

INDUSTRIAL STORMWATER

FACT SHEET SERIES



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Sector P: Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

What is the NPDES stormwater permitting program for industrial activity?

Activities, such as material handling and storage, equipment maintenance and cleaning, industrial processing or other operations that occur at industrial facilities are often exposed to stormwater. The runoff from these areas may discharge pollutants directly into nearby waterbodies or indirectly via storm sewer systems, thereby degrading water quality.

In 1990, the U.S. Environmental Protection Agency (EPA) developed permitting regulations under the National Pollutant Discharge Elimination System (NPDES) to control stormwater discharges associated with eleven categories of industrial activity. As a result, NPDES permitting authorities, which may be either EPA or a state environmental agency, issue stormwater permits to control runoff from these industrial facilities.

What types of industrial facilities are required to obtain permit coverage?

This fact sheet specifically discusses stormwater discharges from land transportation and warehousing activities as defined by Standard Industrial Classification (SIC) Major Groups 40, 41, 42, 43, and SIC 5171. Facilities and products in this group fall under the following categories, all of which require coverage under an industrial stormwater permit:

- ◆ Motor freight transportation facilities (SIC 4212-4231)
- ◆ Passenger transportation facilities (SIC 4111-4173)
- ◆ Petroleum bulk oil stations and terminals (SIC 5171)
- ◆ Rail transportation facilities (SIC 4011, 4013)
- ◆ United States Postal Service facilities (SIC 4311)

Vehicle and equipment maintenance is a broad term used to include the following activities:

- ◆ Vehicle and equipment fluid changes
- ◆ Mechanical repairs
- ◆ Parts cleaning
- ◆ Sanding
- ◆ Refinishing
- ◆ Painting and/or fueling
- ◆ Locomotive sanding (loading sand for traction)
- ◆ Storage of vehicles and equipment waiting for repair or maintenance
- ◆ Storage of the related materials and waste materials, such as oil, fuel, batteries, tires, or oil filters

Equipment cleaning operations include areas where the following types of activities take place:

- ◆ Vehicle exterior wash down
- ◆ Interior trailer washouts
- ◆ Tank washouts
- ◆ Rinsing of transfer equipment

What does an industrial stormwater permit require?

Common requirements for coverage under an industrial stormwater permit include development of a written stormwater pollution prevention plan (SWPPP), implementation of control measures, and submittal of a request for permit coverage, usually referred to as the Notice of Intent or NOI. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at your facility to minimize the discharge of these pollutants in runoff from the site. These control measures include site-specific best management practices (BMPs), maintenance plans, inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site. The industrial stormwater permit also requires collection of visual, analytical, and/or compliance monitoring data to determine the effectiveness of implemented BMPs. For more information on EPA's industrial stormwater permit and links to State stormwater permits, go to www.epa.gov/npdes/stormwater and click on "Industrial Activity."

What pollutants are associated with activities at my facility?

Pollutants conveyed in stormwater discharges from land transportation and warehousing activities will vary. There are a number of factors that influence to what extent industrial activities and significant materials can affect water quality.

- ◆ Geographic location
- ◆ Topography
- ◆ Hydrogeology
- ◆ Extent of impervious surfaces (e.g., concrete or asphalt)
- ◆ Type of ground cover (e.g., vegetation, crushed stone, or dirt)
- ◆ Outdoor activities (e.g., material storage, loading/unloading, vehicle maintenance)
- ◆ Size of the operation
- ◆ Type, duration, and intensity of precipitation events

The activities, pollutant sources, and pollutants detailed in Table 1 are commonly found at facilities with vehicle and equipment maintenance and equipment cleaning operations and Table 1A details activities, pollutant sources, and pollutants commonly found at petroleum bulk oil stations and terminals.

Table 1. Common Activities, Pollutant Sources, and Associated Pollutants at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

Activity	Pollutant Source	Pollutant
Fueling	Spills and leaks during fuel delivery	Fuel, oil, heavy metals
	Spills caused by "topping off" fuel tanks	
	Rainfall falling on the fuel area or stormwater running onto the fuel area	
	Hosing or washing down fuel area	
	Leaking storage tanks	

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Table 1. Common Activities, Pollutant Sources, and Associated Pollutants at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities (continued)

Activity	Pollutant Source	Pollutant
Vehicle washing and maintenance	Parts cleaning	Chlorinated solvents, oil, heavy metals, acid/alkaline wastes
	Waste disposal of greasy rags, oil filters, air filters, batteries, hydraulic fluids, transmission fluid, radiator fluids, degreasers	Oil, heavy metals, chlorinated solvents, acid/alkaline wastes, ethylene glycol
	Spills of oil, degreasers, hydraulic fluids, transmission fluid, radiator fluids	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol
	Fluids replacement, including oil, hydraulic fluids, transmission fluid, radiator fluids	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol
	Washing or steam cleaning	Oil, detergents, heavy metals, chlorinated solvents, phosphorus, salts, suspended solids
Outdoor vehicle and equipment storage and parking	Leaking vehicle fluids including hydraulic lines and radiators, leaking or improperly maintained locomotive on-board drip collection systems, brake dust	Oil, hydraulic fluids, arsenic, heavy metals, organics, fuel
Painting areas	Paint and paint thinner spills	Paint, spent chlorinated solvents, heavy metals
	Spray painting	Paint solids, heavy metals
	Sanding or paint stripping	Dust, paint solids, heavy metals
	Paint clean up	Paint, spent chlorinated solvents, heavy metals
Railroad locomotive sanding	Loading traction sand on locomotives	Sediment
Liquid storage in above ground storage	External corrosion and structural failure	Oil, grease, heavy metals, materials being stored
	Installation problems	
	Spills and overfills due to operator error	
	Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)	

Table 1A. Common Activities, Pollutant Sources, and Pollutants at Petroleum Bulk Oil Stations and Terminals

Activity	Pollutant Source	Pollutant
Liquid storage in above ground storage	External corrosion and structural failure	Oil, grease, heavy metals, materials being stored
	Installation problems	
	Spills and overfills due to operator error	
	Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)	
Petroleum loading/unloading	Spills and overfills due to operator error	Oil, grease

What BMPs can be used to minimize contact between stormwater and potential pollutants at my facility?

A variety of BMP options may be applicable to eliminate or minimize the presence of pollutants in stormwater discharges from land transportation and warehousing activities. You will likely need to implement a combination or suite of BMPs to address stormwater runoff at your facility. Your first consideration should be for pollution prevention BMPs, which are designed to prevent or minimize pollutants from entering stormwater runoff and/or reduce the volume of stormwater requiring management. Prevention BMPs can include regular cleanup, collection and containment of debris in storage areas, and other housekeeping practices, spill control, and employee training. It may also be necessary to implement treatment BMPs, which are engineered structures intended to treat stormwater runoff and/or mitigate the effects of increased stormwater runoff peak rate, volume, and velocity. Treatment BMPs are generally more expensive to install and maintain and include oil-water separators, wet ponds, and proprietary filter devices.

BMPs must be selected and implemented to address the following:

Good Housekeeping Practices

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and training employees in good housekeeping techniques. Common areas where good housekeeping practices should be followed include trash containers and adjacent areas, material storage areas, vehicle and equipment maintenance areas, and loading docks. Good housekeeping practices must include a schedule for regular pickup and disposal of garbage and waste materials and routine inspections of drums, tanks, and containers for leaks and structural conditions. Practices also include containing and covering garbage, waste materials, and debris. Involving employees in routine monitoring of housekeeping practices has proven to be an effective means of ensuring the continued implementation of these measures.

Minimizing Exposure

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters. Examples of BMPs for exposure minimization include covering materials or activities with temporary structures (e.g., tarps) when wet weather is expected or moving materials or activities to existing or new permanent structures (e.g., buildings, silos, sheds). Even the simple practice of keeping a dumpster lid closed can be a very effective pollution prevention measure.

Erosion and Sediment Control

BMPs must be selected and implemented to limit erosion on areas of your site that, due to topography, activities, soils, cover, materials, or other factors are likely to experience erosion. Erosion control BMPs such as seeding, mulching, and sodding prevent soil from becoming dislodged and should be considered first. Sediment control BMPs such as silt fences, sediment ponds, and stabilized entrances trap sediment after it has eroded. Sediment control BMPs should be used to back-up erosion control BMPs.

Management of Runoff

Your SWPPP must contain a narrative evaluation of the appropriateness of stormwater management practices that divert, infiltrate, reuse, or otherwise manage stormwater runoff so as to reduce the discharge of pollutants. Appropriate measures are highly site-specific, but may include, among others,

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vegetative swales, collection and reuse of stormwater, inlet controls, snow management, infiltration devices, and wet retention measures.

A combination of preventive and treatment BMPs will yield the most effective stormwater management for minimizing the offsite discharge of pollutants via stormwater runoff. Though not specifically outlined in this fact sheet, BMPs must also address preventive maintenance records or logbooks, regular facility inspections, spill prevention and response, and employee training.

All BMPs require regular maintenance to function as intended. Some management measures have simple maintenance requirements, others are quite involved. You must regularly inspect all BMPs to ensure they are operating properly, including during runoff events. As soon as a problem is found, action to resolve it should be initiated immediately.

Implement BMPs, such as those listed below in Table 2 and 2A for the control of pollutants at land transportation and warehousing facilities, to minimize and prevent the discharge of pollutants in stormwater. Identifying weaknesses in current facility practices will aid the permittee in determining appropriate BMPs that will achieve a reduction in pollutant loadings. BMPs listed in Table 2 and 2A are broadly applicable to land transportation and warehousing facilities; however, this is not a complete list and you are recommended to consult with regulatory agencies or a stormwater engineer/consultant to identify appropriate BMPs for your facility.

Table 2. BMPs for Potential Pollutant Sources at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

Pollutant Source	BMPs
Fueling	<p>Stationary fueling areas</p> <ul style="list-style-type: none"> <input type="checkbox"/> Conduct fueling operations (including the transfer of fuel from tank trucks) on an impervious or contained pad or under a roof or canopy where possible. Covering should cover extend beyond spill containment pad to prevent rain from entering. <input type="checkbox"/> When fueling in uncovered area, use concrete pad (not asphalt, which is not chemically resistant to the fuels being handled). <input type="checkbox"/> Use drip pans where leaks or spills of fuel can occur, and where making and breaking hose connections. <input type="checkbox"/> Use fueling hoses with check valves to prevent hose drainage after filling. <input type="checkbox"/> Keep spill cleanup materials readily available. Clean up spills and leaks immediately. <input type="checkbox"/> Minimize/eliminate run-on to fueling areas with diversion dikes, berms, curbing, surface grading or other equivalent measures. <input type="checkbox"/> Collect stormwater runoff and provide treatment or recycling. <input type="checkbox"/> Use dry cleanup methods for fuel area rather than hosing down the fuel area. Perform preventive maintenance on storage tanks to detect potential leaks before they occur. <input type="checkbox"/> Inspect the fueling area for leaks and spills. <input type="checkbox"/> Provide curbing or posts around fuel pumps to prevent collisions during vehicle ingress and egress. <input type="checkbox"/> Discourage "topping off" of fuel tanks. <p>Mobile fueling area</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use drip pan under the transfer hose. <input type="checkbox"/> Use fueling hoses with check valves to prevent hose drainage after filling.

Table 2. BMPs for Potential Pollutant Sources at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities (continued)

Pollutant Source	BMPs
Fueling (continued)	<p>Mobile fueling areas (continued)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ensure the fueling vehicle is equipped with a manual shutoff valve. <input type="checkbox"/> Discourage “topping off” of fuel tanks. <input type="checkbox"/> Train personnel on vehicle fueling BMPs.
Vehicle and equipment maintenance	<p>Good Housekeeping</p> <ul style="list-style-type: none"> <input type="checkbox"/> Eliminate floor drains that are connected to the storm or sanitary sewer. If necessary, install a sump that is pumped regularly. Collected wastes should be properly treated or disposed of by a licensed waste disposal company. <input type="checkbox"/> Do all cleaning at a centralized station so the solvents stay in one area. <input type="checkbox"/> If parts are dipped in liquid, remove them slowly to avoid spills. <input type="checkbox"/> Use drip pans, drain boards, and drying racks to direct drips back into a fluid holding tank for reuse. <input type="checkbox"/> Drain all parts of fluids into appropriate containers for waste disposal or re-use prior to disposal. Oil filters can be crushed and recycled. <input type="checkbox"/> Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. Washwater should also generally be treated as a waste material and disposed of appropriately. <input type="checkbox"/> Clean up leaks, drips, and other spills without using large amounts of water. Use absorbents for dry cleanup whenever possible. <input type="checkbox"/> Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a storm sewer system. <input type="checkbox"/> Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. Liquid wastes should be collected in a properly labeled container, and disposed of by a licensed waste hauler or other appropriate method. <input type="checkbox"/> Maintain an organized inventory of materials. <input type="checkbox"/> Eliminate or reduce the number and amount of hazardous materials and waste by substituting nonhazardous or less hazardous materials. <input type="checkbox"/> Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries). <input type="checkbox"/> Store batteries and other significant materials inside. <input type="checkbox"/> Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with RCRA regulations. <input type="checkbox"/> Request and keep manifests of all waste materials hauled away from your facility. <p>Minimizing Exposure</p> <ul style="list-style-type: none"> <input type="checkbox"/> Perform all cleaning operations indoors or under cover when possible. Conduct the cleaning operations in an area with a concrete floor with no floor drain other than to sanitary sewers or treatment facilities. Notable discharges to sanitary sewer systems must be done in compliance with rules and policies of the POTW operator. <input type="checkbox"/> If operations are outside and exposed to stormwater, perform them on a concrete pad that is impervious and contained. <input type="checkbox"/> Park vehicles and equipment indoors or under a roof whenever possible. <input type="checkbox"/> Check vehicles closely for leaks and use pans to collect fluid when leaks occur.

Table 2. BMPs for Potential Pollutant Sources at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities (continued)

Pollutant Source	BMPs
Vehicle and equipment maintenance (continued)	<p>Management of Runoff</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use berms, curbs, grassed swales or other diversion measures to ensure that stormwater runoff from other parts of the facility does not flow over the maintenance area. <input type="checkbox"/> Collect the stormwater runoff from the cleaning area and provide treatment or recycling. <input type="checkbox"/> Discharge vehicle wash or rinse water to the sanitary sewer (if allowed by sewer authority), wastewater treatment, a land application site, or recycle on-site. DO NOT discharge washwater to a storm drain or to surface water. <p>Inspections and Training</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inspect the maintenance area regularly to ensure BMPs are implemented. <input type="checkbox"/> Train employees on waste control and disposal procedures.
Outdoor vehicle and equipment storage and parking	<ul style="list-style-type: none"> <input type="checkbox"/> Store vehicles and equipment indoors when possible. <input type="checkbox"/> Cover the storage area with a roof. <input type="checkbox"/> Provide diversion berms, dikes or grassed swales around the perimeter of the area to limit run-on. <input type="checkbox"/> Use drip pans under all vehicles and equipment waiting for maintenance. <input type="checkbox"/> Use absorbents for dry cleanup for spills and leaks. <input type="checkbox"/> Clean pavement surface to remove oil and grease without using large amounts of water. <input type="checkbox"/> Regularly sweep area to minimize debris on the ground. <input type="checkbox"/> Provide dust control if necessary. When controlling dust, sweep and/or apply water or materials that will not impact surface or ground water. <input type="checkbox"/> Inspect the storage yard for filling drip pans and regularly to ensure BMPs are implemented. <input type="checkbox"/> Train employees on procedures for storage and inspection items.
Locomotive sanding areas	<ul style="list-style-type: none"> <input type="checkbox"/> Cover sand storage piles. <input type="checkbox"/> Confine storage to areas outside of drainage pathways and away from surface waters. <input type="checkbox"/> Divert stormwater around storage areas with vegetated swales, and/or berms. <input type="checkbox"/> Practice good housekeeping measures such as frequent removal of dust and debris. Cleanup methods may include sweepers, scrapers, or scoops. <input type="checkbox"/> Use properly designed basins for containment and collection, <input type="checkbox"/> Use control measures such as berms, silt fences, waddles or sediment traps to control sediment from leaving storage area. <input type="checkbox"/> Inspect the area regularly to ensure BMPs are implemented. <input type="checkbox"/> Train employees on BMP inspection and maintenance procedures.
Painting areas	<ul style="list-style-type: none"> <input type="checkbox"/> Confine activities to designated areas outside drainage pathways and away from surface waters. <input type="checkbox"/> Enclose, cover, or contain painting activities to the maximum extent practical to prevent overspray from reaching surface waters. <input type="checkbox"/> Hang plastic barriers or tarpaulins during blasting or painting operations to contain debris <input type="checkbox"/> Prohibit uncontained spray painting activities.

Table 2. BMPs for Potential Pollutant Sources at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities (continued)

Pollutant Source	BMPs
Painting areas (continued)	<ul style="list-style-type: none"> <input type="checkbox"/> Prohibit spray painting activities during windy conditions which render containment ineffective. <input type="checkbox"/> Use spray equipment that delivers more paint to the target and less overspray. <input type="checkbox"/> Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters, preferably indoors or under cover. <input type="checkbox"/> Have absorbent and other cleanup items readily available for immediate cleanup of spills. <input type="checkbox"/> Allow empty paint cans to dry before disposal. <input type="checkbox"/> Store paint and paint thinner away from traffic areas to avoid spills. <input type="checkbox"/> Recycle paint, paint thinner, and solvents. <input type="checkbox"/> Establish and implement effective inventory control to reduce paint waste, including tracking date received and expiration dates. <input type="checkbox"/> Store waste paint, solvents, and rags in covered containers to prevent evaporation to the atmosphere. <input type="checkbox"/> Use solvents with low volatility and coatings with low VOC content; use high transfer efficiency coating techniques such as brushing and rolling to reduce overspray and solvent emissions. <input type="checkbox"/> Inspect painting procedures to ensure that they are conducted properly. <input type="checkbox"/> Train employees on proper sanding, painting, and spraying techniques. <input type="checkbox"/> Wash paint brushes, rollers and other equipment in utility sinks or other locations where wash water is treated or hauled. Do not wash equipment outside on pavement or into storm drains.
Vehicle washing	<ul style="list-style-type: none"> <input type="checkbox"/> Avoid washing parts or equipment outside. <input type="checkbox"/> Confine activities to designated areas outside drainage pathways and away from surface waters. <input type="checkbox"/> If washing outdoors, cover the cleaning operation and ensure that all washwaters drain to the intended collection system. <input type="checkbox"/> Use phosphate-free biodegradable detergents. <input type="checkbox"/> Contain and recycle washwaters. <input type="checkbox"/> Collect stormwater runoff from the cleaning area and provide treatment or recycling. <input type="checkbox"/> Inspect cleaning area regularly to ensure BMPs are implemented and maintained. <input type="checkbox"/> Train employees on proper washing procedures.
Liquid storage in above ground storage tanks	<ul style="list-style-type: none"> <input type="checkbox"/> Store materials inside. <input type="checkbox"/> If area is uncovered, connect sump outlet to sanitary sewer (if possible) or an oil/water separator, catch basin filter, etc. If connecting to a sanitary sewer check with the system operator to ensure that the discharge is acceptable. If implementing separator or filter technologies ensure that regular inspections and maintenance procedures are in place. <input type="checkbox"/> Develop and implement spill plans. <input type="checkbox"/> Train employees in spill prevention and control. <p>Above ground tanks</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provide secondary containment, such as dikes, with a height sufficient to contain a spill (the greater of 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank).

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Table 2. BMPs for Potential Pollutant Sources at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities (continued)

Pollutant Source	BMPs
Liquid storage in above ground storage tanks (continued)	<p>Above ground tanks (continued)</p> <ul style="list-style-type: none"> <input type="checkbox"/> If containment structures have drains, ensure that the drains have valves, and that valves are maintained in the closed position. Institute protocols for checking/testing stormwater in containment areas prior to discharge. <input type="checkbox"/> Use double-walled tanks with overflow protection. <input type="checkbox"/> Keep liquid transfer nozzles/hoses in secondary containment area. <p>Portable containers/drums</p> <ul style="list-style-type: none"> <input type="checkbox"/> Store drums indoors when possible. <input type="checkbox"/> Store drums, including empty or used drums, in secondary containment with a roof or cover (including temporary cover such as a tarp that prevents contact with precipitation). <input type="checkbox"/> Provide secondary containment, such as dikes or portable containers, with a height sufficient to contain a spill (the greater of 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank). <input type="checkbox"/> Clearly label drum with its contents. <input type="checkbox"/> Train employees on proper filling and transfer procedures.
Cold weather activities	<ul style="list-style-type: none"> <input type="checkbox"/> Minimize salt and abrasive application. <input type="checkbox"/> When abrasives are necessary, use uncontaminated sand or ash. <input type="checkbox"/> Train employees on salt and abrasive application.
Improper connections to storm sewer (illicit connections)	<ul style="list-style-type: none"> <input type="checkbox"/> Plug all floor drains connected to sanitary or storm sewer or if connection is unknown. Alternatively, install a sump that is pumped regularly. <input type="checkbox"/> Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system. <input type="checkbox"/> Update facility schematics to accurately reflect all plumbing connections. <input type="checkbox"/> Install a safeguard against vehicle washwaters entering the storm sewer unless permitted. <input type="checkbox"/> Inspect and maintain the integrity of all underground storage tanks; replace when necessary. <input type="checkbox"/> Train employees on BMP disposal practices for all materials.

Table 2A. BMPs for Potential Pollutant Sources at Petroleum Bulk Oil Stations and Terminals

Pollutant Source	BMPs
Liquid storage in above ground storage	<ul style="list-style-type: none"> <input type="checkbox"/> If area is uncovered, connect sump outlet to sanitary sewer (if possible) or an oil/water separator, catch basin filter, etc. If connecting to a sanitary sewer check with the system operator to ensure that the discharge is acceptable. If implementing separator or filter technologies ensure that regular inspections and maintenance procedures are in place. <input type="checkbox"/> Provide secondary containment, such as dikes, with a height sufficient to contain a spill (the greater of 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank). <input type="checkbox"/> If containment structures have drains, ensure that the drains have valves, and that valves are maintained in the closed position. Institute protocols for checking/testing stormwater in containment areas prior to discharge. <input type="checkbox"/> Use double-walled tanks with overflow protection

Table 2A. BMPs for Potential Pollutant Sources at Petroleum Bulk Oil Stations and Terminals (continued)

Pollutant Source	BMPs
Liquid storage in above ground storage (continued)	<ul style="list-style-type: none"> <input type="checkbox"/> Keep liquid transfer nozzles/hoses in secondary containment area. <input type="checkbox"/> Develop and implement spill plans and spill prevention, containment and countermeasures (SPCC). <input type="checkbox"/> Train employees in spill prevention and control.
Petroleum loading/unloading	<ul style="list-style-type: none"> <input type="checkbox"/> Confine loading/unloading activities to designated areas outside drainage pathways and away from surface waters. <input type="checkbox"/> Provide diversion berms, dikes or grassed swales around the perimeter of the area to limit run-on. <input type="checkbox"/> Avoid loading/unloading materials in the rain or provide cover or other protection for loading docks. <input type="checkbox"/> Cover loading and unloading areas and perform these activities on an impervious pad to enable easy collection of spilled materials. <input type="checkbox"/> Provide overhangs at truck loading/unloading docks. <input type="checkbox"/> Slope the impervious concrete floor to collect spills and leaks and convey them to proper containment and treatment. <input type="checkbox"/> For rail transfer, a drip pan shall be installed within the rails to collect spillage from the tank. <input type="checkbox"/> For transfer to/from truck or rail cars, ensure hose connection points at storage containers are inside containment areas, or drip pans are used in areas where spillage may occur which are not in a containment area. <input type="checkbox"/> Regularly sweep area to minimize debris on the ground. <input type="checkbox"/> Develop and implement spill prevention, containment, and countermeasure (SPCC) plans. <input type="checkbox"/> Train employees in spill prevention, control, cleanup and transfer techniques.

What if activities and materials at my facility are not exposed to precipitation?

The industrial stormwater program requires permit coverage for a number of specified types of industrial activities. However, when a facility is able to prevent the exposure of ALL relevant activities and materials to precipitation, it may be eligible to claim no exposure and qualify for a waiver from permit coverage.

If you are regulated under the industrial permitting program, you must either obtain permit coverage or submit a no exposure certification form, if available. Check with your permitting authority for additional information as not every permitting authority program provides no exposure exemptions.

Where do I get more information?

For additional information on the industrial stormwater program see www.epa.gov/npdes/stormwater/msgp.

A list of names and telephone numbers for each EPA Region or state NPDES permitting authority can be found at www.epa.gov/npdes/stormwatercontacts.

References

Information contained in this Fact Sheet was compiled from EPA's past and current Multi-Sector General Permits and from the following sources:

- ◆ City of Phoenix, Arizona, Street Transportation Department. 2004. Prevent Storm Water Contamination: Best Management Practices for Section P - Motor Freight, Freight Transportation, Petroleum Bulk Stations & Terminals, Rail Transportation, & U.S. Postal Service Transportation. SIC Codes Major Groups 40, 41, 42, 43, and 5171.
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