Managing Industrial Stormwater In Minnesota

Minnesota Air Water and Waste Conference

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Overview

- History
- Application Requirements
- SWPPP
- BMPs
- Monitoring
  - Benchmarks
  - Non-Degradation
  - Impaired waters/TMDL's
- No Exposure Exclusion

What Does Industrial Stormwater Program Look Like Past to Present?

- 1992 NPDES stormwater authority granted to Minnesota
- 1997 the first General Stormwater Permit for Industrial Activity is re-issued
- Permit expired in 2002
- Draft permit on public notice September 2002
- 2003 municipally owned industrial activities required to have General Stormwater Permit
- 2005 EPA public notice of revision to its Multi Sector Industrial Stormwater General Permit
- 2006 Work Group created to provide insight into new permit process

Timeline

- **Developing the permit, asking for informal input now through June**
- **Industrial Stormwater Multi Sector General Permit should be on public notice with a request for comments around July-Aug 2008**
- **Resolution of comments and issuance of the permit should be by the end of 2008**

Who Must Apply for a Stormwater Permit?

- **Facilities with activities that fall into one of eleven categories, most with specific SIC codes – these are organized into 30 sectors**
- **Construction although considered an industrial category, is not included in this permit.**

complete list of SIC codes in application instructions

Industrial Stormwater Multi-Sector General Permit

DRAFT permit with a focus on sector specific requirements for stormwater management on a site through:

- Development of a Stormwater Pollution Prevention Plan and completion of permit application
- Implementation of Best Management Practices
- Benchmark monitoring for stormwater discharges — **this is new**

How Do I Obtain the Permit?

- Apply now, if you currently do not have the general permit (State rules require it!), and follow the 2002 draft
- MPCA is currently revising the permit and may be ready to receive comments on the permit in 2008
- Apply for this revised permit when MPCA announces the permit is ready to receive applications
- No application fee; there will be a $400 annual fee, annual reports, inspections
- If your facility has an individual wastewater treatment permit, these stormwater conditions will be included there

What is Required?

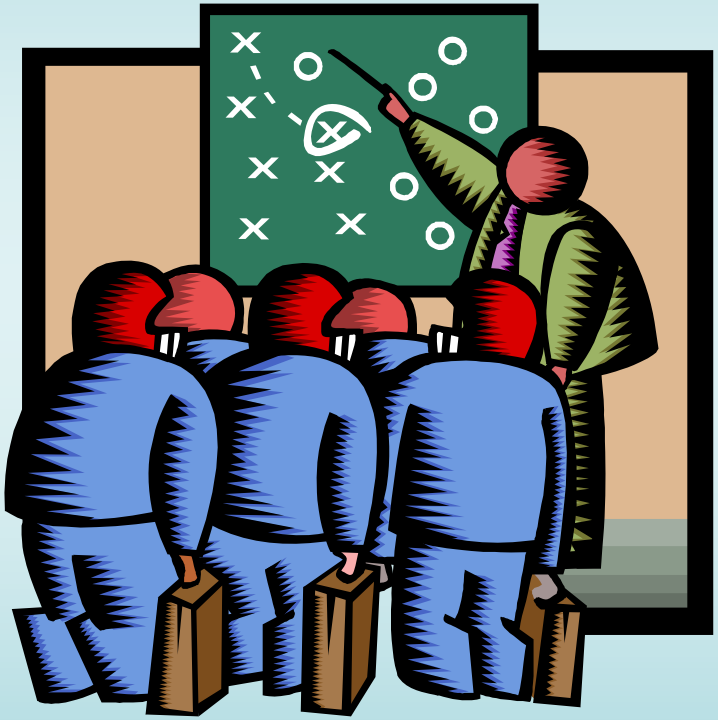
- A **Stormwater Pollution Prevention Plan (SWPPP)** that includes **Best Management Practices (BMPs)** for managing industrial materials and activities
- **Eliminating or reducing stormwater contact** with potentially polluting materials and/or treating stormwater
- **Monitoring stormwater discharges** four times in second year, passing benchmarks by the end of the fourth year -- **this is new**

Why Do We Care About Stormwater?

- **Stormwater runoff can change both water quality and quantity affecting our water resources physically, chemically and biologically**
- **Stormwater coming into contact with significant materials from industry like oils/greases, metals, and nutrients reduces water quality**

What Is a SWPPP?

- The goal of the Stormwater Pollution Prevention Plan is to eliminate or minimize contact of **stormwater** with **significant materials** that may result in pollution of runoff.
- It is an industrial facility's game plan on how to manage stormwater correctly through use of Best Management Practices



What Is in a SWPPP?

- Facility description
- Facility map
- Spill Response Plan
- BMPs
- Preventive maintenance program
- Employee training program
- Routine inspections

What Is a Best Management Practice?

- Practices to prevent or reduce pollution to receiving waters
  - Housekeeping
  - Shelters/covers
  - Berms
  - Infiltration ponds
  - Daily inspections
- Can be structural and non-structural

You Have Choice in BMPs to Use

- Each facility is unique
- Plan early on BMP implementation for best chance to pass the benchmarks
- Document BMPs in your SWPPP
- Use your SWPPP as a guide to manage your site

Sector Specific Requirements

Each sector included in the permit would have specific requirements for:

- **What pollutants to monitor for and how often**
- **Sector specific benchmarks to compare monitoring results against**
- **Some Best Management Practices may be specified**
- **Only a few sectors are expected to have effluent limitations**
- **If you have industrial activity in more than one sector, all requirements for those sectors apply**

What Is a Benchmark? This is New

- **A benchmark is an action level** to compare against the test result for monitoring, **are not effluent limits!**
- ***Example*:** an industrial sector might require stormwater monitoring at a facility for Total Suspended Solids (TSS) and might have a benchmark of 100 milligrams / liter TSS
- The average of four test results from samples taken in the second year is 150 mg/liter TSS
- The facility would need to make management or structural BMP changes, and test again, intending to pass the benchmark by end of year four

Benchmark Monitoring

- **4 times second year, quarterly samples taken at least two weeks apart**
- **Average of these 4 samples, compare to benchmark (you can take more samples)**
- **Repeat if exceed the benchmark, after modifying BMPs**
- **Pass benchmark by end of fourth year of permit**

Parameter	Benchmark	Infiltration Benchmark
Oil & grease	5 mg/liter	5 mg/l
TSS	100 mg/l	none
Total Aluminum	0.75 mg/l	0.75 mg/l
Total Iron	1.0 mg/l	1.0 mg/l
Total Lead	0.082 mg/l	15 ug/l
Total Mercury	Non-detect	Non-detect
Hardness	Monitor only	Monitor only

If the Monitoring Results Are Higher than Benchmark

- **Inspect, manage, maintain BMPs**
- **If the average of the four samples within a year exceed the benchmark, then make changes to BMPs (Year 3), document in the SWPPP, repeat the benchmark monitoring (4 samples taken once per quarter, Year 4)**
- **If the benchmark is exceeded again, a report must be submitted and possibly an individual permit will be required**
- **Exceedance of an effluent limit requires immediate corrective action and reporting**

If the Monitoring Results are Lower than Benchmark

- If the average of the four samples within a year are lower than benchmarks for each sector applicable, your BMP's are adequate
- Continue monitoring once per year in year 3 and year 5.

If Receiving Water is Listed as Impaired

- Monitoring for the pollutant of impairment is required each year
- If monitoring results exceed a benchmark, a report is not done but BMP management and monitoring continue until results are below the benchmark
- If a Total Maximum Daily Load (TMDL) has been completed, follow the TMDL if it requires more than the general permit

What Is No Exposure?

All significant industrial materials and activities are protected from:

- **Rain**
- **Snow**
- **Snowmelt**
- **Run-off**

by a storm resistant shelter

What Advantage Is Achieving No Exposure?

- Conditional exclusion from the Industrial Stormwater Permit
- No application fee, no annual fee, no annual reports, no SWPPP
- Stormwater contamination is avoided
- MPCA recommends three inspections per year (must maintain condition of no exposure and apply every 5 years)

How Do I Obtain No Exposure Exclusion?

- All significant materials and industrial activities protected from stormwater by storm resistant shelter
- Submit the permit application and complete the No Exposure Certification Section every 5 years
- Submit a copy of the certification, upon request, to the municipality in which the facility is located

THANK YOU!

Questions?

General

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or visit us on the web at:

http://www.pca.state.mn.us/water/stormwater/stormwater-i.html

Industrial Stormwater Work Group

- Aggregate and Ready Mix Association
- Aggregate Industries
- Salvage yards
- Auto recyclers
- Electrical companies
- Mining
- Petroleum refining
- Manufacturing
- Minnesota Chamber of Commerce
- Government agencies (MNDOT, MAC)
- Cities that receive industrial stormwater
- Consultants
- Environmental Group
- MPCA staff, supervisor, manager

What Are *Industrial* Materials and Activities?

MATERIALS

- Material and equipment handling
- Machinery
- Raw materials
- By-products
- Waste products
- Intermediate and final products

ACTIVITIES

- Storage
- Loading and unloading
- Transportation

BMPs to Avoid Stormwater Contamination

- **Work in a building or under cover over a bermed impervious surface**
- **Indoor battery storage**
- **Manage runoff and runon through use of berms at the site boundary or at the boundary of well maintained work areas**
- **Good housekeeping on the site**
- **Recycling fluids, fuel, batteries, mercury switches, lead battery cable ends and wheel weights, as much as possible, as soon as possible**
- **Environmental Compliance Manual at http://www.pca.state.mn.us/waste/salvageyards.html**

What Industrial Materials and Activities *Are Not Significant?*

- **Drums, barrels, and tanks *sealed* and free from deterioration**
  - **“Sealed” means no taps and valves**
- **Adequately maintained vehicles**
  - **Free from leaks**
- **Completely covered and plugged dumpsters with no deterioration**
- **Final or intermediate products that are insoluble and intended for outdoor use**
- **Office buildings and parking lots without industrial activity**

What is Stormwater?

Stormwater is site runoff or runon from:

- **Rain**
- **Snow, sleet, hail**
- **Snowmelt**

When contaminated with site materials, stormwater affects water quality

What Are *Significant* Materials?

- Materials which have pollution potential
- When determining materials' significance, physical and chemical characteristics should be considered
- Characteristics can include solubility, transportability, and toxicity

EXAMPLES

- Raw materials
- Fuels
- Detergents, solvents
- Finished metallic products
- Raw materials used in food processing and production
- Hazardous substances
- Waste products