

Ohio Hazardous Waste

Notifier

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Two ODOT Garages Switch to Hot Water Parts Washers - and Prefer Them Over Traditional Solvent Parts Washers

By Helen Miller, Inspections Support Unit, and Tim Killeen, ODOT

The **Ohio Department of Transportation (ODOT) District 9 (Chillicothe)** maintenance garage purchased a hot water parts washer in 2002. ODOT **District 10 (Marietta)** maintenance garage purchased a hot water parts washer in March 2005 to replace a solvent-based parts washer. The spray cabinet parts washers clean dirt and grease from equipment and vehicle parts. The garage employees have found that the new washers save time and reduce safety hazards, liability and waste disposal costs.

Why Did They Consider a Hot Water Parts Washer?

In District 9, Dave Kellough, a mechanic with ODOT for 19 years, suggested the district consider a hot water parts washer after talking with a local auto parts supplier who was using one. After trying several different types, the district settled on an 80-gallon unit large enough to accommodate some of the large engines the garage maintains. Parts can be loaded into the washer with a hoist.

In District 10, Rick Venham, an ODOT mechanic for seven years, spoke with a private garage that had purchased a similar unit and was very pleased with it. Rick contacted a vendor and tested a hot water parts washer for a two-week trial period. The mechanics liked it so the district purchased a 65-gallon capacity unit.



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What Are the Benefits of Switching From a Solvent to a Hot Water Parts Washer?

1) Save Time and Reduce Labor Costs

Cleaning an engine in District 9 could take six to seven hours of manual labor. With the hot water parts washer, the mechanics can now clean an engine in 10 to 20 minutes, allowing them to place the equipment and vehicles back into use more quickly. This is a **94 to 98 percent reduction of time and labor**.

At District 10, it used to take 20 minutes to clean a part manually over the solvent-based parts washer. The new hot water parts washer takes only five minutes. This is a **75 percent reduction in time and labor**. Use of the hot water parts washer also reduces the need to physically maneuver the parts, some of which weigh 100 pounds or more. The district no longer has to wash wheel bearings twice or take the time to blow-dry the parts with air.

2) Reduce Safety Hazards

The mechanics in both districts like the hot water parts washers because now they don't breathe in solvent fumes or risk injection of air into their skin since they don't need to blow-dry the parts after washing. They no longer have to work with as many flammable materials or worry about spilling hazardous materials like petroleum Naphtha. According to a 27-year veteran mechanic at District 9 who previously experienced health issues associated with use of the solvent-based parts washer, "I never want to go back to a solvent parts washer."

3) Reduce Regulatory Burden and Long-term Liability

District 9 has gone from a quarterly pick-up of used solvent to emptying waste water from the hot water parts washer twice per year. Since purchasing the unit five years ago, they have replaced the heating units once due to a build-up of solids. They have since changed their maintenance schedule to empty and clean the unit every six months to prevent build-up. The unit has a built-in oil skimmer and an automatic water re-fill. They also use a soap with a rust inhibitor.

District 10 sent used petroleum Naphtha solvent to disposal once a month. The time-consuming process included completing and tracking the associated hazardous waste manifests. After using the hot water parts washer, mechanics let the solution sit overnight to allow the oil and water to separate while cooling. Running the oil skimmer the next day takes about five minutes and the used oil is burned in a heater in the garage. A metal screen captures particulates. Since purchasing the unit in 2005, the district's mechanics have emptied the waste-water once, cleaning the small amount of sludge film on the bottom with a rag.

Both districts discharge waste water to their publicly owned treatment works (POTW)/public sewer. The waste-water is non-hazardous, reducing long-term liability. Since the Resource Conservation and Recovery Act (RCRA) liability follows the generator from "cradle to grave," this is a significant benefit.

Note: OAC 3745-52-11 requires all facilities to evaluate all generated waste streams. Some parts washer waste-water may be hazardous due to heavy metals like cadmium or chromium picked up during the cleaning process. If you purchase a hot water parts washer, you will need to evaluate the waste water to determine if it is hazardous before disposal and obtain permission from your Publicly Owned Treatment Works (POTW) to discharge the solution. A list of Ohio EPA approved pre-treatment programs and contacts is available [online](#)

If you are in an area without a POTW, find a company that collects waste-water and takes it to a facility or a POTW for proper treatment. Check your yellow pages under waste water treatment.

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4) Reduce Waste Disposal Costs

Since they no longer need to dispose of used solvent, District 9 estimates that they are saving approximately \$688 per year and District 10 is saving \$912 per year.

Will Hot Water Parts Washers Work for Everyone?

Not always. District 9 still uses a solvent-based parts washer for some jobs. However, the district has not emptied the unit since purchasing the hot water parts washer five years ago.

How Much do the Units Cost?

District 9 spent \$6,880 for their unit while District 10 paid \$5,400. Both garages are very pleased with the time and labor savings, as well as the quality of the parts cleaning.

Did the Change Affect the District's Generator Status?

Most ODOT garages generate numerous varieties of small miscellaneous hazardous waste streams such as [aerosol cans](#), [paints](#), [solvents](#), [rags](#), [batteries](#), [bulbs](#), [anti-freeze](#) and tire weights. This generally puts them in the Conditionally Exempt Small Quantity Generator (CESQG) category. Although switching to a hot water parts washer has not affected the [generator status](#) of either garage, it has made it less likely that either will generate enough hazardous waste to be reclassified as a small quantity generator.

Where Can I Get More Information?

Ohio EPA would like to thank [ODOT](#) for sharing their experience with us. If you have specific questions on these case studies, please contact Tim Killeen, Environmental Specialist, ODOT at (614) 466-7883 or Tim.Killeen@dot.state.oh.us.

If you have other questions about hazardous waste, please check Ohio EPA's [Answer Place](#), contact the regulatory service unit at (614) 644-2917 or your [district office](#) inspector. Our hazardous waste inspectors offer technical assistance to businesses to help them identify ways to generate less waste. If you would like to learn more about pollution prevention (P2), go to Ohio EPA's Office of Compliance Assistance and Pollution Prevention's [Web page](#). 

Ask The Inspector

Should used oil drip pans under machinery be labeled with the words "Used Oil"?

By Dan Sowry, DHWM

Ohio's [used oil regulations](#) require that all used oil containers, aboveground tanks and fill pipes used to transfer used oil to underground storage tanks be clearly labeled with the words "Used Oil." This labeling requirement also applies to used oil drip pans that are placed underneath equipment or machinery. The exception to this requirement is when the collecting pan is attached to or is part of the machinery. In this case, the pan is considered part of the machinery and would not meet the definition of a container or tank subject to labeling requirements. 

New Changes to Process Closure Plans

By Marie Jarden, DHWM

In the late 1990s, the Division of Hazardous Waste Management (DHWM) was faced with a backlog of closure plans to review and adjusted its resources to appropriately address this issue. With the backlog addressed and with fewer new plans anticipated in coming years, DHWM is now readjusting resources to levels that match our projected future workload.

Beginning July 1, Central Office DHWM staff will be the primary reviewers of most new and amended closure plans and post-closure plans. District office staff will provide plan implementation oversight and certification review. District Office staff will continue to review and provide oversight for Resource Conservation and Recovery Act (RCRA) Corrective Action clean-ups. No rules are being changed, so those facilities submitting closure plans will not see a significant change in terms of plan content requirements.

We recommend that facilities continue to submit a copy of their closure plans to both Central Office and the appropriate district office. The *Closure Plan Review Guidance* will continue to be available as a closure resource and DHWM will maintain *other closure guidance on its Web-site*. For questions about the closure process change, contact Jeremy Carroll at (614) 644-2830 or Ed Lim at (614) 644-2824. 

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