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S412 BMPs for Loading and Unloading Areas for Liquid or Solid Material

Description of Pollutant Sources: Operators typically conduct loading/unloading of liquid and solid materials at industrial and commercial facilities at shipping and receiving, outside storage, fueling areas, etc. Materials transferred can include products, raw materials, intermediate products, waste materials, fuels, scrap metals, etc. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc. during transfer may cause stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.

Pollutant Control Approach: Cover and contain the loading/unloading area where necessary to prevent run-on of stormwater and runoff of contaminated stormwater.

Applicable Operational BMPs:

At All Loading/ Unloading Areas

- A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove loose material that could contaminate stormwater. Sweep areas temporarily covered after removal of the containers, logs, or other material covering the ground.
- Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur such as hose connections, hose reels and filler nozzles. Always use drip pans when making and breaking connections (see [Figure IV-6.2: Drip Pan](#)). Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed.

Figure IV-6.2: Drip Pan



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At Tanker Truck and Rail Transfer Areas to Above/Below-ground Storage Tanks

- To minimize the risk of accidental spillage, prepare an "Operations Plan" that describes procedures for loading/unloading. Train employees in its execution and post it or otherwise have it readily available to all employees.
- Report spills of reportable quantities to Ecology.

- Prepare and implement an Emergency Spill Cleanup Plan for the facility (See [S426 BMPs for Spills of Oil and Hazardous Substances](#)) which includes the following BMPs:
 - Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately, if a significant spill occurs, and, upon completion of the loading/unloading activity, or, at the end of the working day.
 - Retain and maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of material spills. (See [S426 BMPs for Spills of Oil and Hazardous Substances](#)).
 - Ensure that an employee trained in spill containment and cleanup is present during loading/unloading.

At Rail Transfer Areas to Above/below-ground Storage Tanks

Install a drip pan system as illustrated (see [Figure IV-6.3: Drip Pan Within Rails](#)) within the rails to collect spills/leaks from tank cars and hose connections, hose reels, and filler nozzles.

Figure IV-6.3: Drip Pan Within Rails



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Loading/Unloading from/to Marine Vessels

Facilities and procedures for the loading or unloading of petroleum products must comply with Coast Guard requirements specified in [Coast Guard Requirements for Marine Transfer of Petroleum Products](#) within [I-2.15 Other Requirements](#).

Transfer of Small Quantities from Tanks and Containers

Refer to [S428 BMPs for Storage of Liquids in Permanent Aboveground Tanks](#) and [S427 BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers](#) for requirements on the transfer of small quantities from tanks and containers, respectively.

Applicable Structural Source Control BMPs:

At All Loading/ Unloading Areas

- Consistent with Uniform Fire Code requirements (see [Uniform Fire Code Requirements](#) within [I-2.15 Other Requirements](#)) and to the extent practicable, conduct unloading or loading of solids and liquids in a manufactured building, under a roof, or lean-to, or other appropriate cover.

- Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.
- Place curbs along the edge of the shoreline, or slope the edge such that the stormwater can flow to an internal storm sewer system that leads to an approved treatment BMP. Avoid draining directly to the surface water from loading areas.
- Pave and slope loading/unloading areas to prevent the pooling of water. Minimize the use of catch basins and drain lines within the interior of the paved area or place catch basins in designated “alleyways” that are not covered by material, containers, or equipment.
- Retain on-site the necessary materials for rapid cleanup of spills.

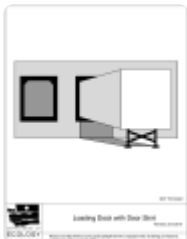
Recommended Structural Source Control BMPs:

For the transfer of pollutant liquids in areas that cannot contain a catastrophic spill, install an automatic shutoff system in case of unanticipated off-loading interruption (e.g. coupling break, hose rupture, overfill, etc.).

At Loading and Unloading Docks

- Install/maintain overhangs, or door skirts that enclose the trailer end (see [Figure IV-6.4: Loading Dock with Door Skirt](#) and [Figure IV-6.5: Loading Dock with Overhang](#)) to prevent contact with rainwater.
- Design the loading/unloading area with berms, sloping, etc., to prevent the run-on of stormwater.

Figure IV-6.4: Loading Dock with Door Skirt



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Figure IV-6.5: Loading Dock with Overhang



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At Tanker Truck Transfer Areas to Above/Below-Ground Storage Tanks

- Pave the area on which the transfer takes place. If any transferred liquid, such as gasoline, is reactive with asphalt, pave the area with Portland cement concrete.

- Slope, berm, or dike the transfer area to a dead-end sump, spill containment sump, a spill control oil/water separator, or other spill control device. The minimum spill retention time should be 15 minutes at the greater flow rate of the highest fuel dispenser nozzle through-put rate, or the peak flow rate of the 6-month, 24-hour storm event over the surface of the containment pad, whichever is greater. The capacity of the spill containment sump should be a minimum of 50 gallons with adequate additional capacity provided for grit sedimentation.

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