and other natural resources.
- Implement practices that reduce waste and encourage environmentally preferable purchasing.
- Be an environmentally responsible business in our community.

aged to continually improve upon their initial efforts and will be contacted annually to track their progress. Businesses are also encouraged to share their efforts with customers so they too will know the value of the program.

We can all benefit from the San Diego **Area Green Business Program**. Increasing environmental awareness and making “green” choices can assure us all a beautiful and prosperous San Diego county, sustainable for many generations to come.

Please visit: www.sdgreenbiz.org and for additional information or to obtain a program application contact the program coordinators:

Automotive Businesses:

Ellen Schulte,
Pollution Prevention Specialist
County of San Diego-DEH
Hazardous Materials Division
(619) 338-2324

Restaurants:

KariLyn Merlos,
Pollution Prevention Specialist
County of San Diego, DEH
Community Health Division
(858) 495-5799

You can also e-mail your questions to:
GreenBusiness@sdcounty.ca.gov

WHY IS IT HAZARDOUS?

By Peter Monnier
Environmental Health Specialist II

Determining whether you have a hazardous waste can sometimes be difficult as there are many regulations to consider. Some of the characteristics of that make a waste hazardous are fairly obvious, and clearly defined:

1. Is it Ignitable?



Flash point at or below 140 degrees Fahrenheit.

2. Is it Corrosive?

Acids with a pH at or below 2.0. Bases with a pH at or above 12.5.



3. Is it reactive?

Common examples of reactive substances would be explosives, metals like sodium or potassium, oxidizers like sodium perchlorate, chlorine, or peroxides, and strong acids and bases.



4. Is there a risk for a sudden release of pressure?



Examples on this category would be compressed gases.

5. Is it toxic?

Determination of toxicity in a substance can be the most difficult of all. Some substances like poisons or insecticides are known to be toxic, but other substances may require laboratory testing. There are several issues that should be considered. **Can the substance cause injury, health problems or death? Is it bioaccumulative, or is it a carcinogen or a reproductive toxin?**



Frequently, laboratory tests on animals are done to determine the effect of these substances. Some terms commonly used to describe toxicity are:

a. **Acute Oral LD50:** (lethal dose-50%). It is the amount of substance lethal to 50% of the test animals who ingest it. The regulatory limit has been set at 2,500 mg/kg, expressed as the amount of the material per kilogram of body weight, which would be the same as parts per million, (ppm).

b. **Acute Dermal LD50:** (lethal dose-50%). It describes the skin absorption lethal to 50% of animals exposed to it for 24 hours. The regulatory limit is set at 4,300 mg/kg.

Acute Inhalation LC50: (lethal concentration -50%). The regulatory limit is 10,000 ppm for inhalation of a substance that would be lethal to 50% of

the animals inhaling it for a period of 8 hours. This can also be expressed as 10,000 micrograms/liter.

Note that the lower the LD50 or LC50, the more toxic the substance is. In other words, it requires less of the substance to be lethal. To fully understand the meaning of these ratings you must refer to a chart listing the relative ratings for various substances.

With these descriptions you can now make a preliminary assessment of the hazardous nature of the substance that you are considering. For materials, you can usually judge if they are hazardous based on the information provided in the Material Safety Data Sheet (MSDS).

The MSDS provides useful information. For instance, it may have a Proposition 65 warning indicating reproductive toxicity or carcinogenic potential. It also provides a zero to four rating each for health, flammability and reactivity. Low hazards would have a zero rating and definite, possibly lethal hazards would have a rating of 4.



You will also find these ratings used on NFPA 704 diamonds seen on buildings where the health symbol is blue, the flammability symbol is red

and the reactivity symbol is yellow. The part of the diamond at the bottom is used for special information. A **W** with a line through it would indicate a reaction with water is possible; an **OX** symbol indicates an oxidizer and a radioactive symbol could be placed at this location.

Some hazardous wastes require more effort to determine the type(s) and concentration of hazards they present. As the generator of the waste, you are legally responsible for doing a waste determination. Any material that is determined to be hazardous may become a hazardous waste if there is no longer an intended use or reuse for the material. In general, you can use the following steps to make your determination:

1. Does the waste meet the definition of ignitability, corrosivity, or reactivity?

You know what materials went into the process that generated the waste. Using your knowledge of the process determine if any of them were hazardous materials.

2. Is it Toxic? If toxicity of the

waste is in question, one way to determine this would be to instruct the laboratory to do a 96 hour Fish Bioassay Test for aquatic toxicity. In this test, 10 fathead minnows, golden shiners or rainbow trout are placed in a 10 liter bioassay solution. If the LC50 is less than 500 mg/liter the waste would be considered toxic, (50 % of the fish die in 96 hours). In addition if the LD50 of the waste is less than 2500 mg/kg, the waste would be considered toxic.

3. Is it a RCRA, (Resource Conservation Recovery Act), federally listed hazardous waste?

These wastes are in the following categories:

F List-wastes from non specific sources.

K List-wastes from specific sources.

P List-acute hazardous wastes.

U List-toxic, reactive, ignitable, and corrosive wastes from discarded commercial chemical products, off-specification products, container residues and spill residues.

In addition to RCRA listed wastes, there are what is called "characteristic" wastes. Their listing starts with a "D". For instance:

D001-Ignitable wastes

D002-Corrosive wastes

D003-Reactive wastes

D004 to D043-Toxic waste

The number varies depending on the substance causing toxicity.

Note that if a listed waste is on any of the F,K, P,U lists, it must be managed as a hazardous waste. If it is on the "D" list you must determine if the concentrations exceed the regulatory limits or meet a RCRA characteristic. See 22CCR, section 66261.24, table (B)1.

4. Is it a California listed hazardous waste?

There are 20 listed bioaccumulative inorganic and 18 listed organic hazardous constituents listed in 22CCR, 666262.24 sections (A) table II, and (B) table III. Laboratory tests by a California certified laboratory such as TTLC, (Total Threshold Limit Concentrations) and STLC, (Soluble Threshold Limit Concentrations) might be required to determine if concentrations of these substances exceed the regulatory limit.

Now, let's try to apply this information in a practical situation, such as an auto body repair shop. The typical shop uses lacquer thinner, (the MSDS indicates up to 50% toluene content), solvent based paint, and a spray booth. Toluene is a RCRA listed waste,(F005) and is ignitable, (flashpoint is 45 degrees F). It also has an oral LD50 of 636mg/kg, (considerably lower than the 2,500 limit), so it is very toxic.

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WHY IS IT HAZARDOUS?

(Continued from page 4)

Because of this, the new lacquer thinner would be a hazardous material, and the paint sludge generated from cleaning the spray equipment would be a hazardous waste. In this case you would use knowledge of the process to determine that the paint sludge is hazardous, and you wouldn't have to do laboratory testing.

The paint booth filters, (exhaust side only) are covered with a powdery, friable layer of dried paint particles. Even though there is no residual solvent, the used filters could contain concentrations of California listed inorganic bio-accumulative toxic substances over the regulatory limits such as zinc, lead, cadmium, nickel or chromium so a California certified laboratory would need to do a TTLC test, (and possibly some additional STLC tests) on the used filters. If any of the listed substances were over the limits, the paint booth filters would have to be managed as a hazardous waste.

Finally, there is the paint itself. The new paint would be a hazardous material due to ignitability, and toxicity. The leftover used paint in the can would also have to be managed as a hazardous waste even if it was catalyzed. Catalyzed paint may not harden completely in the can but remain in a gel state where it could release toxins in the landfill. The empty can that the paint came in could be put in the trash only if it was California empty, (that is, liquid must be completely drained from container so that nothing comes out if it is held upside down). Note that you can not catalyze waste paint for the purpose of disposing of the waste in the trash as that would be illegal waste treatment. If it is an epoxy coating type of paint (resin) then catalyzing would be allowed under tiered permitting.

The information in this article is a very general explanation of a sometimes complex process used to determine if you have hazardous materials or generate hazardous wastes. For specific information about materials used in your worksite, consult your area specialist.

WASTE CONTAINERS

Best Management Practices

Second Part on a Series of Four

Container Selection

By Manon Ehrhart,
Env. Health Specialist II



Improper
container
management

Generators of hazardous waste can store their waste in containers until it is time for the waste to be transported offsite by a licensed hazardous waste hauler. To select an appropriate container, you need to characterize the waste and know the quantity you need to dispose of. A container is a portable device used to accumulate waste. Stationary tanks, trenches, floor sumps and waste piles are NOT considered containers, but are still subject to regulation if they store hazardous wastes.

Hazardous wastes can be characterized as:

- Corrosive-wastes with a pH lower than 2.0 or greater than 12.5,
- Reactive-wastes that are unstable, shock-sensitive, or generate cyanide or sulfide gases,
- Toxic-wastes that equal or exceed a designated concentration of certain toxic compounds, or
- Ignitable-wastes with a flashpoint that is less than 140 °F.

Use common sense to choose the right sized container. Generally, disposal cost is based on waste type and container size, not on the amount of waste in the container. If you have 20-25 gallons of waste, it makes sense to use a 30-gallon drum instead of a 55-gallon drum.

Choosing the appropriate container material takes a little more research. It is important and required that the wastes not destroy or degrade the container. Check the internet for sites with information about chemical compatibility to help you make the right choice.

In general, using the same type of container for the waste as the container that held the original material is a good idea. For example, if a flammable material was shipped to you in a metal container, use a properly labeled metal container to

store the waste. Do not use a plastic container because some flammable liquids can degrade certain plastics causing the container to rupture or become brittle over time.

In California, there are specific regulations that govern the storage of hazardous waste. Title 22 of the California Code of Regulations (22 CCR) section 66265.172 reads: "The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired."

Also important are the **Special Requirements for Incompatible Wastes** listed in 22 CCR section 66265.177:

CCRti22\di4.5\ch15\at9\se66265.177(a) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples) shall not be placed in the same container, unless section 66265.1(b) is complied with.

CCRti22\di4.5\ch15\at9\se66265.177(b) Hazardous waste shall not be placed in an unwashed container that previously held an incompatible waste or materials. (see Appendix V for examples).

CCRti22\di4.5\ch15\at9\se66265.177(c) A container holding a hazardous waste that is incompatible with any waste or other materials transferred or stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall or other device.

For additional information about best management practices for hazardous waste containers, contact your area specialist or call the Hazardous Materials Duty Desk at 619-338-2231.

Coming soon in the series of Best Management Practices for Hazardous Waste Containers:



Part 3-Managing and labeling containers.

Part 4-Inspecting the hazardous waste storage area.

Important points to consider when containerizing your hazardous waste:

- Choose a container that will not be compromised by the waste.
- Store incompatible wastes in different containers and as far away as possible. Ideally, separate them by a berm, dike or wall.
- If you rinse a container, the rinsate must be characterized before disposal to determine whether it is hazardous or not.
- Use a different funnel for each type of waste.
- Be aware weather conditions affecting your storage area. Keeping containers cool and dry is your best management practice.

Tiered Permitting: What is it all about?

By John Misleh,
Supervising Env. Health Specialist

California hazardous waste regulations address many specific areas and are generally more stringent than Federal regulations. One of the areas that state regulations specifically address is the identification, storage and treatment of hazardous waste by waste generators.

The official program in California that regulates hazardous waste treatment is the Tiered Permitting Program. This program has five tiers, each of which has specific statutory and regulatory requirements that are matched to the degree of risk posed by the treatment activities. The treatment tiers are listed below in descending order of risk and regulatory oversight:

- 1) Full Permit
- 2) Standardized Permit
- 3) Permit by Rule (PBR)
- 4) Conditional Authorization
- 5) Conditional Exemption

Treatment in the first two tiers is regulated directly by the Department of Toxic Substances Control. Treatment in the last three tiers is regulated by the HMD, the local Certified Unified Program Agency (CUPA) for San Diego County. Hazardous waste treatment, whether it is done onsite or offsite, is done for several reasons, such as:

- To reduce the volume of hazardous waste
- To eliminate or reduce the hazardous characteristics of the waste
- To save money in disposal costs

Some hazardous waste generators choose to treat hazardous waste onsite to reduce the liability associated with shipping waste offsite and to save money. Under the last three tiers listed above, hazardous waste generators are allowed to treat onsite certain hazardous wastes with specific treatment methods.

In order to be eligible to treat waste under Permit by Rule, Conditional Authorization or Conditional Exemption, generators must first meet several general requirements:

- Waste streams and treatment processes must be listed in 22

CCR §67450.11.

- Generator may only treat waste that is generated onsite and treatment must occur in tanks and containers.
- Generator may not treat waste that is reactive or extremely hazardous.
- Generator may not treat waste that requires a federal hazardous waste treatment permit under RCRA.
- Generator may not treat waste in landfills, surface impoundments, injection wells, waste piles, land treatment units or thermal destruction units.



This cone-type waste treatment tank is typically used to allow for toxic metals to settle to the bottom of the tanks, while the liquid waste stays on top. A sludge waste is generated. The liquid waste may be treated again depending on the circumstances.

What do CUPA inspectors look for?

The most common onsite waste treatment processes used in San Diego County are neutralization of corrosive wastes such as strong acids to a more neutral pH, removal of toxic metals like chromium, copper and nickel from wastewaters, and separation of used oil from water.

Inspectors will generally look for the following treatment issues during inspections of the treatment unit or area:

- What type of waste treatment is being conducted?
- Has the business operator notified the HMD (using the required notification forms) that hazardous waste will be treated onsite?
- Does the business keep up to date waste treatment logs and other required records onsite?
- Is the treatment being done inside tanks or containers in an area that has secondary containment to contain spills or leaks?
- Are the treatment residuals properly managed after treatment is completed?
- Is waste being treated by the allowed treatment methods listed in the tiered permitting charts for the specific wastes being treated?
- Are any wastes being treated by an unapproved method?

There are other requirements for onsite treatment that due to lack of space are not discussed in this article. Tiered permitting requirements vary depending on

the type of treatment you are conducting onsite and the type and concentration of wastes being treated.

For useful information regarding tiered permitting, please visit the following websites:

http://www.sdcounty.ca.gov/deh/hmd/forms_hmd.html

State law requires notification to the local agency of your treatment activities. Here you will find all the forms necessary to notify HMD.

<http://www.dtsc.ca.gov/HazardousWaste/index.html>

This webpage from the Department of Toxic Substances Control contains useful tiered permitting flowcharts and a factsheet about the PBR tier.

For general questions about hazardous materials, hazardous waste, or tiered permitting, contact the Hazardous Materials Duty Specialist at 619-338-2231. If you have specific questions about your hazardous waste treatment unit or tiered permitting regulations as they apply to your site of business, please contact your area specialist.

Cecilia Diaz

(Continued from page 1)

An avid runner on her leisure time, Cecilia decided in June 2003 to run competitively and take part in several local road races in San Diego. This led to her participation in the Chicago Marathon with a qualifying time of 3:34. On April 19, 2004 Cecilia will run in one of the world's most prestigious road racing events—**The Boston Marathon**. As she gears up for the upcoming race in April, she runs 5 days a week with a training regimen that includes a variety of long runs,



track workouts and cross training.

You can track Cecilia's progress in the Boston Marathon on April 19, 2004 by logging on <http://www.bostonmarathon.org>

www.bostonmarathon.org

Everyone in DEH wishes her luck!

"The human body can do so much
Then the heart and spirit
must take over"
-Sohn Kee-chung

ENHANCED LEAK DETECTION (ELD)

By Robert Rapista,
Environmental Health Specialist III

What is Enhanced Leak Detection?

ELD is a test method that ascertains the integrity of an underground tank system by the introduction and external detection of a substance that is not a component of the fuel formulation that is stored in the tank system, as defined in CCR Title 23 §2644.1 (a)(1)].

In 2000 and 2002, the California Legislature adopted Senate Bill (SB) 989 and Assembly Bill (AB) 2481, respectively, requiring owners/operators of Underground Storage Tank (UST) systems located within 1,000 feet of a public drinking water well to implement ELD. In addition, AB 2481 requires ELD testing for all new USTs installed on or after July 1, 2003.

The ELD test must be:

- Third party certified and,
- Capable of detecting both vapor and liquid phase releases from the UST at a leak rate of at least 0.005 gph; with a probability of detection of at least 95% and a probability of false alarm no greater than 5%.[CCR Title 23 §2644.1 (a)(2)].

Currently, the Enhanced Tracer Tightness Test is the only approved ELD test method that meets this criteria.



The Enhanced Tracer Tight[®] leak detection

was developed by Praair Services Inc. and operates on a patented principle of introducing a small amount of a proprietary inert "tracer" compound into the system and detecting that specific "tracer" compound in the soil vapor on the outside of the system. Detection of the "tracer" is achieved by collecting soil vapor samples from probes surrounding the system and analyzing the samples on laboratory grade instrumentation.

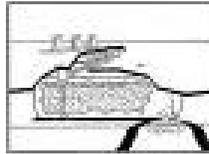
Step One

Leak testing is performed by adding a small amount of chemical tracer to the product in the tank or piping. The tracer has no impact on the tank and piping or the product in the tank.



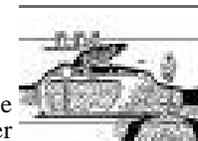
Step Two
Sampling probes are in-

stalled adjacent to the fuel system. In the event the tank or pip-



ing is leaking, the tracer chemical will be transported to the soil.

Step Three
Soil vapor samples are collected from monitoring probes surrounding the tank or adjacent to the piping.



These samples are sent to the Tracer Research laboratory for GC analysis.

USTS WITH SINGLE-WALLED COMPONENTS

Owners and operators of USTs with single-walled components located within 1,000 feet of a public drinking water well should have received notifications between November 2001 and February 2003 from the State Water Resources Control Board (SWRCB) advising owners/operators to perform ELD Test within 18 months of notification. The UST system then must be tested every three (3) years thereafter. The Triennial ELD testing is required for UST systems with one or more of the following single-walled components located within 1,000 feet of a public drinking water well:

- Single-walled tank.
- Single-walled pressurized piping.
- Single-walled conventional suction piping.
- Turbines without secondary containment.

Owners and operators subject to these requirements shall have a program of enhanced leak detection reviewed and approved by the County of San Diego Department of Environmental Health (DEH) within 6 months following notification by the SWRCB.

More owner/operator responsibilities are described under LG161-2 and it is available at: <http://www.swrcb.ca.gov/>

[cwphome/ust/leak_prevention/lgs/161_2.pdf](http://www.swrcb.ca.gov/cwphome/ust/leak_prevention/lgs/161_2.pdf)

USTS WITH SECONDARY CONTAINMENT:

The SWRCB UST program staff will send notifications between February 2003 and May 2003 to owners and operators of USTs with secondary containment located within 1,000 feet of a public drinking water well advising them to perform ELD testing once before January 1, 2005.

Owners/Operators may request reconsideration from the SWRCB if they believe their tank systems are not subject to ELD testing. Reconsideration forms and instructions are available at: http://www.swrcb.ca.gov/cwphome/ust/leak_prevention/ethanol/eld/DOCS/reconsider_form.pdf

Further information are described under LG161-2 and is available at: http://www.swrcb.ca.gov/cwphome/ust/leak_prevention/lgs/161_2.pdf

NEW UST SYSTEMS INSTALLED ON OR AFTER JULY 1, 2003

HSC §25290.1. (j) **requires all new USTs installed on or after July 1, 2003 to be tested by one of the following** methods to demonstrate that the tank is product tight:

CALcdHS\di20\ch6.7\se25290.1(j)(1)
(1) Enhanced leak detection (ELD)

CALcdHS\di20\ch6.7\se25290.1(j)(2)
(2) An inert gas pressure test that has been certified by a third party and approved by the board.

CALcdHS\di20\ch6.7\se25290.1(j)(3)
(3) A test method deemed equivalent to enhanced leak detection or an inert gas pressure test by the board in regulations adopted pursuant to this chapter. An underground storage tank installed and tested in accordance with this subdivision is exempt from the requirements of Section 025292.5.

The UST system must be tested by one of these test methods before it can be placed into use. Currently, Enhanced Tracer Tight Test is the only approved ELD test method to demonstrate that a UST is product tight. DEH is committed to working with all tank owners and in complying ELD testing requirements.

If you have any questions ELD testing and repair permit requirements in San Diego, please contact: Robert Rapista at (619) 338-2207 or Sylvia Mosse at (619) 338-2309.

New Regulations Regarding Training and Certification requirements for UST Owners and Operators, Service Technicians, Installers and Inspectors

By Sylvia Mosse, Supervising Env. Health Specialist and Richard Hansen, Env. Health Specialist II

Senate Bill 989, passed in January 2000, required that UST Owners and Operators, Service Technicians, Installers and Inspectors meet minimum industry established training standards. The State Water Resources Control Board (SWRCB) passed regulations that set the timelines for all the above groups to possess a current certificate issued by the International Code Council (ICC), by passing the appropriate exam. The table below summarizes these requirements. For additional information regarding these regulations, access them on the SWRCB website at:

http://www.swrcb.ca.gov/ust/regulatory/new_regs/index.html

GROUP	CERTIFICATION EXAM TO PASS	DEADLINE TO PASS EXAM
Designated UST Operators*	UST System Operator Exam	01/01/2005
UST Installers*	Installation/Retrofitting Exam	01/01/2005
Service Technicians*	UST Service Technician Exam	07/01/2005
Local Agency or Special Inspectors conducting UST inspections**	UST Inspector Exam	09/01/2005
ALL CERTIFICATIONS MUST BE RENEWED EVERY 24 MONTHS		
* Certifications must be renewed by re-taking and passing exam.		
** Certifications can be renewed by either passing the exam, or satisfying equivalent approved criteria.		

USEFUL HMD PHONE NUMBERS

Hazardous Materials
Duty Desk
619-338-2231

Hazardous Materials
Business Plan Check
619-338-2232

HMD Permitting Section
619-338-2251

Underground Storage Tank
Appointment Scheduling
619-338-2214

General Underground Storage
Tank (UST) Permitting Info.
619-237-8451

UST Plan Check
619-338-2207

HMD SUPERVISORS

Matt Trainor
Supervising EHS
Operation/Permits

Ed Slater
Supervising EHS
North County

John Kolb
Supervising EHS
South County

Ron Yonemitsu
Senior Health Physicist
Radiological Health

Michael Dorsey
HMD Chief

Nick Vent
Supervising EHS
Emergency Response

Sylvia Mosse
Supervising EHS
UST Program

John Misleh
Supervising EHS
East County

Mike Vizzier
Supervising EHS
Central County

HMD's WEBSITE

<http://www.sdcounty.ca.gov/deh/hmd/index.html>

Current and past issues of the Environmental Press are available online at:
<http://www.sdcounty.ca.gov/deh/hmd/newsletter.html>

For comments about this newsletter and for suggestions about upcoming articles, please contact the editor at: Gloria.Estolano@sdcounty.ca.gov