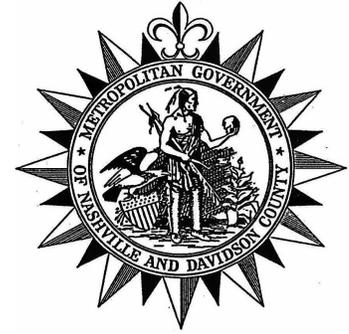
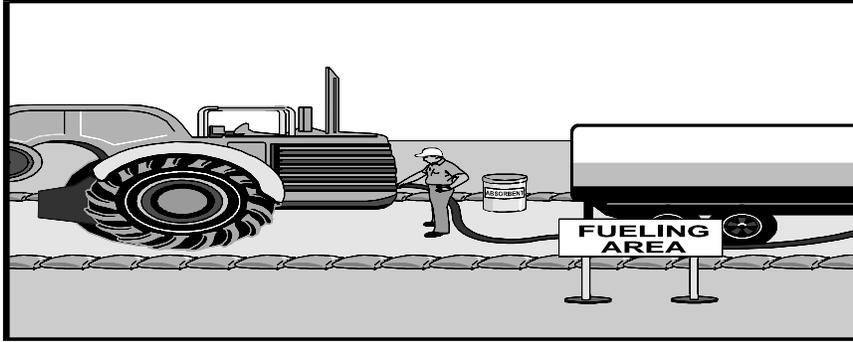


ACTIVITY: Vehicle and Equipment Fueling

ICP – 02



Targeted Constituents

Significant Benefit
 Partial Benefit
 Low or Unknown Benefit

<input type="checkbox"/> Sediment	<input type="checkbox"/> Heavy Metals	<input type="checkbox"/> Floatable Materials	<input type="checkbox"/> Oxygen Demanding Substances
<input type="checkbox"/> Nutrients	<input type="checkbox"/> Toxic Materials	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> Bacteria & Viruses
			<input type="checkbox"/> Construction Wastes

Implementation Requirements

High
 Medium
 Low

<input type="checkbox"/> Capital Costs	<input type="checkbox"/> O & M Costs	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Training
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Description

Prevent fuel spills and leaks, and reduce their impacts to stormwater. This management practice is likely to create a significant reduction in VOCs, heavy metals, toxic materials, and oil and grease.

Approach

Spills from fueling or from the transfer of fuels to the storage tank can be a significant source of pollution. Fuels carry contaminants of particular concern to humans and wildlife, such as heavy metals, toxic materials, and oil and grease, which are not easily removed by stormwater treatment devices. Consequently, control at the source is particularly important. Adequate control can be achieved with careful design of the initial installation, retrofitting of existing installations, and proper spill control and cleanup procedures, as described below.

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:
 - Cover fueling area if possible.
 - If it is not possible to cover the fueling area, then route all stormwater runoff from the area to an oil/water separator. For permanent fueling areas, use coalescent plate oil/water separators (see PTP-07).
 - Use a perimeter drain or slope pavement inward with drainage to sump.
 - Pave fueling area with concrete rather than asphalt.
- Where covering is infeasible and the fuel island is surrounded by pavement, apply a suitable sealant that protects the asphalt from spilled fuels.
- If a dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage “topping-off” of fuel tanks.

- Place secondary containment around the fuel truck when it is transferring fuel to the storage tank. The truck operator should remain with the truck while the transfer is in progress.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Use dry methods to clean the fueling area whenever possible. If you periodically clean by pressure washing, place a temporary plug in the downstream drain and pump out the accumulated water. Properly dispose of the water through the sanitary sewer system only after gaining permission from Metro Water Services (MWS).
- Use adsorbent materials on small spills and general cleaning rather than hosing down the area. Remove the adsorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- The Spill Prevention Control and Countermeasure (SPCC) Plan, which is required by law for some facilities, is an effective program to reduce the number of accidental spills. Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures including periodic review of the SPCC.
- For a quick reference on disposal alternatives for specific wastes see Table CP-15-1 in the Employee/Subcontractor Training BMP fact sheet.

Maintenance

- Clean/empty oil/water separators at the appropriate intervals. Generally this is inspected monthly.
- Keep ample supplies of spill cleanup materials on-site.
- Inspect fueling areas and storage tanks on a regular schedule. Special attention should be given to detecting leaks to/from any underground storage tanks.

Limitations

- Oil/water separators are only as effective as their maintenance program.
- The retrofitting of existing fueling areas to minimize stormwater exposure or spill runoff can be expensive. Good design must occur during the initial installation.
- Installing extruded curb along the “upstream” side of the fueling area to prevent stormwater run-on is a modest cost.

Additional InformationDesign

With new installations, design the fueling area to prevent the run-on of stormwater and the runoff of spills. This can be achieved by contouring the site in the appropriate

fashion. Covering the site is the best approach but may not be feasible if very large mobile equipment is being fueled. Stormwater run-on can be diverted around the fueling area by an extruded curb, berm, swale, or with a “speed bump”, if vehicle access is needed from this direction. Spills can be contained within the fueling area either by using a perimeter drain or by sloping the pavement inward with drainage to a sump. In both cases the drain can be connected to the storm drain with a valve that is only closed during fueling operations and left open at all other times. Pave the fueling area with Portland cement concrete rather than asphalt, since the latter will gradually disintegrate and be washed from the site.

Mobile Fueling

If your facility has large numbers of mobile equipment working throughout the site and you currently fuel them with a mobile fuel truck, consider establishing a designated area for fueling. With the exception of tracked equipment such as bulldozers and perhaps small forklifts, most vehicles should be able to travel to a designated area with little lost time. Place temporary “caps” over nearby catch basins or manhole covers so that if a spill occurs it is prevented from entering the storm drain.

Primary References

California Storm Water Best Management Practice Handbooks, Industrial Handbook, CDM et.al. for the California SWQTF, 1993.

Subordinate References

Best Management Practices for Automotive-Related Industries, Santa Clara Valley Nonpoint Source Pollution Control Program, 1992.

Best Management Practices for Industrial Storm Water Pollution Control, Santa Clara Valley Nonpoint Source Pollution Control Program, 1992.

Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans, and Best Management Practices, EPA 832-R-92-006, USEPA, 1992.

Water Quality Best Management Practices Manual, City of Seattle, 1989.