MS4 Operators - Pollution Prevention and Good Housekeeping Training

Presented by:
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POWER Engineers, Inc.
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• To understand:
  – Basic requirements of City TPDES Phase I or Phase 2 MS4 Permit
  – Pollution Prevention and Good Housekeeping Plan
    • Contents
  – Site Specific BMPs to reduce pollutants in run-off
  – Virtual Inspection (Practical Exercise)
Agenda

• Section 1: Regulatory Overview
• Section 2: The Pollution Prevention and Good Housekeeping Plan
• Section 3: Selected Site Specific BMPs and Virtual Inspection
Section 1: Regulatory Overview
Regulatory Background

- The Clean Water Act (1972) amended the Federal Water Pollution Control Act (FWPCA) of 1948
- Responded to public pressure resulting from damaged waterways
- Implemented in phases:
  - Phase 1 addressed point source discharges from wastewater treatment plants, heavy industry, large municipalities and large construction
  - Phase 2 addressed point source discharges from smaller sources
• Section 402 of the CWA addresses permit for discharge of pollutants
  – a.k.a. **National Pollutant Discharge Elimination System** permits (NPDES)
• EPA issues NPDES permits for discharges of stormwater associated with construction activity
• TCEQ has received primacy (delegated authority) to issue these permits on behalf of the EPA (NPDES -> TPDES)
The City is required by TPDES MS4 Permit to obtain permit coverage for stormwater discharges

MS4 = Municipal Separate Storm Sewer System

Phase I and Phase II MS4s

Phase I MS4 regulation:
  – Issued in 1990
  – Coverage for larger cities/counties with populations of 100,000 or more

Phase II MS4 regulation:
  – Issued in 1999
  – Coverage for smaller cities <100,000
Six Minimum Control Measures (MCM) associated with the MS4 Program:
- Public Education and Outreach
- Public Involvement and Participation
- Illicit discharge detection and elimination (IDDE)
- Construction site run-off control
- Post-construction/Long term stormwater control measures
- Pollution Prevention/Good Housekeeping (P2/GH)
• Prevent or reduce the amount of stormwater pollution generated by municipal operations and conveyed to receiving waters
• Train employees on how to incorporate P2/GH techniques into municipal operations
• Identify appropriate control measures and measurable goals for preventing or reducing the amount of stormwater pollution generated by municipal operations
Section 2: The Pollution Prevention and Good Housekeeping Plan
P2/GH Plan Goals

- Identify actual and potential sources of pollution that may affect the quality of stormwater
- Good housekeeping measures implemented to improve the facility’s stormwater runoff water quality;
- Structural and non-structural controls;
- Training programs;
- Maintenance activities and inspections; and
- Waste disposal procedures
The P2/GH Plan includes:
- General Facility information
- The Facility Pollution Prevention Team
- Employee Training and Education
- Non-stormwater discharges
- Potential Sources of Pollutants
- Spill Prevention and Response
- Site Pollution Prevention Measures
- Recommended Inspections
- Recommended Monitoring and Recordkeeping
- Facility drainage map
• Good housekeeping measures, proper material management and handling practices:
  – Best Management Practices for:
    • Fueling
    • Bulk liquid transfer and Storage
    • Waste material handling and disposal
    • Vehicle and Equipment Maintenance
    • Vehicle and Equipment Parking
    • Exposed Materials Storage
• Spill prevention, response, and notification procedures
  – Location of materials and equipment necessary for spill clean-up
  – Spill clean-up
  – Inspection procedures
• On-site fueling via fuel truck
  – Keep fuel truck parked within containment structure
  – Maintain a spill kit in fueling areas
  – Routinely inspect fueling equipment to detect potential problems before they occur
  – Always be in attendance during the fueling process
  – Use automatic shut-off control measures
Bulk Liquid Transfer and Storage

- Provide accessible, well-labeled spill kits for the maintenance shop, tanks, and storage areas
- Maintain and hose and piping systems, and repair or replace when necessary.
- Maintain and inspect the integrity of AST related systems, and repair or replace when necessary.
- Do not fill ASTs beyond design capacity.
- Clearly label bulk liquid storage tanks, drums, and containers.
- If possible, park portable tanks under cover and within a bermed area when not in use.
- Store drums and small containers under cover within the maintenance facility.
- Train employees on proper tank filling, drum filling, and transfer procedures.
- Ensure all drums and containers are sealed shut when in storage.
- Ensure all drums and containers fit within the primary and secondary containment areas.
Waste material handling and disposal

- Segregate facility waste by type
- Sell waste as a product
- Adopt a first in, first out policy
- Store hazardous materials in a covered area
- Store materials in reusable containers
- Keep lids closed on waste disposal containers
- Pick up any loose trash seen on the ground
Vehicle and Equipment Maintenance

- Drain oil filters before storage for disposal
- Use drum funnels and pumps for waste fluid transfer operations.
- Maintain shop in a clean and orderly condition.
- Inspect the maintenance shop area control measures regularly.
- Use dry cleanup methods after spills.
- Remove and appropriately dispose of dry clean up materials once the spill material has been absorbed.
- Store materials and chemicals under cover.
- Clearly label storage tanks, drums, and containers.
- Clean drains regularly to prevent clogging.
• Designated vehicle and equipment parking areas.
• Use drip pans under leaking vehicles and equipment.
• Inspect parking areas for full drip pans and other problems such as new stains regularly.
• Use dry cleanup methods for any spills or leaks.
Exposed materials include scrap metal and clean vehicle parts, trash dumpsters, and parked vehicles and equipment.

The following practices are recommended for exposed materials storage:

- Create designated areas for storage
- Store all drums and chemical containers in areas with containment
- Utilize the covered space for storage as much as practicable
- Recycle or dispose of miscellaneous unusable materials
- Store all vehicle batteries under cover and dispose in accordance with applicable rules and regulations
The following general procedures will help to minimize spills and facilitate response actions:

- Maintain equipment in a clean, dry, and orderly condition.
- Adequate space for personnel and response equipment access will be maintained in and around bulk liquid and container storage areas to facilitate spill response capability.
- Bulk and containerized liquid storage areas will be inspected for spills and leaks and for damage or deterioration of containers, tanks, or secondary containment features.
All drums, tanks and other containers are to be clearly labeled.

Hazardous waste containers that require special handling, storage, use, and disposal should be clearly marked.

Secondary containment equipment is placed beneath drums containing liquids.

Vehicle and equipment parking areas will be inspected to detect spills and leaks.

Drip pans shall be used beneath transfer points and dispensing nozzles.

Drip pans shall be used beneath leaky equipment.

Hoses shall be hung and placed out of vehicle traffic areas.

Spills shall be cleaned upon discovery using dry methods.
The supervisor at the scene should:
- Determine the cause of the spill or leak and stop it if possible.
- Initiate containment action.
- Identify and downgrade fire, explosion and vapor hazards.
- In the event of the likelihood of a fire or explosion hazard, notify appropriate fire response staff, evacuate all personnel to a safe location and secure the area.
- As soon as is practical, record all information and notify management.
- Visually inspect all discharges or exposed areas and prevent further migration of the spill.
- Initiate clean up and removal operations in accordance with this plan and state and federal guidelines.
Upon the determination that a spill incident meets any of the following criteria, it must be reported to the TCEQ as soon as possible but not later than 24 hours after the discovery of the spill or discharge.

- The discharge is from or suspected to be from underground plumbing.
- The discharge exceeds 25 gallons from a fuel dispensing system or from an aboveground storage tank.
- Any discharge that is not contained on the premises or if it has entered a body of water.
- The cleanup cannot be accomplished with 24 hours.
- Any oil discharge that exceeds 25 gallons.
# Emergency Response Contacts

## Emergency Response Numbers

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>State Emergency Response Commission</td>
<td>512-463-7727</td>
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<tr>
<td>National Response Center</td>
<td>800-424-8802</td>
</tr>
<tr>
<td>US EPA Region 6 - Dallas 24 hour</td>
<td>866-372-7745</td>
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<tr>
<td>National Weather Service</td>
<td>281-337-5074</td>
</tr>
<tr>
<td>TCEQ 24 hour</td>
<td>800-832-8224</td>
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<tr>
<td>TCEQ Region 13</td>
<td>210-490-3096</td>
</tr>
<tr>
<td>Bexar County LEPC</td>
<td>210-206-8532</td>
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Recommended Facility Inspections

- Recommended Monthly and Annual Inspection of facility
- Recommended inspection items:
  - Potential spills/leaks & areas of past spills/leaks
  - Maintenance areas
  - Storage and fueling areas
  - Areas of exposed materials
  - Structural controls
  - Drainage features
  - Industrial materials or residue that has the potential to contact stormwater
  - Good housekeeping practices
  - Tracking of industrial materials
  - Areas where site drainage enters the City storm sewer system
Section 3:
Site Specific BMPs and Virtual Inspection
Site Specific BMPs

- Spill control
Site Specific BMPs

- Spill control
Site Specific BMPs

- Covered storage areas
Site Specific BMPs

- Vegetated drainage areas to filter run-off
Site Specific BMPs

- Security and lighting
Exposed metals storage
Questions?

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