Best Practices for Stormwater Management for Industrial Activities

Scope

The scope of this best practice is to provide guidance for stormwater management for industrial activities. The reader should be thoroughly familiar with the Federal regulations at 40 CFR 122.26(b)(14)(i)-(xi) in addition to their state's requirements and their permit. This best practice does not specifically address stormwater management from construction activities. Construction sites that disturb five acres or more is generally issued a separate permit because of the significant differences of those activities.

Most industrial facilities will need to obtain stormwater permit coverage through their state. EPA remains the permitting authority in a few states, most territories, and most American Indian country lands. For industrial facilities located in those areas, permit coverage is available under EPA's Multi-Sector General Permit (MSGP). The states' permits for stormwater generally follow EPA's MSGP with a few exceptions.

Key Points

- Ensure the required Stormwater Pollution Prevention Plan is a living and useful document.
- Ensure your Management of Change process includes addressing changes in drainage patterns and other potential stormwater impacts.
- Ensure pre-job checklists for maintenance and construction activities include determining if the work is in proximity to a stormwater outfall, and advise employees of appropriate precautions.
- Ensure employees are trained to identify stormwater outfalls and the limitations of these outfalls.

General Requirements and Best Practices

Below are some best practices for managing industrial stormwater. This list is not intended to be comprehensive.

Stormwater Pollution Prevention Plan

Stormwater permits require the creation of a Stormwater Pollution Prevention Plan (SWPPP) to effectively manage stormwater for each facility. A good SWPPP is a living document containing useful and current information.

Identify Stormwater Outfalls

- Clearly mark stormwater outfalls and also document these on drawings. Identification methods include painting the outfalls with a unique, brightly colored paint and/or having conspicuous signage at each outfall.

- Have a good understanding of stormwater drainage flow patterns on-site and identify these drainage patterns on drawings.
- Ensure that areas that potentially contain some process waste contamination are identified as process areas and drain away from stormwater outfalls. Use sumps, paving, berming, curbing, and grading to accomplish this.

Minimize Exposure

- Use secondary containment, such as dikes and spill pans. Inspect these regularly.
- Pave and grade areas with potential process waste contamination to drain to process sewers and away from stormwater sewers.
- Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems away from stormwater drains.
- Use drip pans and absorbents under or around leaky vehicles and equipment, and park away from stormwater drainage areas.
- Ensure that all wash water is drained to a proper collection system and not the stormwater drainage system.

Good Housekeeping and Maintenance

- Keep outfalls clear of debris and excess vegetation.
- If outfalls are painted, set up a recurring preventive maintenance task to inspect and re-paint as needed.

Construction, Temporary Activities and Other Changes

Many stormwater violations and near misses have occurred during temporary activities. These include small construction jobs not requiring their own permit, maintenance, and new installations.

- Use the Management of Change (MOC) process to evaluate stormwater impacts of new projects/installations/activities, including temporary activities. For example, a new installation could change stormwater drainage patterns or extend process contamination to an area previously considered a stormwater drainage area.
- Best practice is to have a pre-job checklist to review with the contractors and maintenance personnel prior to the start of each job. One item on the checklist should consider whether the work is in the proximity of a storm drain and specific instructions not to pump or divert liquids to that drain without specific approval.
- Use erosion control through silt fencing, seeding, gravel, hay bales, preservation of natural vegetation.

Spill Prevention and Response

See the PCA EHS Best Practice, *Spill Planning, Reporting, and Response*. Here are a few highlights:

- Perform an incident investigation of all spills and releases, regardless of size. Focusing on the small spills will ultimately prevent the larger spills.

- Establish spill kits in strategic locations with booms, absorbents, and other tools needed for spill response.
- Ensure spill responders are routinely trained with clear roles and responsibilities. For example, some employees may only be able to respond defensively compared to a HAZMAT team that can respond offensively.

Training

Training is annual per the permit. Training should cover an overview of what is in the SWPPP, spill response procedures, good housekeeping, maintenance requirements, and material management practices along with any other training specified in the permit. All employees should know how to identify stormwater outfalls with the expectation that they will immediately report any questionable circumstance or activity. All contractors working near storm drains should be given awareness training.

Inspections

Inspections are typically defined in the permit and should occur quarterly or monthly. Even if the permit doesn't require at least one inspection to be done during a rain event, best practice is to conduct such an inspection annually. In addition, inspect spill response supplies regularly to ensure adequate inventory. The desired inventory items and quantities should be documented in the SWPPP. Document all inspections.