



*Technology and Marketing Consultant*  
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## A step beyond UST upgrading

**Serious consideration should** be given to products that can take a UST beyond minimum legal requirements, as long as these options provide cost-effective solutions to other problems or can enhance the operations of the station.

Since remediation is the most costly way to “solve” leak problems, one of the most profitable long-term investments that any station owner can make is to develop a sound system of early release detection. This, however, is easier said than done because the best solutions are difficult to define, since they depend on site-specific factors as well as on budgetary constraints.

**A probing question** – Over the last decade, I watched monitoring equipment options multiply from a single tank probe in the mid 1980s to an almost infinite number of combinations of in-tank probes, statistical leak detection methods and sensors.

Marketplace competition usually helps consumers make up their minds by offering lower prices and additional choices. However, it takes an informed consumer to find the best and most effective choices. And, obviously, very few people have the resources to conduct independent laboratory and field evaluations of competing equipment.

Purchase of equipment is actually the easiest part of implementation. Even though this part of the process is a challenge, you can learn about various equipment via the manufacturers; and you can obtain referrals from colleagues, trade organizations and through EPA third-party evaluations. However, there are other things you need to do – far less well defined than purchasing – to achieve an effective operating system that will work for you.

**Tooling the system** – One of my former Amoco associates, Dan Fierce, has developed six simple guidelines for designing and implementing effective release prevention systems that he derived from years of helping people in the field put these systems into use.<sup>1</sup>

- *Design the system around the people, not the equipment.* Provide service staff with the specific data they need; and send all other information to a central station management system. Modern electronics generates lots of information – too much of it can block your main business objective.
- *Keep it simple.* As equipment becomes more sophisticated, installation and maintenance requirements become more challenging. New equipment needs to be tested, and a track record needs to be established at field locations, rather than just in the laboratory.
- *Maintain flexibility* through standardized systems that are designed for easy assembly and repair. These standardized, or modular, systems will give you the best possible insurance against planned obsolescence. Purchasing modular technology allows you to buy what you need now, and make additional or only partial replacements when needed later.
- *Install as many remote sensors and monitors as possible.* Don't rely entirely on one-to-one, personal communications as your main safeguard against disaster; these communications are generally the weakest link in the chain. Direct automated alarm signals to those people with authority and responsibility for responding.
- *Ensure that training is coordinated with the completion of construction.*

If training is completed too early, staff may forget important issues; if completed after the fact, equipment may be used improperly.

- *Ensure that proper attention is given to alarm planning.* Federal mandates require that line leaks of 3 gph or more trigger a shut down of the submersible pump. Should you automatically shut down at leak rates lower than this? Weigh the potential risk of a release versus the consequences of lost business.

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**Just do it** – To increase long-term performance and cost-effectiveness of UST upgrade options, you will need to go beyond the traditional decision-making process involved in selecting equipment and planning installation. This can be done by taking into consideration personnel training; alarm response planning; record-keeping options; and maintenance and upgrading concerns when planning your modernization.

#### References

1. Dan Fierce, “Managing Retail Environmental Risk” (paper presented at the annual meeting of the American Petroleum Institute’s Marketing Operations Symposium, Denver, Colorado, September 1994).

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