

The Environmental Corner

*By: Steve Henshaw President & CEO of
EnviroForensics*



Why You Don't Have To Worry About Your Site Being Re-Contaminated And You Can Clean-Up Now

Many dry cleaners have expressed their desire to evaluate the soil and groundwater beneath their businesses for the presence of dry cleaning chemicals, but they are concerned that if they go through a cleanup, the property could be re-contaminated down the road.

Relax, the manner in which dry cleaning is conducted today is far more protective of the environment than it was even 30 years ago. For one, the machines designed and manufactured today are much safer than those of the past. Secondly, the safeguards employed today, including the installation of spill containment pans beneath machines and automatic shut-offs are protective of the environment. Finally, good housekeeping practices and the proper storage and disposal of spent solvent and filters today will greatly minimize the potential for spills and releases to enter the environment.

Today's dry cleaning machines, the engineered spill prevention

safeguards, the regulatory compliance requirements, and the overall awareness of handling dry cleaning solvents has drastically reduced the occurrence of accidental spills and releases.

Take today's machines and compare them with old machines. The first generation machines were called transfer machines and the clothes were literally transferred from one machine for washing to another machine for drying. Transfer machines experienced a great many leaks due

to corrosion, metal expansion and contraction, general wear and tear and equipment vibration. Spills and releases were common from door gaskets, hose clamps and hoses. Distillation units were also responsible for solvent releases due to faulty pressure valves, gaskets, corroded coils, and steam boilothers. Another source of spills and releases were caused during the transfer of solvent from delivery trucks to the on-site

Continued on page 2

As Seen In...

Cleaner & Launderer

January 2012

equipment. It should also be pointed out that transfer machines were not generally designed to include spill containment pans. While it is difficult to definitively determine how much more solvent was released into the environment during the days when transfer machines were commonly in use, reports strongly suggest that solvent usage was much higher during their lifespan than when new machines were brought to the industry. Reportedly, PCE usage by drycleaners reduced from 360,000 gallons in the late 1970s to less than 59,000 gallons in 2000.

Dry-to-dry machines were considered the 2nd Generation machines and used less PCE than the predecessor transfer machine and typically had a containment pan built beneath the machine to collect accidental spills. It was also more technologically advanced than the transfer machines.

The 3rd Generation machines were also considered dry-to-dry machines, but were even more technologically advanced and included a closed loop system which typically controlled the delivery of the solvent as well as the removal of the solid waste. These machines further reduced the PCE usage and they were also equipped with safeguards such as containment pans.

The 4th and 5th Generation machines further reduced the usage of PCE and were even advanced, including having refrigerated condenser coils, carbon adsorption units to capture and recover solvent vapors and system shut-down sensors when levels were out of balance.

With respect to how waste solvent

is handled today compared with how it was handled in the past it is akin to night and day. Historically, spent solvent and filters were not considered to be hazardous waste and the material was disposed of in a number of ways, including running solvent through wastewater separators before being discharged to the sanitary sewers. The design of these wastewater separators, including those designed for a number of the coin operated machines, did not allow for a sufficient residence time before the water was discharged to the sanitary sewer. Consequently, water laden with high concentrations of PCE entered the sanitary sewers where it migrated into the subsurface through cracks and pipe joints. Today, water with high concentrations of PCE would not likely be allowed to be disposed of into public sewers.

Finally, housekeeping, monitoring and reporting are requirements today and they have ultimately resulted in awareness by dry cleaners that has lead directly to the reduction of solvents entering the environment from spills.

Obviously, the best way to ensure that you won't have a PCE release at your business after you have conducted cleanup is to change your cleaning solvent. But, short of making that big change, operating using a 4th or 5th Generation machine, initiating environmental safeguards such as spill containment pans, implementing good housekeeping practices, and conducting proper machinery maintenance should give you a comfort that your business operations are not contributing to significant environmental impacts.

With over 20 years of experience, Steve Henshaw holds professional geology registrations in numerous states. As President and CEO of EnviroForensics, Henshaw serves as a client and technical manager on projects associated with site characterization, remedial design, remedial implementation and operation, and litigation support and insurance coverage matters. He has acted as Project Manager or Client Manager on over 200 projects. These projects have included landfills, solvent and petroleum refineries, foundries, metal plating shops, food processors, wood treating facilities, chemical manufacturers and distributors, mines and quarries, heavy equipment manufacturers, computer manufacturers, and transporters. He has experience in a variety of geological settings including soft sediments, fractured bedrock, glacial outwash, wetlands, and landslides. Henshaw has also conducted extensive work in environmentally sensitive areas inhabited by endangered species. His expertise includes a strong knowledge of industrial operations, past and current industry practices and procedures, and a hands-on, practical understanding of the fate and transport of contaminants in soil and groundwater. He has also served as a testifying expert on behalf of individual landowners and facility operators at several sites impacted by industrial activities and continues to provide technical and litigation support services. www.enviroforensics.com; e-mail: shenshaw@enviroforensics.com