



STATE OF MISSISSIPPI  
RONNIE MUSGROVE, GOVERNOR  
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

January 2, 2003

UNDERGROUND STORAGE TANK  
OWNER/INSTALLER

**Re: Thermoplastic Flexible Piping in Underground Storage Tank Systems**

The use of thermoplastic flexible piping in Mississippi underground petroleum systems has increased significantly over the past few years. Although most of these systems are apparently functioning properly, this office is aware of several instances that have occurred over the last several months whereby flex piping systems have failed and/or otherwise not performed as intended. There have been several types of failures for various reasons and we have met with the manufacturers of these piping systems to better understand the issues related to their products.

We are taking this means to inform you of this agency's concern with the integrity of some thermoplastic piping systems. We believe that by taking a proactive position, we will lessen the potential for similar incidents involving flex pipe systems to occur in the future. While we do not plan to implement any additional leak detection/monitoring requirements at this time, we are contemplating whether or not continuous (electronic) monitoring of these systems is necessary. Additionally, MDEQ has recently become a member of the Underwriters Laboratories committee that is currently rewriting the code that governs how flex pipe systems are manufactured. We expect the revised code to be published within the next three months. It is our intent that the revised code will be restrictive enough so that flex pipe systems built in the future will not experience the types of problems that we have seen over the past several months.

While it is likely that most flex pipe systems will not experience significant problems, we urge you to closely inspect your piping system at this time and continue to periodically inspect the piping system. Please ensure that your automatic line leak detectors are functioning properly and that you are conducting your required monthly leak detection. It is very important that no fuel be allowed to remain in the secondary containment sumps of these systems. Consideration should be given to continuous monitoring of the piping system by the installation of electronic sensors in the piping sumps. Properly functioning electronic sensors can help ensure that the presence of fuel within the sumps will be promptly detected. In addition to your normal leak detection activities, we encourage you to visibly inspect the piping by opening your dispenser cabinets and submersible pump man ways. Visible evidence that might indicate the integrity of the piping system is compromised includes:

- The ells, tees, riser pipes and flex connectors found within the sumps where the piping is terminated may be twisted, over stressed or pushed out of normal alignment.
- The pipe may be over bent within the tank sump or it may be folding over on itself (kinked).
- The outer jacket of double-walled (coaxial) piping may be extended over the metallic ferrule of the pipe coupling.

- The outer jacket of double-walled (coaxial) piping may be splitting as it attempts to grow over the metallic coupling.
- The pipe may be swelling and appear to be bulging or “ballooned”.
- The pipe may be wrinkling or it may be sticky/spongy and softer than it was originally.
- The outer walls of the primary pipe and/or the secondary jacket may be cracking.
- The rubber boots that are installed in the walls of the containment sumps may be stretched or torn.
- The donuts that make up part of the boot of some pipe systems may be dislodged or the clamps may not be in place.
- The rubber “test” boots that are installed at the pipe terminations of some coaxial pipe systems may appear to be compressed or distorted.
- The metallic ferrules that are part of some pipe system couplings may be cracked.
- Piping manufactured prior to 1994 that is yellow in color may be delaminating and a fungus/microbial growth may be attacking the outer walls of the pipe.

**NOTE:** You may view several pictures that illustrate these points at our web site ([www.deq.state.ms.us](http://www.deq.state.ms.us)). From our home page, click on “Underground Storage Tanks” and then “Thermoplastic Flexible Piping Concerns”.

If you believe your flex piping system may be experiencing any of the above or you are uncertain, please contact us immediately and we will schedule an inspection of your piping. The inspection is a courtesy and there will not be any determination of regulatory compliance made during the inspection. We simply want to take a proactive position and do what we can to prevent a leak from occurring similar to the instances we have seen recently.

In order to facilitate a clearer understanding of our concerns, we intend to conduct a workshop designed to educate affected tank owners and contractors. You should be receiving a notice in the near future regarding when and where the workshop will be held.

Please contact Kevin Henderson of the Underground Storage Tank Branch at (601) 961-5283 with any questions or concerns you may have related to this matter.

Sincerely,

Phil Bass, Director  
Office of Pollution Control