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L.U.S.T.LINE

A Report On Federal & State Programs To Control Leaking Underground Storage Tanks

Look, A "Green" Fueling Station!

The Future is Here...at a Former Eugene, Oregon, Brownfield Site

Ellen Frye

SeQuential Biofuels' new facility. Note the "living roof" on the convenience store.

A "green" fueling station? It's not an oxymoron. It exists. Like a Phoenix rising from a fetid cesspool, the founders of SeQuential Biofuels have given form (and function) to the most sustainable fueling station in the Pacific Northwest, if not the entire United States. Located on McVay Highway in Eugene, Oregon, the station is a showpiece that takes the whole business of fuel dispensing to a new level—and it is a successful brownfield venture as well.

"It took creative thought, perseverance, and a real desire on the part of all of the parties involved to make this project work," says Tyson Keever, co-founder of SeQuential Biofuels. "And it did work, and our customers have been very positive. We've had customers come into the store with tears in their eyes, saying they've never had this kind of choice at a fueling station."

Build it and they will come? Yes, their customer base is growing, but they've had one key perception issue: "Right now, our biggest hurdle is letting people know that every single car on the road can fuel here," says Keever. "They see the word 'biofuels' and think they don't have a car that will take biofuel."

So, what about the fuels?

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Inside

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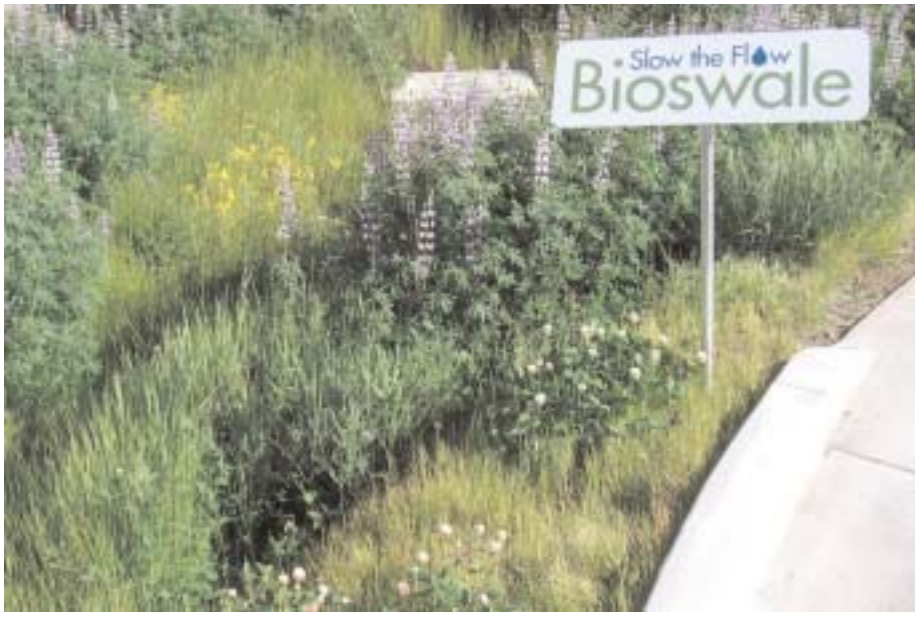
The Fuels

The station offers an assortment of biofuel blends for all gasoline and diesel vehicles—E10 for all gasoline vehicles, B5 diesel for all diesel vehicles, B20 blend and B99 biodiesel for most diesel vehicles, and E85 bioethanol for flex-fuel vehicles—currently, one of only three such public pumps in Oregon. The fuel is stored and dispensed in a state-of-the-art, double-walled system.

More than 50 percent of the biodiesel sold at the station is made at the SeQuential-Pacific Biodiesel plant in Salem, Oregon, a location that greatly reduces the carbon dioxide (CO_2) emissions attributed to shipping fuel into Oregon from great distances. Most of that biodiesel is a recycled product made from used cooking oil collected from restaurants and food processors throughout Oregon and Washington.

During November 2006, the station also sold the only biodiesel made from Oregon-grown canola.

To close the loop even further, cooking oil can be dropped off at the station as a service for customers and community members. SeQuential routes the used cooking oil to its Salem production facility for processing into biodiesel. According to SeQuential, from September 2, 2006, to April 30, 2007, the mix of biofuels fuels sold at the Eugene station reduced CO_2 emissions (which contribute to global climate change) by 2.5 million pounds.



Photos by Dave Belyea

The station is bordered with grassy bioswales that contain stormwater runoff from the site, remediate contamination biologically before it leaves the site, and slow the flow of stormwater into the storm-sewer system.

The Energy Savings

The station is powered using 100 percent renewable energy. On an annual basis, 50 percent of that power is provided by a 33.6 kw photovoltaic solar array integrated into the canopies over the fueling islands. The photovoltaic array offsets 2,450 pounds of CO_2 each month. The other 50 percent is purchased as 100 percent wind power from the Eugene Water and Electric Board.

The natural foods convenience store at the station is designed for energy efficiency. It is well insulated, and lit during the day by many win-

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dows and skylights augmented by high-efficiency, variable mechanical lighting. Using a passive solar design, its large high windows on the south side collect winter warmth from the sun, and its ground-level louver windows on the north side allow a flush of cool air at night during the summer.

Other Sustainable Design Elements

A seasonal organic produce stand featuring locally harvested fruits and vegetables is located at the entrance to the convenience store. Inside, there is a wide selection of natural snacks and beverages. SeQuential has hand-picked each product based on where, how, when, and by whom it was made. Every effort has been made to source local and organic products. Even the fountain cups and straws can be composted. The soda fountain offers Blue Sky All Natural soda in six flavors.

The station is bordered with grassy bioswales that contain stormwater runoff from the site, remediate contamination biologically before it leaves the site, and slow the flow of stormwater into the storm-sewer system.

The "living roof" on the convenience store also reduces the flow of stormwater from what would otherwise be an impervious surface. The roof contains almost 5,000 plants in six inches of soil. Many of the plants are native to Oregon. The living roof also helps to keep the convenience store cool in the summer by deflecting the intense summer sun.

Wood products used in the store were selected for recycled content and Forest Stewardship Council certification to the greatest extent possible. Instead of purchasing new gondola shelving for the store, the construction team reconditioned wood gondolas donated by REI, Inc. Although more expensive initially, concrete was chosen over asphalt for all of the vehicle areas on the site due to its increased longevity. Fly ash is recycled in the concrete.

But It Wasn't So Long Ago...

Before its transformation, the site had been a gas station from 1976 until it closed in 1991, when Mid Oil Company and Franko Oil Company filed Chapter 7 bankruptcy. The property was turned over to the bankruptcy estate.

> ***"The basic formula to any Brownfield project is not wanting what is there now, defining what is wanted, and filling in the gaps. There are many ways to get there, most of which require someone with the vision and drive to make it happen."***
>
> **Jim Glass, Oregon DEQ**

In 1991, petroleum-contaminated soil was observed during utility trenching just east of the site. Contamination had also migrated to a residential well west of the site. In 1996, a speculative Limited Liability Company (LLC) purchased the property out of bankruptcy with the intent to clean up and resell. They removed the five USTs and excavated a limited amount of contaminated soil. After realizing the scope of the cleanup work, the LLC stopped all work. The Oregon Department of Environmental Quality (DEQ) initiated enforcement actions against the LLC for failure to complete the site cleanup.

In January 1997, under enforcement order, three monitoring wells were installed, and the dispenser islands were identified as the primary source of contamination (33,000 µg/L benzene). By March 1999, three additional monitoring wells were installed downgradient; benzene at 25,000 µg/L was detected at the southeast corner of the property. The already derelict site continued its downward spiral of neglect.

In September 2000, the consultant who had worked on the soil investigation and monitoring well installations for the LLC placed a lien on the property for nonpayment. He sued and asked for payment or the property. He got the property. But he was not financially viable and completed no further investigations or cleanup. The property, with no viable business for over a decade, was already a dumping ground for garbage and had also become a haven for drug use.

"It was a very contaminated gas station that had been a blight on the face of the community for way too long," says DEQ's Western Region Tanks Manager, Dave Belyea, who

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Photos by Dave Belyea

Top: The former contaminated gas station had been a blight on the face of the community for many years. The site was a dumping ground for tires, all manner of garbage, drums of potentially hazardous wastes, and a substantial collection of syringes.

Right: Oregon DEQ's Dave Belyea displays a bailer filled with free-product gasoline pulled from a monitoring well on the site.

■ Green Fueling Station

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would bring the site to SeQuential's attention. "There were hundreds of tires, syringes, mounds of garbage, and drums of potentially hazardous wastes. And that's just on the surface of the site; below ground there were feet of free product on the groundwater that had been there in the clayey soil for about 20 years."

The Turning Point

With all its problems, the McVay Highway site had one big asset: easy access to Interstate 5. Earlier, SeQuential had approached DEQ about another out-of-use station they were considering for a retail biofuels project near the university in Eugene. After abandoning that prospect because of problems with that site, they learned about the McVay Highway site.

"This site gave us a unique opportunity to do a number of things that we felt were important and to try out different ideas," explains Tyson Keever. "We wanted to explore redeveloping a brownfield site, incorporate all the elements of sustainable design, and offer products that contribute to sustainable living, beginning with the fuel we sell—'pull in, fill up, feel good,' as we like to say."

The vision for the site was there, but here's where the hard work and perseverance kicked in mightily. The plan was to apply for a federal Brownfield Cleanup grant. For this to work, Lane County would have to tax foreclose on the property and essentially own it.

"The county was very hesitant about owning or acquiring contaminated property, primarily because of liability concerns," says Jim Glass, Environmental Specialist for DEQ's Western Region Tanks Program. Under the federal Brownfields program, the CERCLA strict liability language holds the responsible party exempt from cleanup liability if it has not caused or contributed to contamination. At first, Lane County was not convinced this was true.

Furthermore, the county did not want to oversee a major cleanup. "We needed to build confidence between the county and state as to how this process would be managed," explains Glass.

"It took several meetings with the county's legal council and economic development and property management people, and also getting other folks involved with the development, for DEQ to convince the county to move forward with the project," recalls Dave Belyea. "Three different agreements between the county, DEQ, and SeQuential had to be negotiated simultaneously to get everyone on board. It took about six months. Then it was full steam ahead."

The county foreclosed on the property and applied for a $200,000 Brownfield Cleanup grant in November 2004, and completed surface cleanup, serving as part of its $40,000 match, in January 2005.

DEQ is managing the ongoing cleanup, and the county is administering the grant. The grant recipient must maintain ownership of the property until USEPA closes out the grant. At that point, SeQuential, which is currently leasing the property from the county, will have the option to purchase.

Prior to receiving the Brownfields cleanup grant, DEQ completed a site-specific assessment (SSA) in March 2005 to determine the extent of contamination and select a remediation approach. USEPA awarded the cleanup grant to the county in May 2005. DEQ is using an Orphan Site cleanup contractor, GeoEngineers, Inc., and will oversee the cleanup, coordinating with SeQuential where needed.

DEQ continues to monitor shallow and deeper aquifers, watching for potential upgradient contamination coming onto the site. The agency will use the last of the available funding to permanently abandon the monitoring wells.

Commitment...an Essential Ingredient

"It took a whole lot of work on the part of many people," says Brooks Stanfield, USEPA Region 10 Brownfields Team, who worked on the project. "At several points in the project, when things became critical, it always felt like this turned into everyone's number one priority. They were all pulling hard in the same direction."

"The hardest part of the process was making sure everything moved forward," recalls Tyson Keever, "and it did. There were many, many players and much coordination. I think the key is having people who really want to make it work. Sure it was difficult, but all in all we had a positive experience that was very powerful. There was the greater benefit from the recycling."

DEQ's project team included Jim Glass as contract coordinator, Bryn Thoms as project manager, and Charlie Landman as intergovernmental agreement and prospective purchase agreement (which limits SeQuential's future liability) negotiator.

"Jim and Bryn were truly the project champions who got us over

Oregon DEQ's Rural and Economically Distressed Site Assessment Initiative

Rural and economically distressed areas face unique challenges in promoting and achieving brownfields redevelopment and other revitalization projects in their communities. DEQ created the Oregon Rural and Economically Distressed Site Assessment Initiative to assist rural and economically distressed communities in assessing specific brownfield sites.

In June 2003, the Initiative was awarded $400,000 in site assessment Brownfield Grant funding by USEPA; an additional $200,000 was awarded in May 2005. DEQ has completed nine Phase I Environmental Site Assessments at sites undergoing certification as part of the governor's Industrial Land Initiative, completed seven site assessments at hazardous substance sites, and completed eleven site assessments at petroleum sites. .

For more information on the Oregon Rural and Economically Distressed Site Assessment Initiative, go to *http://www.deq.state.or.us/lq/cu/brownfields/distressed.htm* ■

the hurdles," says Stanfield. "They kept at it, basically working to get the site cleaned up and orchestrating every last thing, from regulatory issues to budget to project logistics."

"The basic formula to any Brownfield project," says Jim Glass, "is *not* wanting what is there now, defining what *is* wanted, and filling in the gaps. There are many ways to get there, most of which require someone with the vision and drive to make it happen."

As for SeQuential?

"SeQuential's reuse vision is special," says Brooks Stanfield. "They are taking land recycling and stewardship to a whole new level." And, yes, they are looking to recycle more brownfield sites.

In addition to incorporating numerous sustainable design elements into its construction, the company has also utilized the Eugene station as an opportunity to expose customers to those unique elements while providing education and referral for items that interest particular customers. There are a number of educational displays on site. Some of them, like the computer kiosk that monitors the power generation from the solar array, are interactive. The station also has an area used to promote other Eugene businesses that incorporate elements of sustainability into their businesses.

In September 2006, SeQuential Biofuels received a Eugene Area Chamber of Commerce Emerald Award for "innovation." Given the success of the Eugene station, SeQuential has plans to replicate the biofuel station model throughout Oregon and beyond. Based on the continued refinement and success of the business model, SeQuential intends to roll out more station sites, including brownfield sites, at an increasing rate. ■

For more information on the Oregon DEQ's brownfields program, contact Jim Glass at glass.jim@deq.state. or.us, or go to: ***http://www.deq. state.or. us/wmc/cleanup/brn0.htm***

For more information on SeQuential Biofuels, go to: ***www.sqbiofuels.com***

EPA Puts Off Making a CCL Determination to Regulate MtBE

by Ellen Frye

For the second time in five years, USEPA has declined to list MtBE as a possible candidate for a Maximum Contaminant Level (MCL,) at least partly because the health risk assessment is still not completed—the agency is requesting more occurrence information. USEPA's "preliminary determination" was published in the *Federal Register* on May 1, 2007; comments are due on or before July 2, 2007.

To assess and address risks posed by unregulated contaminants, the Safe Drinking Water Act (SDWA), as amended in 1996, requires USEPA to make regulatory determinations on at least five unregulated contaminants and decide whether to regulate them through a federal drinking water standard. SDWA requires that these determinations be made every five years. These unregulated contaminants are typically chosen from a list known as the Contaminant Candidate List (CCL), which SDWA requires the agency to publish every five years.

EPA published its second CCL (CCL 2) in the *Federal Register* on February 24, 2005 (70 FR 9071 (USEPA, 2005a)). (MtBE was on the first CCL list, which was published in 1998.) The May 2007 notice announced its preliminary determination that no regulatory action is appropriate or necessary for the following 11 contaminants: boron, the dacthal mono- and di-acid degradates, 1,1-dichloro-2,2-bis (p-chlorophenyl) ethylene (DDE), 1,3-dichloropropene (Telone), 2,4-dinitrotoluene, 2,6-dinitrotoluene, s-ethyl propylthiocarbamate (EPTC), fonofos, terbacil, or 1,1,2,2-tetrachloroethane. This preliminary notice also updates the public on the agency's evaluation of perchlorate and MtBE, contaminants of particular interest to the public.

This action presents the preliminary regulatory determinations for 11 of the 51 contaminants listed on CCL 2 and describes the supporting rationale for each. For the time being, at least, USEPA says that a regulatory determination is not appropriate for any of the 11 contaminants considered. The agency seeks comment on its preliminary determination that none of these 11 contaminants need to be regulated in drinking water and is requesting comment from the public. In October 2006, USEPA published a request for nominations of compounds for the next CCL list (CCL3) and will likely publish a draft CCL3 list for comment later this year.

When making a regulatory determination, the SDWA requires USEPA to consider three areas:

- The potential adverse effect the contaminant may have on the health of humans
- The extent of contaminant occurrence in public drinking water
- Whether regulation of the contaminant presents a meaningful opportunity for reducing health risks.

In CCL1, USEPA passed on MtBE because it did not have enough occurrence information, and because it was revising the health assessment. In CCL2 the agency has a substantial amount of occurrence data, but the risk assessment is still not done. The occurrence information listed is essentially the same as what was known two years ago, mostly from separate USGS and USEPA national surveys (i.e. <0.5% of public water systems with detects above 5 ppb). However, while the agency waits for the final health-risk assessment, it will continue to collect and evaluate occurrence information. The latest notice summarizes some of the available and relevant occurrence information for MtBE and provides an opportunity for states to voluntarily submit finished drinking water occurrence data, information on the potential impacts of MtBE contamination on public water systems, and any treatment information.

For more information go to: http://www.epa.gov/safewater/ccl/reg_determine2.html

A Story from Montana

Down the Rocky Road of Third-Party Inspections, Delivery Prohibition... and Stuff

by Bill Rule

In April 1999, the Montana Legislature handed its UST Program a time bomb with a short fuse. The fuse was two years and eight months long. The bomb was "green-tag" delivery prohibition based on full compliance. But while full compliance is a noble goal, and green-tag delivery prohibition is enormously practical, together they can be explosive. Then add third-party inspections, stir, and, well... you get the picture.

The 1999 legislation privatized the state's UST inspections, and the UST program was given three years to:

- write rules
- provide outreach to the regulated community
- develop internal compliance and follow-up processes
- train private inspectors
- create and provide inspection forms
- develop database tracking procedures
- help all facilities achieve full compliance and issue operating permits and tags to the facilities.

Well, it was a bit of a roller coaster ride. Statute gave our program two years and eight months to develop and complete third-party compliance inspections. We actually met this deadline, but hasty conception kept us flying by the seat of our pants for six years. In the end, the bomb was defused two days before it was to go off.

Our story can provide an advisory tale for states that may follow our path into third-party UST compliance inspections. This is the story of how we proceeded, where we goofed, and what we learned from our experience. Thus forewarned, an agency might want to avoid the short developmental timeframe. It might want to avoid applying enforcement-of-last-resort to petty noncompliance. It might want to keep in mind that it can gain efficiency but that sometimes this efficiency comes with a hair-raising dose of mental torment.

It All Seemed So Simple

It all started when our program's 28-page "State of the Program" document happened to mention that third-party inspections were a "future consideration." Our five-year inspection cycle had gaps in coverage—in other words, our local government inspectors (e.g., county sanitarians) were inconsistent. More often than not, inspections were followed by training and compliance assistance rather than enforcement.

Our Governor at that time was looking for some government functions to privatize. The Montana Department of Environmental Quality's (DEQ's) department director chaired the Petro Fund board, which used compliance for eligibility determination. The petroleum service industry supported an opportunity for a new profit center. Owners believed privatized inspections would reduce government intrusion.

It all seemed so simple—just train and field third-party compliance inspectors. If a facility failed the inspection, make the owner/operator fix the problem and get a reinspection. But it did not prove so easy. Construction permitting, leak-detection documentation deficiencies, mobilization in a large state, and the vagaries indigenous to UST regulation complicated corrective action. This, in turn, complicated the entire process.

The Journey

So it came to pass that we had to be off and running. It was a windier road than we'd expected. Here is a "lite" synopsis of our journey:

■ **Task force** -We started with a task force that included industry and facility owners to guide the implementation. The task force gave some general guidance (and a few incidental mandates) to the UST Program, but it was left to the program to develop procedures and process controls.

■ **Rules** - We wrote rules to establish our authority and create the process. We used Alaska's program as a model, but statutory differences limited just how much we could imitate. On these uncharted waters we, of course, made some errors.

■ **Outreach** - We conducted a lot of outreach—"Heads up, deadlines a-coming." We wrote articles in seven issues of our state newsletter, *MUST News*; mailed seven direct mailings; phoned all owners twice; provided an Internet presence; sent two press releases to Montana's seven daily newspapers; had a booth at the Montana Petroleum Marketers Convention; published articles in three other state agency newsletters; distributed a brochure; and enlisted the support of distributors to pass the word. Our administrative mailings provided outreach as well (e.g., "You have not sent in an inspection report. This is what you need to know.").

■ **Inspector training, testing, and licensing** - We trained, tested, and licensed inspectors. From experience training our own staff, we believe it takes six months to train new compliance inspectors. The first class was comprised of professionals in the UST field, but the 20-hour class pro-

vided only marginally adequate training. Our test included a difficult 200-question written test and a four-facility field practicum. Though well-versed in installation and testing, these inspectors did not naturally take to applying regulatory conclusions to observations.

In retrospect, however, this initial training was a fine starting point. Routine contact to discuss inspection reports combined with technical guidelines and continuing education soon added up to the additional training needed.

■ **Inspection forms** – We revised and published inspection forms. By July 2000, we were ready to field 25 inspectors. At this point, we had a year and a half (until January 1, 2002) to conduct all 1,500 inspections. All facilities were to be in full compliance by April 1, 2002, or they would not be able to lawfully receive or dispense fuel.

■ **Inspections** – Owners were slow to initiate inspections. They'd never had to do so before. On top of this, inspectors were not generally motivated to pursue inspection opportunities. Most inspectors work for service providers who conduct inspections as one part of their service. None of our inspectors conducts inspections full time.

While we did get almost all facilities inspected within the statutory timeframe, there was no way we were going to get all facilities in full compliance by April 1, 2002. We were looking at about 30 percent full compliance. This is not surprising when you consider that there is 67 percent significant compliance nationally. Additionally, we were still inventing the follow-up processes.

■ **Process correction** – Processes changed as reality replaced theory. For example, we made an early assumption that the inspection reports would adequately inform owners of violations and corrective actions. In fact, we found that inspectors often did not understand what constituted violations; requirements were not documented as either compliant or noncompliant, and some reports were hard to decipher. Our program was compelled to send letters to owners distilling the results of the inspection and the required corrective action. With about 70 percent noncompliance (based on the full compliance standard), this was a huge unanticipated workload.

■ **More outreach** – We provided more outreach—"And we really mean it, no Operating Permit, no fuel!"

■ **Data management** – Our program contractors modified the UST Access database to handle the new process. Our database became ready for input in November 2001. We could then process the backlog of inspections. The inspection deadline was now coming up in two months.

■ **Rule and statutory changes** – We effected five rule changes and a statutory change to make the program achievable. One amendment gave owners another year to comply (April 1, 2003). Another gave the department six more months to review the inspections (July 1, 2002). We established Compliance Plans, Conditional and Provisional Operating Permits, and the definition of "active tank." We assigned the authority to interpret inspection reports to the department, clarified the scope of inspections, and modified the consequences of noncompliance. We also authorized significance criteria.

■ **Still more outreach** – We conducted still more outreach—new deadlines, new rules of engagement.

■ **Enforcement** – The statutory standard of full compliance was in effect until two days before our amended, extended deadline of April 1, 2003. A

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What Do USEPA Guidelines Say about Who May Conduct an UST Inspection?

On April 24, 2007, USEPA issued its final guidelines for inspection grants. EPA developed the guidelines, in conjunction with states and stakeholders, according to Title XV, Subtitle B of the Energy Policy Act of 2005. The guidelines identify which USTs require an on-site inspection, the requirements for the on-site inspection, who can perform the on-site inspection, and what information needs to be reported to USEPA. A key decision that many states will need to make before the guidelines become effective on August 8, 2007 will be the type of inspection program they will adopt.

The guidelines state that the UST inspection must be conducted by one of the following:

- A USEPA inspector.
- A state UST implementing agency inspector.
- Another state or local agency inspector that the state UST implementing agency has duly designated, in accordance with state procedures, to conduct UST inspections. For example, this option is used in California and Florida.
- A contractor that USEPA or a state UST implementing agency has duly designated to conduct UST inspections. For example, the Wisconsin UST program uses this inspection method.
- A private UST inspector operating under a third-party inspection program. For the purposes of the guidelines, a third-party inspection program is a state program in which a state-authorized private inspector is paid by an UST owner/operator to perform an inspection. The guidelines provide minimum requirements that a state must meet to implement a third-party inspection program. This option is currently used in Pennsylvania, Maryland, Maine, and Montana.

You can view the guidelines at USEPA's website: *http://www.epa.gov/oust/fedlaws/epact_05.htm*

■ A Story from Montana

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statutory change was signed into law on March 28, 2003. We could then offer an Operating Permit for significant operational compliance but only if we sent the owner to enforcement. At least facilities could operate. We had yet to invent our enforcement mechanisms.

Adding private inspectors to the usual two-way communication (program and tank owner) created an exponentially greater opportunity for miscommunication and a need for absolute accountability. In a perfect world, regulatory interpretations would have already been articulated and posted. But compliance had taken a back seat to the 1998 upgrades and our compliance assistance focused more on training owners than establishing policy and enforcing. We had to learn our shortcomings and fix them on the fly.

By injecting a third party into the communication loop, we added unverifiable communication and blame for lost paperwork into the mix—"But he told me he would [send, sign, fix, fax, inspect, tell you..., get back to me, etc]." An important axiom of civil service—"If two people can be blamed, no one is at fault." One needs to make certain that one of those two is not one's own program. Further, one needs to ensure that the owner cannot play the inspector against you. Our rules pin responsibility for everything other than the inspection itself onto the owner. The owner must ensure the facility is inspected and must ensure the inspection is sent in (even though the inspector usually sends it in).

We developed a Violation Table that detailed more than 250 violations (failure to…), their significance (major, moderate or minor), legal citation (this is a violation of….), and corrective action (this violation can be corrected by…). The table was input to our UST Access database. It documented our newly authorized (March 24, 2003) significance criteria, classified our data input, and generated compliance letters to facilities. The Violation Table was an invaluable tool to help us make the project achievable.

■ **Regulatory duties** – The program reviewed reports, input data into our database, sent corrective action plans, and developed directions for inspectors and the owners on how to negotiate the process.

■ **Outreach, outreach, outreach** – "And we still really mean it, no Operating Permit, no fuel!"

■ **More regulatory duties** – Meanwhile, back at the office, we were tracking inspections and re-inspections, issuing Compliance Plans, sending compliant facilities Operating Permits and Operating Tags, providing compliance assistance, and carrying out enforcement. Of 1,500 facilities inspected, DEQ eventually initiated enforcement on 40 facilities for failure to be in full compliance (a year and a half after our initial deadline)—2.67 percent of the total number of facilities inspected.

Phew!

By April 1, 2003 we were done with the first round. It took us another year and a half to finish implementing the program. We rewrote our forms, completed our significance criteria, made yet another statutory change (freeing ourselves from mandatory enforcement on less than significant operational compliance), established a reasonable threshold for delivery prohibition, and finalized our enforcement processes. By December, 2005, we had what we considered a solid, workable third-party inspection program. The process had taken over six years to develop. We are still fine tuning it.

We try to conduct oversight inspections on 10 percent of inspections by each inspector. In the three years it took us to implement the private inspector program we lost two of our three staff inspectors. It was hard to train the two new guys to do oversight on seasoned installers-turned-inspectors.

I have argued that an inspector can find a violation at any facility if he or she probes deeply enough. Similarly, two capable inspectors can find different deficiencies at a facility. It is important not to make too much of these differences as we offer course corrections. Our larger concern is keeping a pool of inspectors willing to do inspections at any price. It would be easy to alienate the whole bunch if we push too hard.

Finally, we had to decide how to enforce on violations discovered during oversight inspections. They lay totally outside the processes we had invented.

What We Learned?

■ **It takes time to design and implement a program.** Consider two years to develop a program, then two or three years to complete the inspections.

■ **Full compliance, backed by mandatory enforcement, is not a reasonable burden to place on UST facilities or an UST program.** Establish significance criteria. This suggestion is incidental to third-party inspections but applicable to the package that we were handed.

■ **No matter how much owner outreach you do, it won't be enough, but lots of it will make your life simpler.** If you document all of your outreach in a binder, it can cover your tail when (not if) you are assailed for not doing enough.

■ **Industry professionals understand the equipment—a valuable starting point. However, they are less inclined than regulators to understand and apply regulations.** Focus your training here. For example, identify exactly what kinds of compliance recordkeeping you expect. Montana intends to write guidance similar to Wisconsin's "Owner and Operator Compliance Guidelines" and post it on the Web.

■ **Make certain that your forms ask what you need to know in such a way that you can determine compliance.** Don't ask about deficiencies you will ignore. Simplify, simplify, simplify. The forms will still be too long. If your files or databases are accurate, don't ask questions you already have answers to (e.g., materials, capacities, leak-detection methods). If your files are not accurate, consider changing forms on the second round so inspectors don't have to gather that information again.

■ **Compliance assistance saves staff time; enforcement devours it.** We send out inspection notices six months before an Operating Permit expires and a warning letter 80 days before. We start making phone calls 45 days before an Operating Permit expires. We hound operators and inspectors when corrective action

deadlines approach. Administrative expedience alone justifies compliance assistance, but we've also been accused of "holding the owners' hands." We're OK with that.

■ **Don't put your inspectors in the position of determining compliance for you.** It's legally risky and it's painful when you disagree with the inspector's interpretation of your regulations. If anyone has a set of UST regulations that are transparent and free of interpretation, please share them with the rest of us.

■ **Remember that inspectors are working for tank owners/operators, not for you.** Left alone, interpretations charitable to the owner will implement themselves without your knowledge. Questions unasked remain unanswered...so do some that are asked. We treat relevant, unanswered questions as violations until they are answered to our satisfaction.

■ **Oversight inspections (audits) will uncover charitable interpretations, inspectors' weak points, and any inklings of fraud.** These become the focus of continuing education. A strong oversight program should eliminate fraud. Fraud is hard to definitively differentiate from error or oversight. An upcoming rule change will give us the authority to condition or revoke an Inspector License for any of those shortcomings.

■ **The tendency for inspectors to be charitable to owners seems less motivated by who is paying them than by resistance to being perceived as regulators.** Regardless, oversight inspections provide the mitigation. As most inspectors work for service providers, there is also the potential perception that inspectors are drumming up work for their employers. Though these two potential conflicts run counter to each other, both need attention.

■ **The Biggie: Processing inspection reports that others have completed will cause you to interpret and articulate every aspect of your regulations.** This is a good thing. But, unlike us, it would be best to do it in the design phase. All you need to do is figure out all your potential problems before they present themselves. Good luck with that. I could give you a list of the ones we found, but yours will be different.

How Are Our Third-Party Inspections Working?

In the plus column, Montana now has a three-year inspection cycle with process controls to ensure that all active facilities are evaluated. Inspection quality is higher than with local government inspectors because industry-savvy inspectors are UST professionals. Inspectors continue to improve. Our program was forced to examine and justify all ramifications of its regulations, inspections, paperwork, database processes, and enforcement tools.

No staff time was saved during the program development; efficiencies are realized later. Now that the dust has settled, one-and-a-half technical staff and one administrative person handle about 500 inspections per year. The five-year cycle is improved to three years at a savings of about half an FTE.

On the negative side, we have passed costs on to owners without significantly reducing the department's workload. We've reassigned the .5 FTE; but cost to owners is roughly five hours of service per inspection. While the quality of inspections is improving, the inspections are not as good as those conducted by experienced program inspectors—when we had them. Department inspectors are already stigmatized as regulators and will get paid regardless of the outcome.

We now see our regulated community through the paperwork generated from third-party observations. This extra level of abstraction complicates the program's involvement rather than simplifies it. Oversight inspections have uncovered a bit of suspected fraud and quite a bit of charitable interpretation.

Probably the biggest down side of third-party inspections is that, after seven years and significant staff turnover, our program is staffed with "theoretical" inspectors. Yes, we know the regulations, but we no longer have experienced inspectors on staff to train our oversight inspectors. Our new inspectors are getting more experienced, but that they are learning while conducting oversight on seasoned inspectors is tough on all concerned.

The upshot? Now that the program has landed, we find third-party inspections to be a manageable alternative to program inspections. Yet, we are not as tuned into the field as we would like to be, the inspections are not as accurate as the ones our old inspectors used to produce, and the paper blizzard is incessant.

It is, however, a way to "do more with less" should the topic ever come up. ■

Bill Rule has managed Montana's UST Program for seven years. He can be reached at brule@mt.gov. Montana's UST Program website can be accessed at http://www.deq.state.mt.us/UST/index.asp

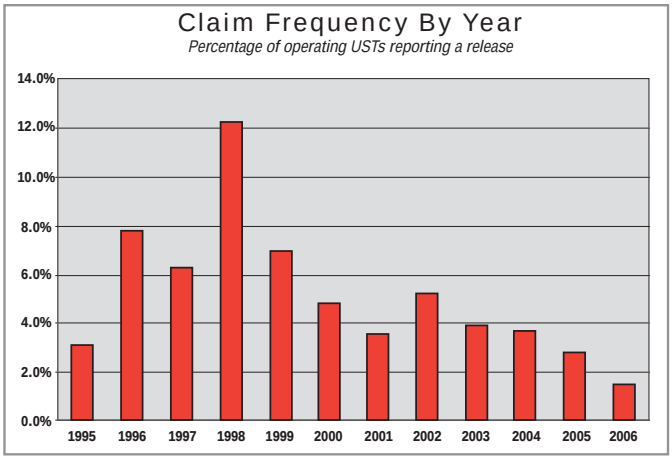
John T. Wilson Receives the First Annual LUST Poster Session Achievement Award at the National Tanks Conference in San Antonio, Texas.

John Wilson (right) receives award from Matt Small, USEPA Region 9.

John Wilson is a pioneer in the study of biodegradation and the use of naturally occurring bacteria to remediate petroleum releases. The award was presented to John from his friends and colleagues with thanks for his many years of dedication, patient mentoring, and inspired contributions to the science and art of cleaning up leaking underground storage tanks. ■

Counting Leaks

by Carol Eighmey



It's been twenty-three years since Congress decided that the owner of every operating underground tank in the country had to (a) take steps to prevent leaks and spills, and (b) implement a method to detect leaks when they occur.

In response, USEPA published rules in 1988, and nearly every state designed and implemented a program to assure that tank owners and operators comply with these requirements. Companies designed, sold, and installed a variety of devices, procedures, and methods aimed at accomplishing leak prevention and detection objectives. Tank owners and operators bought and (hopefully) learned to operate and maintain these devices and systems. Regulators inspected both the tank systems and the required records.

So Has the Game Plan Worked?

Have nineteen years of leak prevention and leak detection efforts borne the desired fruit? Is the incidence of leaks from operating underground tanks declining? We don't really know. At least, most of us don't. Here's why.

In most states, a release from an operating UST system is recorded and reported in exactly the same way as newly discovered pollution from an old, out-of-use tank system. In other words, if the piping beneath a dispenser at an operating truck stop springs a leak, and the owner reports it to the regulatory agency, it is recorded as a "new release." If someone buys a corner lot that was a gas station in the 1970s, discovers three old buried tanks and subsurface petroleum impact, and then reports it to the regulatory agency, it too is recorded as a "new release." And in most states, the regulator does not code those two reports any differently!

So even though states reported 8,361 "new releases" to USEPA last year, we have no idea how many were leaks from operating tank systems. If I may say so, there is something really wrong with this picture.

Where's My Soapbox?

Ladies and gentlemen, we are spending taxpayers' money on programs aimed at reducing the incidence and severity of leaks, and we ought to be measuring the effectiveness of these efforts. At the recent National Tanks Conference, I stood on my soapbox and challenged states to change their recordkeeping practices so they can distinguish between leaks from operating UST locations and "historical releases" that are only now being discovered. This is the minimum that we ought to be doing with our recordkeeping. And it can be done readily .

If you assign a number to each release—and who doesn't in this age of computers?—you can readily change your numbering system to make this old- versus new-release distinction. For example, when a release is reported by someone whose Phase II assessment found contamination, but there are no operating tanks at the site, you could number that release with a different first digit or letter than releases reported by operating tank sites. This simple technique will give you the ability to separate the two types of releases reported at the end of the year, thus providing the means for determining the incidence of leaks from operating, regulated tank systems and observing, over time, whether the leak frequency at operating UST sites is declining.

We've been using different codes for these two types of releases for many years. And, as Figure 1 shows, in Missouri, the frequency of releases reported from operating UST systems has, in fact, decreased. In 1998, when many UST owners chose to cease operations and remove their tanks rather than upgrade them, the incidence of reported releases went up. But the overall trend is clearly decreasing.

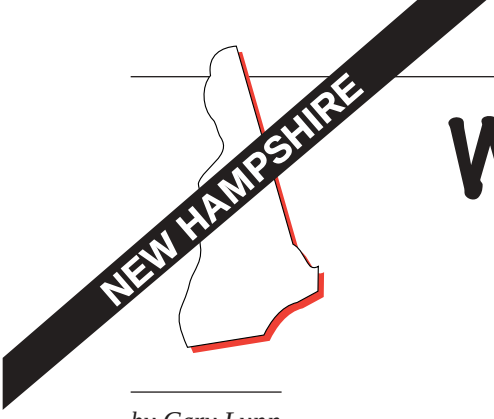
Mend Your Ways

Now is a good time to think about how to make this change in your recordkeeping system. Most states are contemplating how to implement the new reporting requirements of the federal Energy Policy Act on "sources and causes of leaks." Congress clearly wants to know more about what is happening out there at UST sites. If you will be revising or redesigning your database codes, you may want to design a more sophisticated coding system that will provide even more useful information about releases. But if resources are too scarce for major software changes, you can still make this one simple change and begin distinguishing between "new releases" and "old releases."

I encourage to you to do it. It's time we stopped reporting all releases as if they are "leaking underground storage tanks." Most release reports do not involve leaking tanks at all. Rather, they're simply newly discovered examples of why "We The People" enacted that law twenty-three years ago. And if you start counting smarter, I bet you'll find your trend is similar to ours. I bet it will show that your UST program is accomplishing its objectives. It's time we told that story. ■

Carol Eighmey is Executive Director of the Missouri Petroleum Storage Tanks Fund. She can be reached at pstif@sprintmail.com.

This article is based on Carol's presentation at the National Tanks Conference in March 2007. Her Powerpoint presentation is posted under the Prevention Track for the Wednesday Leak Autopsy session at: http://www.neiwpcc.org/tanks07/agenda.asp



What's in Your Gasoline?

by Gary Lynn

Understanding what is in gasoline is essential to understanding contaminated sites. Regulatory initiatives, supply disruptions, and economics can stir the winds of change, and your knowledge of what's in gasoline can lag behind. Hurricane Katrina, for example, smashed into the Gulf Coast and sent it's winds surging through 47 percent of the nation's refining capacity. As America sifted through the mess Katrina created, it discovered that about 20 percent of the Gulf Coast refining capacity was knocked offline (National Petrochemical and Refiners Association testimony to Congress). USEPA responded to this crisis with regional and national fuel waivers that, among other things, temporarily increased fuel volatility and allowable sulfur content in some regions. Katrina impacted gasoline supply, demand, and composition with breathtaking rapidity.

Hello EtBE

One impact of Katrina was that a significantly higher volume of gasoline was imported from "opportunistic" foreign refineries. Imports of finished RFG and gasoline blendstock from approximately 30 countries helped make up for the post-Katrina loss in domestic capacity. However, domestic and overseas refineries produce slightly different versions of gasoline. For example, European imports contain more ethyl *tertiary*-butyl ether (EtBE) than domestic gasoline. In Europe EtBE is promoted as a biofuel—"bio EtBE"—because it is manufactured using "bioethanol."

The European Union (EU) has ambitious targets for increased production and use of biofuels, because biofuels play an important role in Europe's greenhouse-gas emission-reduction strategy. Biofuels are assigned lower carbon-dioxide emission rates than conventional fuels, because crops used to generate them are replanted and subsequently take up the carbon dioxide. Bottom line, European gasoline can contain EtBE, and the EtBE content is likely to increase in the future.

The Colonial Pipeline

Gasoline composition depends on many other factors (e.g., regulatory restrictions, economics, crude composition) above and beyond the size of foreign imports. For example, the Colonial Pipeline Company, which (according to Wikipedia) has more than 5,500 miles of line originating in Houston Texas and terminating in New York harbor, delivers a daily average of 100 million gallons of gasoline, home heating oil, aviation fuel, and other refined petroleum products to locations throughout the South and Eastern United States. The company, owned in part by ConocoPhillips, Philips Petroleum, and Shell subsidiaries, ships fuel from all the major oil companies. It is both a fuel-composition trendsetter and an oil-industry consensus builder.

Besides natural disasters and other similar bumps in the road, gasoline composition will change over time as companies try to adapt to governmental mandates for renewable fuel content and low air emissions. When these changes occur, plumes may be impacted, and the type of compounds released from tanks may change.

Colonial Pipeline's influence extends beyond the enormous quantities that physically move through the pipeline. For example, the New York Mercantile Exchange uses the company's specifications to set requirements for the gasoline futures market—any change in Colonial Pipeline gasoline specifications sends ripples throughout the industry.

Oxygenate content in gasoline has changed dramatically because of recent oil company and Colonial Pipeline decisions. The current Colonial Pipeline specifications give clues about where MtBE may still be in use and where it is unlikely to be in gasoline. In the most recent specification for conventional gasoline in North Carolina, Virginia, and Maryland, MtBE is allowed; however, all ethers and alcohol are prohibited in reformulated gasoline blendstock.

In other words, MtBE is not likely to be in significant concentrations in Eastern and mid-Atlantic reformulated gasoline (RFG) gas, but based on the specifications, MtBE may still be present in some areas that use conventional gasoline. It is also noteworthy that the RFG blendstock ether prohibition is not absolute and actually specifies a maximum of 0.25% of MtBE at the point of origin and 0.5% at the point of delivery.

Colonial Pipeline's specifications for MtBE and other ethers have changed several times during 2006 and 2007. Specs are also different for different gasoline grades. MtBE-content limits imposed by Colonial Pipeline and by major oil companies have strongly reinforced state ether/MtBE bans and effectively capped the ether content of gasoline in many states without bans, beginning May 2006. The specifications are subject to change, however, and are worth keeping on eye on.

Remediation Program Observations

Natural events, such as Katrina, can change the delivery dynamics and the composition of gasoline, as the New Hampshire Department of Environmental Services (NHDES) learned. NHDES collects data on all fuel oxygenates, and our data provide a number of relevant case studies that reflect why it is valuable to collect data on oxygenates and to keep on top of changes in fuel composition.

Take, for example, a new gas station in central New Hampshire that contaminated a nearby private drink-

■ *continued on page 12*

■ Your Gasoline *from page 11*

ing water well in 2003. Based on extensive tank-system testing and the reduction of contamination levels after tank-system repairs, the problem is believed to be a vapor release from the tank system.

Suddenly, during ongoing groundwater monitoring, we detected the presence of EtBE at the site after Hurricane Katrina hit in August 2005 (see the above discussion on the link between European imports and EtBE). EtBE was first detected in November 2005 in both the monitoring well near the tank system (493 ppb vs. 40 ppb groundwater quality standard) and in the pump-and-treat system. By the end of 2006 the EtBE had migrated to the drinking water well in low concentrations (0.88 ppb).

Why is this useful information? EtBE showing up in the groundwater demonstrated that (a) the tanks are still leaking, (b) the pump-and-treatment system's capture zone is insufficient to fully protect the nearby drinking water well, (c) the time of travel to the drinking water well is about 1 year, and (d) EtBE can be released during vapor releases from tank systems in a similar fashion to MtBE. Our conceptual model wouldn't have included this valuable information, if NHDES did not understand gasoline composition changes and require analysis of all gasoline oxygenates (e.g., MtBE, TBA, EtBE and DIPE).

Besides natural disasters and other similar bumps in the road, gasoline composition will change over time as companies try to adapt to governmental mandates for renewable fuel content and low air emissions. When these changes occur, plumes may be impacted, and the type of compounds released from tanks may change. It seems obvious now that New Hampshire gasoline composition is likely to vary somewhat, depending on whether it comes from Canada (Irving Oil), New Jersey refineries, or Europe. The question then for New Hampshire and other tank cleanup programs is: What's in your gasoline? ■

Gary Lynn is the Petroleum Remediation Section Manager for NHDES. He can be reached at glynn@des.state.nh.us

Publicly Available Fuel-Composition Data from Maine

To add to a short list of sources of publicly available fuel-composition data discussed in *LUSTLine* #54, the Maine Department of Environmental Protection (DEP) Air Bureau posts data on its website that gives an analysis of shipments to storage terminals in Maine. Analytes sampled include typical gasoline oxygenates, aromatics, sulphur, and benzene. This information is available at *http://www.maine.gov/dep/air/mobile/fuelspage.htm* In 2005, 307 shipments were sampled. The complete report for 2005 is also posted at this website. The 2006 report will be published soon.■

API's New Technical Protocol for Evaluating the Natural Attenuation of MtBE

Methyl *tert*-butyl ether (MtBE) has been produced commercially in the United States since 1979 and used as an octane enhancer and oxygenate in gasoline. Releases of MtBE-containing gasoline have led to the detection of MtBE in soil, surface water, and groundwater. MtBE may be removed from environmental media by some active or passive strategies typically employed for gasoline remediation, including Monitored Natural Attenuation (MNA).

API's new *Technical Protocol for Evaluating the Natural Attenuation of MtBE* (Zeeb, P. and T. H. Wiedemeier. 2007) provides a framework for incorporating MNA of MtBE (and other oxygenates or degradation byproducts such as *tert*-butyl alcohol) into an overall cleanup strategy. The fundamental approaches for MNA were documented by USEPA and the American Society for Testing and Materials (ASTM) beginning in the late 1990s. This manual applies these fundamental approaches to help the user create and implement an MNA strategy that is appropriate for the unique physical and chemical properties of MtBE .

This technical protocol addresses data collection, evaluation, and interpretation procedures that consider the properties of MtBE and other oxygenates and degradation byproducts. A tiered approach is offered that can be used by stakeholders to interpret several lines of evidence to evaluate natural attenuation on a site-specific basis. A number of resources are provided to support an MNA evaluation including:

- a review of basic scientific principals relevant to the evaluation of MtBE natural attenuation, including biodegradation and physico-chemical attenuation mechanisms
- a discussion of data that can be used to assess MtBE (and other oxygenates or degradation byproducts) natural attenuation
- technical references for relevant chemical properties, analytical methods, and field-sampling techniques
- protocols and guidance for data quality assurance and interpretation, including statistical analysis
- guidance on the presentation of natural attenuation data / information to facilitate regulatory and other stakeholder review and acceptance of MNA remedies.

Even though MtBE-oxygenated gasoline has been phased-out of most U.S. gasolines, this protocol is a useful tool for evaluating natural attenuation as a potential component of an overall cleanup strategy at sites where oxygenates were previously released.

API Publication 4761 (186 pp.) is available at: *http://www.api.org/mtbe*

Field Notes

from Robert N. Renkes, Executive Vice President, Petroleum Equipment Institute (PEI)

Is There a Proper Goodbye for Stage II Vapor Recovery?

Most *LUSTLine* readers are familiar with the studies and fieldwork covering vapor releases from USTs. Although it is limited to a handful of sites in a few states, almost all of the literature on the subject concludes that vapor releases into the environment are exacerbated by vacuum-assist Stage II vapor-recovery systems that pressurize tank ullage and force product vapors out of the storage systems.

With MtBE in gasoline, some researchers concluded that even "small" ongoing vapor releases could cause a significant groundwater problem. Now that MtBE has, for the most part, been removed from gasoline, the problem identified by some state UST regulators who are still looking at vapor releases seems to be limited to "larger" releases.

Thanks to the federal government (yes, remember, they are here to help us), it now appears that we can foresee a time when Stage II vapor recovery will begin to disappear in almost all of the 20 states that currently require Stage II.

The federal law (Section 202[a][6] of the Clean Air Act) says that the USEPA administrator may waive Stage II gasoline vapor-recovery requirements in moderate ozone nonattainment areas upon standards promulgation. It is under this provision that the Florida Department of Environmental Protection (DEP) proposed rules this spring that would eliminate Stage II vapor-recovery requirements for new and upgraded gasoline-dispensing facilities in the moderate nonattainment areas of Miami-Dade, Broward, and Palm Beach Counties. The same DEP proposal would phase out Stage II vapor-recovery requirements for existing facilities in those counties.

Things become a little more complicated in worse air-quality regions and the Northeast. In another section of the Clean Air Act, the law provides that USEPA may waive Stage II by rule in more severe ozone nonattainment areas after the administrator determines that onboard refueling vapor-recovery systems (ORVR) are in "widespread use" throughout the motor fleet.

States in the Northeast (northern Virginia through Maine) are in the Ozone Transport Region (OTR). These states are required to have either Stage II or *comparable measures* even when widespread ORVR use is declared. Regulators in those states hope that ORVR will be declared a "comparable measure" by the federal EPA so they will not have to jump through more hoops than necessary to move away from Stage II.

USEPA still has to make the next move by defining when it would consider ORVR in "widespread use." The agency has not determined what criterion it will use (e.g., percent of fleet with ORVR, vehicle miles traveled with ORVR, gasoline sold to ORVR vehicles). Similarly, it has not decided the percent penetration of ORVR into the vehicle fleet that will be required (somewhere between 80 and 95 percent) to transition from Stage II to ORVR.

Sometime down the road, state UST regulators will have to get together with their counterparts on the air side and figure out how they want to properly abandon their Stage II systems.

Despite these uncertainties, it appears to me that Stage II vapor recovery's days are numbered. Here is how I see it playing out in all states but California, which has gone on record promising to keep Stage II in effect at least through 2020:

- USEPA will supply the criterion for "widespread use."
- Widespread use determinations will be made state by state or region by region.
- States will determine when the criterion for widespread use applies to their state. Once that is determined, states will then submit a state implementation plan revision removing Stage II.
- Stage II will begin to disappear from the states between 2011 and 2013.

Sometime down the road, state UST regulators will have to get together with their counterparts on the air side and figure out how they want to properly abandon their Stage II systems. Florida DEP's proposed rule requires that "any gasoline-dispensing facility that ceases to operate and maintain its Stage II vapor-recovery system pursuant to the rule shall decommission the system in such a manner as to seal and eliminate all areas of possible liquid and vapor leakage." Will that work for you? ■

FAQs from the NWGLDE

… All you ever wanted to know about leak detection, but were afraid to ask.

What Does the Disclaimer on Our Website and List Mean to Users?

In this issue's FAQ's from the National Work Group on Leak Detection Evaluations (NWGLDE), we discuss the "disclaimer" on our website— nwglde.org/disclaimer—and also on page ii of the 14th Edition NWGLDE List. (Please Note: the views expressed in this column represent those of the work group and not necessarily those of any implementing agency.)

Q. In your last FAQ article, you referred to a disclaimer on your website. What does this disclaimer mean to those of us who regularly use the NWGLDE List?

A. The purpose of the disclaimer statement is to point out certain limitations users should be aware of concerning the NWGLDE List of leak-detection equipment. While disclaimers can provide important information, people typically do not read them. For example, the disclaimer clearly states that the NWGLDE List "is not an EPA list," and "appearance on the List does not constitute approval by the NWGLDE or EPA," yet equipment that appears on the NWGLDE List is incorrectly referred to as "EPA approved" in many leak-detection-equipment vendor brochures.

An example of the importance of the information contained in the NWGLDE disclaimer was discussed in our previous FAQ article that appeared in *LUSTLine* #54 (February 2007) concerning alternative fuels. A reference was made to the NWGLDE disclaimer to make it clear to users that evaluations of leak-detection equipment do not address "long-term material compatibility with the product stored." To a regulator, this means that the List is not the correct source to determine whether or not materials used to manufacture leak-detection equipment are compatible with alternative fuels.

The disclaimer states: "The NWGLDE makes no representations concerning the safe operation of any method or equipment. Users of any method or equipment appearing on this List assume full responsibility for the proper and safe operation of said equipment and assume any and all risks associated with its use." This should make it clear to the user of the List that none of the evaluations performed using the leak-detection protocols shown on the List address safety issues. Instead, standards such as UL, API, PEI, or local fire codes should be referenced.

Another portion of the NWGLDE disclaimer warns the user that the information on each listing is "specific to the most current third-party evaluations submitted to the NWGLDE" and that "subsequent modifications or changes to the method, equipment, or software may produce parameters and data values that are significantly different than the listed third-party evaluation parameters and data values." The NWGLDE is aware that, at times, manufacturers of leak-detection equipment make modifications or changes to equipment after the equipment has been evaluated. However, the NWGLDE is dependent on the manufacturer to take the responsibility to reevaluate the equipment when modifications or changes are made that affect the ability of the equipment to detect a leak. Since it is not possible for the NWGLDE to be aware all modifications or changes made by the manufacturers, it therefore becomes "the responsibility of the implementing agency to accept or reject those modifications or changes."

Hopefully, this discussion will encourage you to take a look at the disclaimer the next time you reference the NWGLDE List.

NWGLDE List Disclaimer

GENERAL

Appearance on this list is not to be construed as an endorsement by any regulatory agency nor is it any guarantee of the performance of the method or equipment. Equipment should be installed and operated in accordance with all applicable laws and regulations.

This list of Leak Detection Evaluations was prepared by a work group consisting of State and EPA members and is limited to evaluations of leak detection equipment and procedures or systems, conducted by an "independent third-party evaluator" (see Appendix "Glossary of Terms") and reviewed by the work group. This list includes evaluations conducted in accordance with either EPA Standard Test Procedures for Evaluating Leak Detection Methods (EPA / 530 / UST-90 / 004 through 010) or other test procedures accepted by the NWGLDE as equivalent to the EPA standard test procedures (see Part III "Acceptable Test Protocols").

The National Work Group on Leak Detection Evaluations (NWGLDE) does not guarantee the performance of any leak detection method or equipment appearing on this List, nor does it warrant the results obtained through the use of such methods or equipment.

SPECIFIC

• The NWGLDE does not evaluate methods or equipment and appearance on this List does not mean they are automatically acceptable for use in any particular state or local jurisdiction.

• The NWGLDE List is not an EPA List, nor does appearance on this list constitute endorsement or approval by the NWGLDE or EPA. Anyone claiming that a device or method is "EPA approved" because it appears on this list is making a false claim.

• The NWGLDE makes no representations concerning the safe operation of any method or equipment. Users of any method or equipment appearing on this List assume full responsibility for the proper and safe operation of said equipment and assume any and all risks associated with its use.

• On each data sheet, this List reports parameters and data values for methods, equipment, and software that are specific to the most current third-party evaluation submitted to the NWGLDE. Subsequent modifications or changes to the method, equipment, or software may produce parameters and data values that are significantly different than the listed third-party evaluation parameters and data values. It is the responsibility of the local implementing agency to accept or reject those modifications or changes.

• Since long term material compatibility with the product stored is not addressed in test procedures and evaluations, the NWGLDE makes no representations as to the compatibility of leak detection equipment with the product stored.

If you have questions for the group, please contact them at: questions@nwglde.org

EPAact Update

At the mid-year point, the USEPA Office of Underground Storage Tanks is making progress toward finalizing the requirements under the federal Energy Policy Act. Below is a list of documents that are either final or draft.

Final Documents:

Inspection Grant Guidelines: The Inspection Grant Guidelines require states to ensure that USTs not inspected since December 22, 1998 undergo an on-site inspection before August 8, 2007 and subsequently undergo an on-site inspection at least once every three years thereafter. These guidelines identify: 1) which underground storage tanks require an on-site inspection; 2) what the requirements are for the on-site inspection; 3) who can perform these on-site inspection; and 4) what information needs to be reported to USEPA.

State Compliance Reports on Government Underground Storage Tanks: The grant guidelines for state compliance reports on government USTs describe what information must be included in a state's compliance report. States must report to USEPA no later than August 8, 2007 on the compliance status of USTs owned or operated by federal, state, and local governments.

Public Record: The Public Record Grant Guidelines discuss: 1) developing and updating the public record; 2) making the public record available; 3) describing the minimum public record content; 4) ensuring data quality; and 5) demonstrating and ensuring compliance with the guidelines. States receiving federal funds must develop a program for gathering information and begin gathering data to meet the public record requirement by October 1, 2007.

Financial Responsibility and Installer Certification: The Financial Responsibility and Installer Certification Grant Guidelines include definitions, requirements, criteria, and options for states choosing to implement the financial responsibility and installer certification requirements. States receiving federal funds must implement the financial responsibility and installer certification requirements by February 8, 2007.

Secondary Containment Grant Guidelines: The Secondary Containment Grant Guidelines, include definitions, requirements, and examples for states choosing to implement the secondary containment provision. States receiving federal funds must implement the secondary containment requirements by February 8, 2007.

Delivery Prohibition: The Delivery Prohibition Grant Guidelines describe the procedures states must use for prohibiting delivery to underground storage tanks that are ineligible to receive product. States receiving federal funds must implement the delivery prohibition requirements by August 8, 2007.

Tribal Strategy: The tribal strategy identifies key issues and actions to: 1) strengthen the relationships between USEPA and tribes; 2) improve information sharing; 3) enhance tribal capacity; and 4) further the cleanup and compliance of underground storage tanks in Indian Country. USEPA is working with its tribal partners to develop a report to Congress regarding UST/LUST implementation in Indian Country by August 8, 2007.

Draft Grant Guidelines Available For Public Comment:

Operator Training: On May 10, 2007, the public comment period for the draft operator training grant guidelines closed. USEPA and states worked closely with other stakeholders in developing draft operator training grant guidelines. EPA has solicited comments on the draft guidelines. After considering public comments, EPA will issue the final grant guidelines.

To view these documents visit: www.epa.gov/oust

Getting Ready for the 2008 National Tanks Conference

20th Annual National
TANKS CONFERENCE & EXPO

NEIWPCC EPA ASTSWMO

The 20th Annual National Tanks Conference & Expo will be held on March 17-19 in Atlanta, Georgia.

It's time to:

- **Submit your abstract or idea!**
- **Propose a workshop or training session!**
- **Reserve booth space or poster session space!**

Send any questions to: NTCinfo@neiwpcc.org

The conference provides learning and networking opportunities for federal, state, and tribal UST/LUST regulators. The focus is on building on our progress, setting priorities, and developing plans for reaching our common goal—to find new and better ways to work together to protect human health and the environment by preventing tank releases and quickly and efficiently cleanup releases that do occur.

ALSO, our new CONFERENCE WEBSITE—www.neiwpcc.org/tanksconference—will be active as of July 13, 2007.

Navajo Nation Introduces Food-Grade Nutrients for Bioremediation at Abandoned Gas Stations

The Navajo Nation is using sugar, coffee creamer, and ice cream cone ingredients to help bioremediate its petroleum-contaminated abandoned gas station sites. They chose to begin applying natural food-grade ingredients to these sites because the use of harsh chemicals was not desired.

According to Henry Haven, a geologist with the Navajo Nation EPA LUST program, the nontoxic, nonhazardous food additives are applied to the tank pit or excavated soil as a special nutrient-rich warm water solution comprised of dipotassium phosphate, ammonium bicarbonate, and sugar. The phosphate acts as a detergent which suppresses the volatility of VOCs in the TPH and also serves as a nutrient source. The ammonium is used as a nutrient source to promote bioremediation. The sugar is used as a co-metabolic co-substrate to speed up the bioremediation process. The warm water is used for heat and moisture enhancement.

The Navajo Nation EPA LUST program has treated petroleum-contaminated soil and groundwater at ten sites and achieved no further action at eight of them. Typically, soil with PID readings of 100 to 1,000 ppm are treated with the food-grade ingredients. Soil with higher PID readings are sampled and excavated and then assessed for further corrective actions.■

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