

Review of Best Management Practices

Industrial Stormwater Advisory Committee
Meeting 12 - November 16, 2010

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The background of the slide is a solid blue color. At the bottom, there are several decorative elements consisting of concentric circles, resembling ripples in water, in a lighter shade of blue.

Focus for today's meeting

- Follow up on comments:
 - Frequency of additional pollutant monitoring
- Discuss pollutant focus of BMP review
- Discuss BMP ability to meet benchmarks and water quality criteria

Additional Pollutants

Overview:

- Initially proposed parameters based on
 - Benchmarks in current 1200-Z and 1200-COLS
 - EPA's sector specific benchmarks
 - Impairment pollutants of the water body receiving discharge
- Assessment of potential gaps in monitoring
 - Parameters
 - Scope

Additional Pollutants

➤ Proposed additional monitoring

- All facilities
 - Cadmium, Chromium, Nickel, PAHs
- N Sector facilities, SIC Code 5093 – scrap and waste recycling
 - Mercury, PCBs
- Originally suggested monitoring frequency for all additional parameters
 - 4 times a year for 2 years

➤ Committee response

- Monitoring frequency is excessive and should be based on monitoring goals

Additional Pollutants

Parameter	Scope of Monitoring	Monitoring Frequency, Duration	Samples per Outfall	Statistical Approach	Result
Mercury, PCBs	<ul style="list-style-type: none"> • Sector M, SIC 5015, automobile salvage yards • Sector N, SIC 5093, scrap and waste recycling facilities 	4x / year, for 1 year	4	Probabilistic analysis to assess prevalence of pollutants	Potential benchmark application
PAHs	All Facilities	2x / year, for 1 year	2*	Dependent on programs' goals	Assessment of industrial stormwater runoff PAH contribution
Cadmium, Chromium, Nickel	All Facilities	4x / year, for 2 years	8	Evaluation of "negatives" in indicator metals	Potential benchmark application

* Facilities with greater than two sampling locations will monitor PAHs at two locations: one location downstream from an area most likely to have high exposure to PAHs as a result of facility practices, and one location downstream of an area least likely to have exposure to PAHs resulting facility practices

Monitoring Evaluation

- Evaluation of number of facilities that will monitor parameters based on frequently monitored parameters
 - Benchmarks in current 1200-Z and 1200-COLS
 - TSS, copper, lead, zinc, oil & grease, pH, E. Coli, BOD, phosphorus
 - EPA's sector specific benchmarks
 - COD, iron, aluminum
 - Impairment pollutants of the water body receiving facility discharge
 - Iron, manganese, fecal coliform, mercury

Monitoring Evaluation

Parameter	Number of Facilities to Monitor			
	Source			Total, accounting for overlapping sources
	DEQ BM	EPA BM	Impairment	
Copper, Total	908	59	38	908
Lead, Total	908	84	39	908
Oil and Grease	908	0	--	908
pH	908	25	27	908
TSS, Sedimentation	908	274	3	908
Zinc, Total	908	214	6	908
Iron, Total	--	163	307	404
E Coli	>138	0	281	>281
Manganese, Total	--	--	269	269
Fecal Coliform	--	--	228	228
Chemical Oxygen Demand, COD	--	205	--	205
Biochemical Oxygen Demand, BOD5	138	26	--	160
Phosphorus, Total	138	9	7	153
Mercury, Total	--	2	150	151
Aluminum, Total	--	146	--	146

Highlighted parameters require monitoring according to current DEQ 1200-Z or 1200-COLS.

BMP Evaluation

➤ Data Sources

- International BMP Database
- 3rd Party testing
 - Taylor and Associates, USGS and WI DNR
- 1st Party submissions to BMP qualification programs
 - WA DOE TAPE, ETV, NJCAT

➤ Concentrations vs. percent removal

➤ Data representativeness

- Primarily roadway and urban runoff sources
- General site variations
 - Stormwater chemistry
 - Particle size distributions
 - Precipitation characteristics

BMP Evaluation

➤ Stormwater Treatment Data Availability

- Sufficient information
 - TSS, copper, lead, zinc, phosphorus, NO_3+NO_2
- Insufficient information
 - Iron, manganese*, mercury, arsenic, oil and grease, E. Coli, COD, BOD, PAHs
- No substantial information
 - Legacy pesticides
 - Aldrin, DDT, DDE, Dieldrin
 - Volatile organics
 - Dichloroethylenes, tetrachloroethylene, and trichloroethylene
 - Pentachlorophenol, PCBs

* DEQ Standards and assessment section will propose to withdraw human health criteria except for ingestion of organisms applied to marine waters.

BMP Evaluation

- Benchmarks for copper, lead and zinc are forthcoming
- Discussion questions
 - Are there other sources of data for assessment of BMP capacities?
 - Are there other BMP data related to uncommonly monitored pollutants?