

## A Viable Method of Leak Detection for Underground Storage Tank (UST) Systems

### WHAT IS IT?

- ▶ This method measures for the presence of product vapors in the soil to determine if product leaked from the UST system.
- ▶ Vapor monitoring wells near the tank and/or piping are checked continuously or at least once a month to determine if product vapors are present.

### WILL YOU BE IN COMPLIANCE?

- ▶ When installed and operated according to the manufacturer's instructions, vapor monitoring meets Arizona's leak detection requirements for new and existing UST systems.
- ▶ Performing a vapor monitoring test at least once each month fulfills the leak detection requirements for the life of the tank.
- ▶ Maintain a log of your monthly monitoring data at the facility.
- ▶ Keep all records of maintenance, calibration and testing.
- ▶ Vapor monitoring can also be installed to detect leaks from piping.
- ▶ Monitoring wells must be clearly marked and secured to avoid unauthorized access and tampering.

### WILL IT WORK AT YOUR SITE?

- ▶ Before installing a vapor monitoring system, the characteristics of the site must be assessed to determine whether vapor monitoring is an appropriate technology at the site.
- ▶ A site assessment usually includes a determination of the depth of groundwater, background contamination, stored product type, soil type and general lithology (including backfill material).
- ▶ The vapor monitoring system must be constructed and designed so that the number and positioning of the monitoring wells will detect releases into the

excavation zone from any portion of the system which routinely contains product\*.

*\* Routinely contains product means the part of the UST system which is designed to contain regulated substances and includes all internal areas of the tank and all internal areas of the piping, excluding only the vent pipe.*

### HOW DOES VAPOR MONITORING WORK?

- ▶ The stored regulated substance, or a tracer compound placed in the UST system, will produce a vapor level that is detectable by the monitoring devices in the monitoring wells within thirty (30) days from the start of a UST system release.
- ▶ The materials used as backfill allow the flow of vapors from releases into the excavation area to enable detection of a UST system release within thirty (30) days.
- ▶ The vapor monitors are designed and operated to detect:
  1. Any significant increase in concentration above a documented background level of the regulated substance stored in the tank system,
  2. A component or components of that substance, or
  3. A volatile tracer compound placed in the tank system.
- ▶ If the monthly report from the monitoring device reads "fail", then report a SUSPECTED RELEASE within 24 hours to the UST Call Line at 1(800) 234-5677, Ext: 771-4303 or (602) 771-4303. However, if you have reason to believe the monitoring device is defective then immediately repair, re-calibrate or replace the defective equipment and perform an additional test. If the system passes the test SUSPECTED RELEASE report is not needed.

## MAINTENANCE

- ▶ All vapor monitoring devices should be periodically calibrated according to the manufacturer's instructions to ensure that they are functioning properly.

In the event of any discrepancy between this information and the Arizona Revised Statutes or Arizona Administrative Code, the statutes or rules shall take precedence.

## CHECKLIST

- Vapor monitoring device calibrated according to the manufacturer's instructions
- Results of last calibration, maintenance and repairs are maintained onsite
- Monthly monitoring results are on file for one year
- Monitoring wells are secured from unauthorized access.

### FOR MORE INFORMATION CONTACT:

Arizona Department of Environmental Quality  
UST & Division Support Section  
1110 West Washington Street  
Phoenix, Arizona 85007

(602) 771-4303

toll free number: (800) 234-5677 Ext:771-4303

Website: [www.azdeq.gov](http://www.azdeq.gov)