

# THINK



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## Introducing Delaware's Risk-Based Corrective Action Program

by Ellen Malenfant and Emil Onuschak, Jr.

### Quantitative Risk Assessment

Beginning in January 1999, Delaware's UST program started implementation of its Delaware Risk-Based Corrective Action Program (DERBCAP) for leaking underground storage tank sites. DERBCAP is not a new program, but rather updates and improves the State's existing assessment, investigation and corrective action program for UST sites.

DERBCAP (pronounced: "derby cap") adds a quantitative perspective to the existing program whose procedures have been in place since 1990 and are described in the UST Branch's *Technical Guidance Manual (TGM)*. DERBCAP's quantitative perspective is designed both to eliminate perpetual monitoring, which has burdened some 18 percent of LUST sites in the past, and to provide the assurances that only a quantitative assessment can afford.

The UST Branch adapted DERBCAP from Standard Guide E 1739-95, *Standard Guide for Risk-Based Corrective Action (RBCA) at Petroleum Release Sites*, which was developed by the American Society for Testing and Materials (ASTM), with inputs from regulated industry, the U.S. Environmental Protection Agency, various states and researchers in the field.

### Underlying Concepts

Two fundamental concepts underlay DERBCAP. The first is that a contaminant source, a contaminant migration pathway, and a potential receptor all must be present before a potential health risk can exist.

The second concept is that it is possible to quantify the concentration of any residual contamination at a LUST site (the contaminant source), which may be allowed to remain and which does not present an unacceptable potential risk to the health of persons in the vicinity.

The DERBCAP risk assessment procedure provides owners of LUST sites with the possibility to definitively address, resolve and close LUST sites and avoid the uncertainty of perpetual monitoring.

### Development of a Delaware-specific Approach

The UST Branch developed its Delaware-specific DERBCAP procedure with the support of a technical advisory group composed of private and academic technical professionals. The technical advisory group met throughout 1998 to review and provide input to the development of the DERBCAP. Then the LUST Committee, which is composed of stakeholders in Delaware's UST Program, considered the results and recommended that the UST Branch implement its DERBCAP procedure as a working draft to solicit feedback from the state-wide regulated community as it applies these quantitative risk assessment procedures. Comments will be received throughout 1999 and a final, revised version of DERBCAP will be published shortly thereafter.

The biggest change from a tank owner's and contractor's perspective will be additional analytical requirements for soil

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samples collected when an UST is removed, abandoned, or upgraded. At sites requiring a hydrogeologic investigation, TPH-GRO and TPH-DRO sampling requirements are replaced with chemical-specific analyses. The action levels in the "Technical Guidance Manual" are updated with DERBCAP Tier 1 Risk-Based Screening Levels (RBSLs). Tables listing specific chemicals of concern and RBSLs are available now from the UST Branch. Complete instructions will be available at the time of the public workshop described below.

### Training Available

A one-day hands-on workshop in applying DERBCAP concepts and procedures will be conducted on March 30, 1999 at the University of Delaware, Clayton Hall, Newark, DE. Any consultant, contractor or other interested person should call Tara Chambers of the UST Branch at 302-395-2500 for specific information regarding registration. The workshop fee of \$20.00 includes lunch and handouts.

If you are unable to attend the workshop or you have questions, please call Ellen Malenfant or any UST Branch hydrologist for more information on applying DERBCAP at LUST sites.

### Enforcement Update

## 1998 Corrosion Protection Deadlines

by Mick Butler

All UST Owners not in compliance with the 1998 Deadlines requirements received a certified mailing, dated December 10, 1998, from the UST Branch. The letter outlined the options for compliance. One option was to remove the UST from service until replaced, upgraded, or properly closed. A second option was to sign a settlement agreement authorizing continued operation of the UST until a contract for replacement or upgrade was completed.

The contract must be completed by July 1, 1999 or the UST must be taken out of service until the work is completed. Penalties will apply for failure to comply with the terms of the settlement agreement. The settlement agreement also has qualifying conditions such as current compliance with past deadlines like spill containment, overfill, leak detection, and financial responsibility.

A third option was only for Heating Fuel UST owners and it delayed enforcement for this group only until May 15, 1999.

The UST Branch has received responses from the UST owners that were due January 15, 1999. Those UST owners not meeting any of the three options above fall into one of the following categories and thus require an enforcement response from the Department:

**Category 1:** *No response received from the UST owner.* In following up on some of these we have encountered owners who have removed USTs without the required notification using uncertified contractors, owners who have placed the USTs out of service but have not submitted the required notification and owners who are con-

tinuing to operated their USTs. There are 103 UST facilities in Category 1.

**Category 2:** *UST owners who do not intend to upgrade their USTs.* Prior to the December 1998 deadline they were in violation of one or more of the past deadlines. They may have taken their USTs out of service or are continuing to operate the USTs. There are 33 UST facilities in Category 2.

**Category 3:** *UST owners who intend to upgrade their USTs but prior to the December 1998 deadline were in violation of one or more of the past deadlines.* By virtue of having other compliance violations, they could not qualify for the settlement agreement. Several submitted settlement agreements with contracts for the upgrade and correction of other violations. There are 32 UST facilities in Category 3.

The overall compliance is approximately 75% and climbing. With the universe of non-compliant UST owners now more accurately defined, enforcement will proceed at a much faster pace. Enforcement responses at all UST facilities in Categories 1, 2 and 3 are expected to be addressed by the end of the summer of 1999.

Heating fuel USTs owners not in compliance with the 1998 Deadline should expect to receive a certified mailing in April with a similar settlement agreement offer described above. The best advice I can give at this point for UST owners not in compliance with the 1998 Deadlines is not to ignore a certified letter that requires a response. Not responding raises a red flag. Good Luck and thanks to all those who have achieved compliance!

## UST Branch Profile:

# *Emil Onuschak, Jr.*

**E**mil came to Delaware 25 years ago to work in the Environmental Affairs Department at Columbia Gas. He specialized in regulatory assessments and pipeline construction projects around the U.S. Previously, in Virginia, he was head of the Coastal Plain Section of the Virginia Division of Mineral Resources (the State's geological survey) and originated and published some of the first environmental geology investigations in the coastal plain.

He has been with the DNREC since 1988 when he started as a Hydrologist with the UST Branch. His primary duty is site management of cleanup for leaking USTs. He is a registered Professional Geologist (PG) and is a member of the American Society for Testing and Materials (ASTM) and the Branch's representative to that organization.

Since coming to the UST Branch, Emil has lead the Branch in innovation and in streamlining the UST corrective action process wherever opportunities have presented themselves. His early efforts included advocating bioremediation of petroleum contaminated soils to expedite and control cleanup costs at LUST sites.

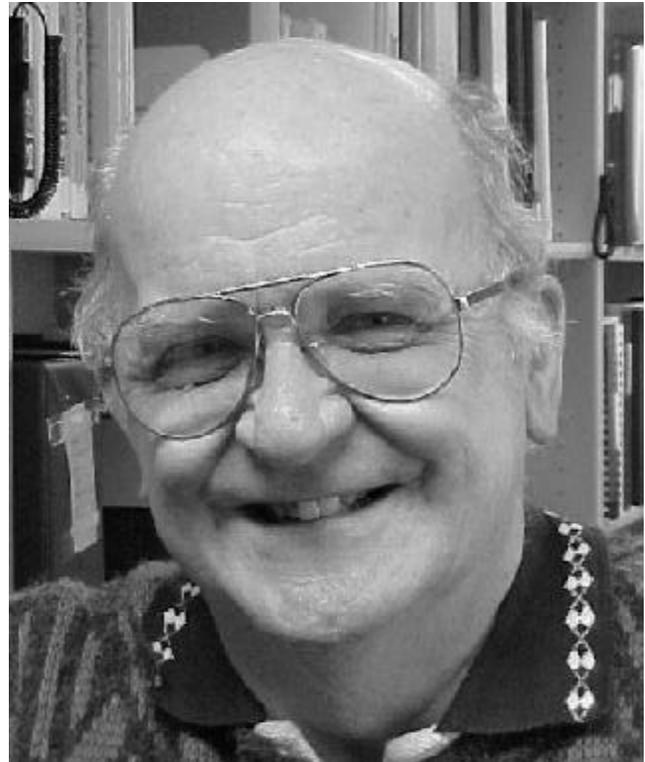
When the Branch decided to implement Delaware's version of the ASTM Risk Based Corrective Action (RBCA), Emil was part of the team that was instrumental in the process of seeing that Delaware's RBCA Program (DERBCAP) was consistent with good site management practices. And that it was an improvement

to the Branch's investigation and corrective action practices. "This program gives us an objective procedure to close out sites that may otherwise be in perpetual monitoring" he says. Emil likes the UST program because "it is always satisfying to close out a site." He is always striving for clearer and better communication between individuals.

Emil was recently recognized for his contributions to the program and to the Department with a promotion to Hydrologist V. He is the first and only Hydrologist in the Department to hold this position.

A native of Pennsylvania, he holds a BS in Geology from Penn State and a MS from the University of Nevada. He met his wife of 32 years, LaVerne, while working for Shell Oil Company in Midland, Texas. He was an exploration geologist working on a computer mapping project and she was the programmer producing the computer-contoured maps from the data he provided.

They have two children, Susan, 30, and David, 28, both graduates of the University of Delaware, and a cat, Mandy. Susan recently received her PhD in Chemistry



from Emory University in Atlanta and David is a senior auditor with Deloitte Touche in New Jersey.

The Onuschaks live in northern New Castle County and enjoy dining out and travel. You might find them some evening at one of their favorite restaurants, the Hunter's Den in Marshallton. We're told Emil has the special talent to eat ribs without picking them up off the plate, and still get every morsel of meat off the bone with knife and fork.

One of Emil's interests at home is learning about his computer. His recent project was attempting to get his newly acquired video camera to work with the computer so he can do video conferencing with his children. The latest acquisition for his well-equipped computer is a scanner.

## Alternative Compliance Category Requirements

by Jill Hall

Part C, Section 3.06 of Delaware's *Regulations Governing Underground Storage Tank Systems* allows owners and operators of UST systems containing heating fuel with a nominal capacity of greater than 2,000 gallons and less than or equal to 8,000 gallons to enter an exemption category. Specifically these tanks may operate without spill and overfill protection, may use manual tank gauging (MTG) for leak detection, and may not have to retrofit for corrosion protection.

### Conditions

To enter the alternative compliance category specific conditions must be met. Owners and operators wishing to utilize the exemption must apply to the UST Branch *in writing*. The request must include:

- (1) Name and location of the facility for which the exemption is being requested.
- (2) Duration of the exemption being requested
- (3) The actual former capacity of the UST system for which the exemption is being requested, and
- (4) Documentation of an agreement with the heating fuel distributor not to exceed a 2,000-gallon capacity in the UST system for which the exemption is being requested.

Before an exemption is granted, owners and operators *must measure for the presence of a release*. The Department will accept one of the following to satisfy this requirement:

1. Four (4) soil borings around the UST. These are to extend two feet below the bottom of the UST, one on each side of the tank. Each boring must consist of a composite soil sample and a grab sample at the bottom. The laboratory analysis required for heating fuel is Diesel Range Organics (DRO). Proper chain of custody must accompany the sample results.

### OR

2. A TRACER test, must be performed on the UST system. This method utilizes a volatile compound added to the liquid in the UST. After a specified period of time probes are placed in the soil to measure for the presence of the Tracer compound indicating whether the UST system is tight

### AND

either A or B below, according to the UST design.

#### **Installed with spill & overfill**

A. If the UST system has had spill containment and overfill protection since installation then the four borings or Tracer test is all that is required.

#### **Without spill & overfill**

B. If the UST system does not have spill containment and overfill protection or they were installed as an upgrade to the system, the following must also be completed:

1. If the fill pipe is located within a concrete apron no additional sampling is required.

### -or-

2. If the fill pipe is located directly in soil or in a manhole without an impermeable bottom,

a grab soil sample must be taken within one foot of the fill pipe and within one foot of the tank top.

### -and-

3. If the vent pipe is located directly in soil with no concrete apron, a grab soil sample must be taken adjacent to the vent pipe five feet below grade.

The time frame for the deferral is based on the age of the UST and the material of construction.

The Department shall approve or deny each exemption request for an individual facility.

For example:

1. After completing the above site assessment: significant contamination is found only in the area adjacent to the fill pipe signifying a history of spills at the delivery site. The Department may allow the tank to enter the alternative compliance category with the stipulation that a spill containment manhole must be installed to avoid further contamination from delivery spills.

2. After completing the above site assessment: significant contamination is found in the soil borings around the tank indicating that the UST is not tight. The Department will then require further investigation of the tank integrity and remediation of the site.

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# Speaking hypothetically...

by Emil Onuschak, Jr.

Every now and then, a consultant, a realtor, an attorney, or some other interested party calls the Underground Storage Tank Branch with a "hypothetical question." This is an ill-advised practice.

We all know the scenario and have encountered it at one time or another in our daily lives. The conversation usually starts with something like "I have a friend who..." and ends with the question, "What do you think should be done?"

In an environmental context, a caller to the UST Branch sometimes opens with "I have a question about a hypothetical site that..." and ends with the same question, "What do you think should be done?"

This isn't fair. On the one hand, such callers are not being completely forthcoming, but if they get a response that they believe is favorable to their unspoken agenda, they don't hesitate to announce "The Department of Natural Resources and Environmental Control says..." and potentially place the Department in a position of conflict with its own policies, procedures, precedents and perhaps even the law. This benefits no one.

"Hypothetical calls" create needless ill will between the caller and the UST Branch. Callers with "hypothetical questions" are not doing business in good faith and are none-too-subtly implying that the staff of the Underground Storage Tank Branch can't be trusted with confidential information. And it is obvious that the callers themselves are somewhat less than truthful because they know—and we know—there is nothing "hypothetical" at all about these calls.

We always try to be helpful—that's our business, after all—but in Delaware's UST program, sites have always been individually assessed and decisions based on site-specific data. Without a site identity, any staff responses that may be offered to "hypothetical questions" cannot possibly be complete or accurate. For this reason, "hypothetical questions" don't have any standing with the UST Branch and are not tracked because they provide no basis for reference.

The point is, if you call days, weeks, or months later and try to rely on an earlier "hypothetical site" call, you may be sorely disappointed and find yourself in an untenable position because of the lack of any record of your call at the UST Branch.

As most clients know by now, the site-specific, case-by-case approach to site assessment that is followed by the UST Branch has been shown to be effective, flexible, and works to minimize cleanup costs. If you try to thwart

this process with a "hypothetical" question, you are doing a disservice to the legitimate interests of yourself, your client and the environment.

And as clients who have exercised their rights through the Freedom of Information Act (FOIA) know, the UST Branch and the Department of Natural Resources and Environmental Control has, and keeps secure, a considerable volume of legitimately confidential information. So your property values, your commissions, your fees, and your interests are safe with us. Don't deceive yourself that you can hide the environmental status of your property behind the "hypothetical" approach. This information *always* comes to light, whether at property transfers, redevelopment, expansions, or settlements.

How many times have we said, "Talk to us! Especially *before* large amounts of time or money are invested!" It was good advice when we first said it—and it's good advice now!

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## Stage II test revisions

by Carl F. Riegel

From the beginning of the Stage II Vapor Recovery program, the UST Branch has used a ten inch, ten minute pressure decay/leak test protocol.

In early 1998, when the first five year pressure decay/leak tests were performed, we began experiencing problems. Balance system nozzles failed the test in large numbers. An investigation discovered that balance system nozzles only see pressures of 0.1 to 0.2 inch water column. A two inch test is quite adequate. The nozzles would pass a ten inch test

when new, but would fail after five years of wear and tear.

Letters are being sent to Owners and Operators of Stage II systems explaining that effective immediately, the UST Branch will accept the two inch test as in TP-201.3. Additional details about the problem and the change to the new protocol may be found in the letter.

Attach a copy of this letter to your Operating Permit which will, in effect, amend the permit to reflect the new test protocol.

# THINK TANK

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## Announcements

The following UST Branch personnel were promoted to:

*Emil Onuschak, Jr.* - Hydrologist V  
*David Brixen*- Environmental Scientist III  
*Suzanne Halter* - Environmental Scientist III  
*David Lerner* - Hydrologist III

New Hires:

*Marie Stewart* - Hydrologist II  
*William (Tripp) Fischer* - Hydrologist I

*Pat Ellis* was named to an EPA Blue Ribbon Panel to review use of MTBE and other oxygenates in gasoline.

*Carl F. Riegel*- 1943-1998

Carl was an Environmental Engineer with the UST Branch since May, 1993. His primary responsibilities were the vapor recovery program and new tank installation plan approval.

On December 30, 1998 Carl suffered a massive stroke and died 12 hours later. Those of us who knew him well knew he had a good heart and a strong sense of humor.

We will remember him for the time and devotion he gave to the Boy Scouts of America and particularly Camp Rodney. We will remember him for the attention he gave the Branch's car fleet. And we will remember him for his often feisty phone conversations with contractors. Carl submitted the vapor recovery article in December.

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