Challenges of Stormwater Monitoring

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

- 2021 MSGP
- What is a SWPPP?

Texas Commission on Environmental Quality
P.O. Box 13087 Austin, Texas 78711-9087

GENERAL PERMIT TO DISCHARGE UNDER THE
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM
under provisions of Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code
This permit supersedes and replaces
TPDES General Permit No. TXR030000, issued August 14, 2016.

Facilities that discharge stormwater associated with industrial activity
located in the state of Texas
may discharge to surface water in the state

only according to effluent limitations, monitoring requirements and other conditions set forth in
this general permit, as well as the rules of the Texas Commission on Environmental Quality
(TCEQ), the laws of the State of Texas, and other orders of the Commission of the TCEQ
(Commission). The issuance of this general permit does not grant to the permittee(s) the right
to use private or public property for conveyance of wastewater along the discharge route. This
includes property belonging to but not limited to any individual, partnership, corporation or
other entity. Neither does this general permit authorize any invasion of personal rights nor any
violation of federal, state, or local laws or regulations. It is the responsibility of the permittee(s)
to acquire property rights as may be necessary to use the discharge route.

This permit and the authorization contained herein shall expire at midnight, five years from the
permit effective date.

EFFECTIVE DATE: August 14, 2021

ISSUED DATE: July 16, 2021
• MSGP Critical Definitions
• 2021 MSGP Applicability for Solid Waste Facilities
• Monitoring Requirements
  • Visual
  • Analytical
• Analytical Testing
  • Numeric Effluent
  • Benchmark
• Monitoring Schedule
  • Weekly
  • Monthly
  • Semi-Annual
  • Annual
• SWPPP Monitoring Challenges
• Reporting/ Compliance Calendar
• Exceptions/ Waiver
Outfall

Point (or points) at the Facility boundary where stormwater runoff leaves the site or within the Facility where discharge enters a receiving water.
Qualifying Storm Event
Measurable storm event resulting in an actual discharge from the site, which follows the preceding storm event by at least 72 hours.

“A Qualifying Storm Event is a storm that produces a discharge from at least one drainage area at your facility.”
MSGP CRITICAL DEFINITIONS

Impaired Water Bodies

Water bodies identified as impaired on the latest approved CWA Section 303(d) List, or waters with an EPA-approved or established total maximum daily load (TMDL) that are found on the latest EPA approved Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d) as not meeting applicable state water quality standards.
No Exposure

A condition at an industrial facility where all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.
## MSGP CRITICAL DEFINITIONS

**Best Management Practice (BMP)**
Schedules of activities, prohibitions of practices, maintenance procedures, and other techniques to control, prevent, or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spills or leaks, waste disposal, or drainage from raw materials storage areas.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Existing/ Planned BMPs</th>
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<tbody>
<tr>
<td><strong>Waste Disposal Area</strong></td>
<td>• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up&lt;br&gt;• Equip waste transport vehicles with anti-spill mechanisms (e.g. latches, drain plugs, automatic closures and tarp on roll-off trucks)</td>
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<tr>
<td><strong>Soil Stabilization Area</strong></td>
<td>• Installing berms/dikes around the areas&lt;br&gt;• Installing sediment filters, as necessary</td>
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<tr>
<td><strong>Used Oil Storage Area</strong></td>
<td>• Secondary containment area&lt;br&gt;• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up</td>
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<tr>
<td><strong>Outdoor Equipment Cleaning and Maintenance Activities</strong></td>
<td>• Biodegradable detergents used for cleaning the facility grounds&lt;br&gt;• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up</td>
</tr>
<tr>
<td><strong>C&amp;D Striping &amp; Processing</strong></td>
<td>• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up</td>
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<tr>
<td><strong>Wood Grinding Operation</strong></td>
<td>• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up</td>
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<tr>
<td><strong>Fuel Storage Area</strong></td>
<td>• Secondary containment area&lt;br&gt;• Routine litter clean up&lt;br&gt;• On-site soils or spill kit used for spills/leak clean up</td>
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<tr>
<td><strong>Equipment Maintenance</strong></td>
<td>• Routine litter clean up&lt;br&gt;• Deploy tarps, drip pans, and/or spill kits as necessary to contain spills&lt;br&gt;• Store materials or chemicals in enclosed areas or use tarps when applicable&lt;br&gt;• Find substitutes for harmful chemicals-properly dispose of unusable chemical inventory</td>
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<tr>
<td><strong>Paved Roads</strong></td>
<td>• On-site soil or absorbent material used for fluid leak clean up&lt;br&gt;• Sweep paved surfaces regularly to clean up tracked dirt and minimize soil and/or debris that may enter stormwater collection system</td>
</tr>
</tbody>
</table>
• Industrial Activity requires authorization for stormwater discharge

• Are you covered?
  o MSGP Part II, Section A lists covered Facilities

• Covered Facilities
  o Landfills and Land Application Sites (Activity Code LF)
  o Recycling Facilities (SIC Code 5093)
  o Transfer Stations (SIC Code 4212, NAICS Code 562111, 562112, 562119)
  o Compost Facilities (SIC Code 2875, NAICS 325314)
MSGP COVERAGE

• Obtaining coverage
  o NOI (Notice of Intent)
    • Written submission to TCEQ Executive Director requesting authorization to discharge stormwater under MSGP from facility engaging in industrial activity
  o NEC (No Exposure Certificate)
    • Written submission to TCEQ Executive Director notifying that facility engaging in industrial activity intends to obtain conditional exclusion from MSGP requirements by certifying that industrial materials are isolated from rain, snow, snowmelt, and stormwater runoff by storm resistant shelters.

• Change in coverage
  o NOC (Notice of Change)
    • Written notification from the permittee to the executive director providing changes to information that was previously provided to the agency in a notice of intent or no exposure certification (NEC) form.
  o NOT (Notice of Termination)
    • A written submission to the executive director from a discharger authorized under a general permit requesting termination of coverage.

Submit online through STEERS
MSGP Compliance Requirements

- Rain Gauge Monitoring
- Routine Facility Inspection
- Quarterly Visual Monitoring
- Benchmark Monitoring
- Hazardous Metals Monitoring
- Annual Comprehensive Site Compliance Inspection
- Employee Training
- Discharge Monitoring Report (DMR)
Rain Gauge Monitoring

- Maintain on-site rain gauge or representative weather station
- Use rain gauge to determine qualifying rain event
- Monitor once per week or once per day during storm events
- Maintain records of rainfall on-site
- May temporarily suspend after qualifying storm event and required sampling
Routine Facility Inspection

- Weekly (Landfills)
- Quarterly (Transfer Stations, Recycling Facilities, Composting Operations)
- Include member of Pollution Prevention Team (PPT)
- Document the following:
  - Weather
  - Observed discharges
  - Failed control measures
  - Non-compliance
  - Necessary additional control measures
  - Improperly implemented BMPs
Quarterly Visual Monitoring

- Performed by member of PPT
- Safety
- Collect in clear container
- Sample each outfall
- Document monitoring
- Review with PPT
Quarterly Visual Monitoring

• Assess:
  o Color
  o Clarity
  o Oil Sheen
  o Odor
  o Foam
  o Solids
Benchmark Monitoring

• Evaluates overall effectiveness of Site BMPs
• Varies by industrial activity
• “Guidance level indicator”
• Sample semi-annually
• Requires analytical testing
Benchmark Monitoring for Solid Waste Facilities

- **Landfills (Sector L)**
  - TSS (100 mg/L)
  - Total Iron (1.3 mg/L)
- **Transfer Stations (Sector P)**
  - (None)
- **Recycling Facilities (Sector N)**
  - Total Copper (0.030 mg/L)
  - Total Aluminum (1.2 mg/L)
  - Total Iron (1.3 mg/L)
  - Total Lead (0.010 mg/L)
  - Total Zinc (0.16 mg/L)
  - TSS (100 mg/L)
  - COD (60 mg/L)
- **Compost Facilities (Sector C)**
  - Nitrate + Nitrite, N (0.68 mg/L)
  - Total Lead (0.010 mg/L)
  - Total Iron (1.3 mg/L)
  - Total Zinc (0.16 mg/L)
  - Phosphorous (1.25 mg/L)
  - TSS (50 mg/L)
Benchmark Monitoring - Exceedances

- Exceedance is NOT a permit violation
- Must be investigated
  - Additional potential sources of pollutants
  - Revised good housekeeping
  - Additional BMPs
  - SWPPP revisions
- Document investigation results
- Failure to investigate is a permit violation
Benchmark Monitoring – Exceedance Investigation

• Background Concentrations
  o Document supporting rationale with SWPPP
  o Notify TCEQ
Hazardous Metals Monitoring

- Required unless waived
- Sample annually
- Numeric effluent limitation exceedance is a permit violation

- Arsenic (0.3 mg/L)
- Barium (4.0 mg/L)
- Cadmium (0.2 mg/L)
- Chromium (5.0 mg/L)
- Copper (2.0 mg/L)
- Lead (1.5 mg/L)
- Manganese (3.0 mg/L)
- Mercury (0.01 mg/L)
- Nickel (3.0 mg/L)
- Selenium (0.2 mg/L)
- Silver (0.2 mg/L)
- Zinc (6.0 mg/L)
- Waivers may be claimed metal-by-metal and/or outfall-by-outfall
- Must meet 1 condition:
  - Do not use raw material or produce product containing hazardous metal
  - Any raw materials or products containing hazardous metal are not exposed to stormwater
  - Analyzed sample from first available discharge does not detect one or more hazardous metal at the MAL
- Record on TCEQ form/ STEERS
Annual Comprehensive Site Compliance Inspection

- Assesses SWPPP effectiveness
- May substitute for one routine facility inspection
- Must include 1 member of PPT
- Annual Comprehensive Site Compliance Inspection Report
Annual Comprehensive Site Compliance Inspection

• What to inspect?
  o Areas identified in Inventory of Exposed Materials
  o Structural Controls
  o Non-Structural Controls
  o Areas where spills/leaks have occurred
  o Reasonably accessible areas immediately downstream of each outfall
  o Industrial materials, residues, and/or trash
  o Drums, tanks, or other containers capable of spills/leaks
  o Offsite tracking of industrial materials, waste materials, and/or sediment
  o Tracking or blowing of waste materials
  o Review past year’s visual and analytical monitoring results
Employee Training

- Train all employees who are responsible for implementing/maintaining activities identified in SWPPP.

- Training should include:
  - Proper material management and handling practices for materials at the facility
  - Spill prevention methods
  - Spill clean up techniques and reporting requirements
  - Location of spill response materials
  - Familiarization with good housekeeping measures, BMPs, and goals of the SWPPP
  - Identify Pollution Prevention Team members and responsibilities
Discharge Monitoring Report (DMR)

- **Frequency:** Annually
- **Submittal:**
  - Paper

**UPDATE** Episodic Waiver from Electronic Reporting in NetDMR from January 31, 2022 to April 1, 2022

**UPDATE** Please Note: Effective August 14, 2021, the MSGP requires permittees to submit all analytical results for determining compliance with effluent limitations and benchmark monitoring electronically using the online NetDMR® reporting system. However, the NetDMR reporting system is not yet ready to accept data from MSGP permittees. Therefore, TCEQ is implementing an Episodic Waiver from electronic reporting in NetDMR for all MSGP permittees.

MSGP permittees must submit paper (DMRs) by mail to:

TCEQ (MC 213)
P.O. Box 13087
Austin, TX 78711-3087

Paper DMRs must be submitted to TCEQ by March 31, 2022.

Reporting of analytical results for compliance with effluent limitations and benchmark monitoring for the 2022 calendar year MSGP monitoring periods will be required to be submitted electronically in the NetDMR reporting system by March 31, 2023. TCEQ anticipates that the NetDMR system will be available for these submittals as early as Summer 2022.
When do DMRs need to be submitted

• Any non-compliance with an effluent limit for any of the hazardous metals required in Part III.C.1 of this permit.

• All results of sampling for effluent limits in accordance with Part V of the permit Sector-specific requirements in following sectors must be reported in NetDMR regardless of if there was an exceedance or not:
  1. Sector A – Timber Products Facilities
  2. Sector C – Chemical and Allied Products
  3. Sector D – Asphalt Paving and Roofing Materials
  4. Sector E – Glass, Clay, Cement, Concrete & Gympsum Products
  5. Sector J – Mineral Mining & Processing
  6. Sector O – Steam Electric Generating Facilities
When do DMRs need to be submitted

- Benchmark monitoring results during years 1-4 of the permit term.
  - Required regardless of benchmark value
  - Reported average yearly result by pollutant (not outfall by outfall)
  - Submit DMR by March 31 of following year.
## Monitoring Calendar

### MSW LANDFILL - SCHEDULE OF EVENTS

<table>
<thead>
<tr>
<th>MONTH</th>
<th>CAUSEE CANYON</th>
<th>WPOST</th>
<th>BIG SPRING</th>
<th>PEARL RIVER</th>
<th>SHONFIELD</th>
<th>RASBERRY</th>
<th>LAMHGA</th>
<th>REDGA</th>
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<td>JANUARY</td>
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**Legend:**
- Red: Event 1
- Orange: Event 2
- Yellow: Event 3
- Green: Event 4
- Blue: Event 5
- Black: Additional notes
## Compliance Schedule

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Tasks</th>
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<tr>
<td><strong>WEEKLY</strong></td>
<td>- Routine Facility Inspection (LF)</td>
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<td>- Rain Guage Monitoring</td>
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<td><strong>QUARTERLY</strong></td>
<td>- Stormwater Visual Monitoring</td>
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<td></td>
<td>- Routine Facility Inspection (Non-LF)</td>
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<tr>
<td><strong>SEMI-ANNUALLY</strong></td>
<td>- Benchmark Monitoring</td>
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<td><strong>ANNUALLY</strong></td>
<td>- Hazardous Metals Monitoring</td>
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<td>- Employee Training</td>
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<td>- Discharge Monitoring Report (DMR)</td>
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Typical Monitoring Procedure

- Coordinate with lab on analyses and containers
  - Some require short hold times/preservatives
- Determine if rain event qualifies
  - Verify stormwater discharge
- Collect representative grab sample
  - Collect at outfall
  - Collect from flowing water (no puddles)
- Fill out sample label and chain of custody (COC)
- Pack samples in cooler on ice
- Return to lab with COC (within hold time if applicable)
Challenges of Stormwater Monitoring

Challenge: Properly obtaining sample
- Collecting within 1 hour of discharge
- Collecting representative sample

Solution: Plan ahead
- Keep necessary sample kit on-site
- Designate on-site staff to collect samples
Challenges of Stormwater Monitoring

Challenge: Adverse Conditions
• Dangerous to personnel
• Prohibit access to discharge

Solution: Monitoring requirements may be temporarily suspended
• Must document adverse conditions with SWPPP
• Must make-up monitoring during next qualifying rain event
QUESTIONS?

TPDES Stormwater Program Contact

**Stormwater Team**

- **512-239-4671**
- **SWGP@tceq.texas.gov**

**Stormwater Processing Center**

- **512-239-3700**
- **SWPermit@tceq.texas.gov**

- **Rebecca L. Villalba** - Team Leader
  - Hanne Nielsen
  - Dan Siebeneicher
  - Macayla Coleman
  - Alyssa Cook
  - Dalila Loiacomo

Contact us:

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