

# Fourth Stakeholder Meeting for Nondegradation Rulemaking

Minnesota Pollution Control Agency

Jan. 26, 2009, 1:00pm-3:30pm, MPCA Offices, Duluth

Jan. 30, 2009, 8:30am-11:30am, Dakota Lodge, West St. Paul

# Agenda

- Welcome, introductions
- Review
- Issue Paper 8 – “How should nondegradation be applied to NPDES-permitted stormwater activities?”
- Small group discussions
- Written response to discussion points
- Summary/Next Steps
- Comments received from Issue Papers 6 and 7



# What is nondegradation?

- Nondegradation = Antidegradation
- Nondegradation is:
  - Part of the states water quality standards
  - A procedure by which states review activities that have the potential to lower water quality
  - A tool used to maintain water quality



# Federal Requirements - Clean Water Act (CWA)

- CWA objective:
  - “...restore and **maintain** the chemical, physical, and biological integrity of the Nation’s waters.”
- CWA requirement for adoption of water quality standards including:
  - Designated uses
  - Water quality criteria necessary to support designated uses
  - Antidegradation provisions





# Federal Requirements - 40 CFR § 131.12

- Adopt antidegradation policy and implementation procedures consistent with federal regulations:
  - Protection of existing uses
  - Protection of high quality waters (waters where water quality is better than the standard); decision-making process
  - Protection of exceptional waters – Outstanding National Resource Waters



# Tier 2 Protection

**Protection of  
High Quality  
Waters**

**Ambient Water Quality**

Lowering of water quality not allowed unless justified by important social or economic development. Any determination must involve intergovernmental cooperation and public participation.

**Designated Use**

**Restoration  
via TMDL  
program to  
meet  
designated  
uses**

Water quality limited waters; impairment; violation of water quality standard.



# Tier 2 Review Triggers

- Typically based on lowering of water quality, increased loading, or a specific activity
- Ideally want an understanding of current, baseline and projected conditions in the receiving water
- Thresholds may be used to determine the significance of an action



# Tier 2 Decision Process

- Antidegradation demonstration
  - Applicant submits information regarding type and level of activity, receiving water, projected impacts of activity to receiving water, alternatives considered, social and economic benefits of activity
- Antidegradation review
  - Agency reviews proposed activity; considers information through the nondegradation demonstration, intergovernmental cooperation and public participation, other sources
- Antidegradation decision
  - Agency makes final decision on whether and to what extent water quality is lowered





# Applicability, Implementation and Regulatory Control

- Antidegradation applies to any activity that has the potential to affect water quality.
- Antidegradation is generally only actively enforced where there is regulatory authority (control document)
  - Examples: NPDES permits, 401 certifications
- Antidegradation has traditionally been implemented through:
  - statutory and regulatory controls where there is regulatory authority over point sources
  - “cost-effective and reasonable BMPs for nonpoint sources”

# Issue Paper 8. How should nondegradation be applied to NPDES-permitted stormwater activities?

- How do NPDES-permitted stormwater activities differ from other NPDES-permitted activities?
- What are the unique aspects of each stormwater type?
- Addressing nondegradation through stormwater general permits
  - Determination of the maintenance or degradation of a water resource
  - Providing for public participation
  - Addressing impacts to ORVWs
  - Decision Process: how, when and where demonstration and review may occur



# How do NPDES-permitted stormwater activities differ from other NPDES-permitted activities?

- Discharge characteristics
  - Flow
    - Variability – seasonal and annual variations, antecedent conditions
    - Intensity, duration and frequency stormwater flow subject to environmental conditions
    - Flow/volume itself has potential to pollute/degrade
  - Pollutant loading and type
  - Discharge points
    - May be discrete or not,
    - May have multiple sources and discharge points
  - Multiple receiving waters
  - Challenges in monitoring and modeling impacts
  - Treatment design decisions





# How do NPDES-permitted stormwater activities differ from other NPDES-permitted activities?

- Number of permit applicants, use of general permits
  - Potentially 5000 to 8000 applicants seek coverage under stormwater general permits
  - Reconciling the resource-specific nature of antidegradation with general permits
- Regulatory and administrative structure
  - Regulation typically through management measures vs. numeric effluent limits
  - Often overlapping jurisdictional boundaries
  - Jurisdictional/political boundaries  $\neq$  to watershed boundaries
  - Public participation
  - Agency decision process





# Municipal Separate Storm Sewer Systems (MS4s)

- Conveyance system owned or operated by a public body that discharges to waters of the state
- Federal requirements for NPDES coverage: Phase I (large and medium) MS4s by 1993, Phase II (small) MS4s by 2003
- MN Phase I permits issued in 2000, new permits under development; MN Phase II general permit issued in 2006
- Systems connect impervious cover over large developed areas often crossing jurisdictional boundaries
- Usually many sources and discharge points, often to multiple receiving waters
- Wide range of pollutants include sediment, litter, fertilizers, pesticides, oils, metals, pathogens, salt, and other debris



# Regulated MS4 Permittees

MS4 Entity	Number of Permits
Phase II Cities	161
Townships	25
Non-traditional *	24
Watersheds	8
Counties	13
MNDOT	2
Phase 1 (Mpls. and St. Paul)	2
<b>Total</b>	<b>235</b>

\*Non-traditional MS4s are publicly owned systems at military bases, hospitals, prisons, universities, highways and other thoroughfares.



# Industrial Stormwater

- Public or private operators of industrial facilities identified in federal regulations by Standard Industrial Classifications (SICs) or narrative description
- MN industrial general permit currently under development
- EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), [http://www.epa.gov/npdes/pubs/msgp2008\\_finalpermit.pdf](http://www.epa.gov/npdes/pubs/msgp2008_finalpermit.pdf)
- Compared to MS4s and Construction, smaller number of generally more defined discharge points
- Pollutants associated with specific industry type
- No exposure exclusions



# Construction Stormwater

- EPA estimates that 20 to 150 tons of soil per acre are lost every year to stormwater runoff from unstabilized construction sites
- Federal Phase I program in 1990 requiring NPDES permits for activities disturbing > 5 acres; first Phase I permit issued by PCA in 1994
- Federal Phase II program in 1999 requiring NPDES permits for activities disturbing > 1 acres; first Phase II permit issued by PCA in 2003 and reissued in 2008
- Discharges typically come from large areas of exposed and unstabilized soil
- Primary concerns are for sediment and erosion control during construction and that permanent stormwater treatment be provided post construction





# MPCA Stormwater Program



**Municipal**



**Construction**



**Industrial**

Phase I	Phase II
Minneapolis & St Paul Municipal Individual Permits	233 permittees for cities, townships, counties, watershed districts + MNDOT, universities, prisons, military, etc.
Disturbing > 5 acres: ~ 900 permittees	Disturbing > 1 acre: ~ 2,500 permittees
10 Categories Industrial Activity: ~ 1,300 permittees	Allows more no exposure exclusions. Municipally owned industrial facilities (Hwy shops) now require permit coverage



# Addressing nondegradation through stormwater general permits

- Goal
  - Fulfill CWA and regulatory antidegradation requirements to protect individual receiving waters, yet issue permit coverage in a timely, efficient and consistent manner
- Challenges (at least some of them...)
  - Determination of maintenance or degradation of a water resource
  - Providing for public participation
  - Impacts to ORVWs
  - Decision process: how, when and where demonstration and review may occur



# Determination of maintenance or degradation of water resource

- Establishment of baseline conditions
  - Used to define “new” and “expanded” discharges, which typically will trigger tier 2 review or other regulatory action
  - Current rules use dates on which rules were adopted to establish baseline conditions (1984 and 1988)
  - For high-quality waters (tier 2 protection), used to measure the increment of water quality to be maintained
  - Typically based on monitoring and/or modeling
  - May be resource-intensive
- BMP-based approach for maintenance of water quality
  - Implementation and management of control measures to maintain resource
  - Typically does not monitor impacts to receiving waters
  - Maintenance of water resources needs to be demonstrated
  - May not address restoration of previously un-permitted use of assimilative capacity



# Minn. R. 7050.0185 – All Waters, “new” and “expanded” discharges

- A new discharge is one that was not in existence before January 1, 1988, while a expanded discharge is a discharge that “changes in volume, quality, location, or any other manner after January 1, 1988, such that an increased loading of one or more pollutants results. In determining whether an increased loading of one or more pollutants would result from the proposed change in discharge, the agency shall compare the loading that would result from the proposed discharge with the loading allowed on January 1, 1988.”



# Determination of maintenance or degradation of water resource (continued)

- Establishing “parameters of concern”
  - Use of surrogate or proxy measures
- Characteristics of receiving water
  - Level of protection
  - Natural background
- Use of thresholds (significant impacts) to trigger regulatory action
  - Should the concept of “significant impacts” be applied to stormwater activities? How?
  - How would cumulative impacts be accounted?
  - Specified where (rule, permit, guidance) and to what detail?

# Minn. R. 7050.0185 – All Waters, “significant” discharges

- Defines a significant discharge as a new or expanded discharge greater than 200,000 gallons per day to any water (other than a Class 7 water) or a discharge that results in an increase of a toxic pollutant by greater than one percent over the baseline quality.

# Public Participation in Tier 2 Decisions

- 40 § CFR 131.12 (a)(2)
  - Requires public participation in the decision to lower water quality
- Water Quality Standards Handbook
  - Suggests holding public hearings, or providing public notice and the opportunity for the public to request a hearing
- Minn. R. Chapter 7001.0110 Permits and Certifications - Public Comments
  - Allowance for submittal of written comments on the application or on the draft permit, and for submittal of a petition for a public informational meeting or a contested case hearing on the application.





# Public Participation in the Courts

- MN Court of Appeals ruling (2003)
  - Required the MPCA to provide public notice and opportunity for hearing on each SWPPP for MS4s seeking coverage under the general permit.
- District Court - West Virginia (2003)
  - The court found that there was insufficient evidence explaining how Tier 2 review, which is location-specific and requires public participation, could be done under a general permit, rather than when new individual discharges are proposed.
- Ninth Circuit Court of Appeals (2003)
  - Require EPA review of Notices of Intent (NOIs) and make them available to the public or subject to public hearings.



# Outstanding Resource Value Waters

- Federal requirements 40 CFR § 131.12 (a)(3)
  - “Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be **maintained and protected.**”

# Outstanding Resource Value Waters

- Minn. R. Chapter 7050.0180
  - Baseline dates – 1984 and 1988
  - Prohibited category

“No person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste...”
  - Restricted category

“No person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste...unless there is not a **prudent and feasible** alternative...”



# Decision Process – How, when and where should demonstration and review occur

- Review based on:
  - Level of protection
    - Water quality and special designations
  - Potential or risk to degrade
- Review may occur:
  - At time of general permit issuance
  - At time of application
  - On watershed level



# Review based on level (tier) of protection

- Protecting existing uses (tier 1 protection), required at all levels of review
- Protecting high-quality waters (tier 2 protection, protecting assimilative capacity) ...
- Protecting ORVWs (tier 3 protection) ...

# Demonstration and review at time of general permit issuance

- Would include specific criteria with quantitative thresholds designed to maintain water quality
- Identifies processes and control measures under various conditions (type of stormwater activity, receiving water, etc.) to ensure that water quality will be maintained
- Public participation and intergovernmental cooperation requirements met through acquiring input from the public and other government agencies at the time of general permit issuance



# Demonstration and review at time of general permit application

- If a permittee seeking coverage under a general permit can demonstrate that they can meet the general permit requirements they would be considered in compliance with the antidegradation provisions.
- Individual demonstration through the Notice of Intent (NOI)
- WA State general permit example: Requests for coverage are noticed in local paper and agency webpage. Notice includes:
  - List of facilities
  - List of receiving waters
  - Statement the permit conditions will be met
  - Identification of least degrading alternatives
  - Contact name
  - Method by which public comments will be considered



# Demonstration and review at time of general permit application (cont.)

- Where applicant can not meet general permit requirements the applicant provides:
  - identification of alternatives that minimize or mitigate the lowering of water quality,
  - how much the water quality would be lowered, and
  - justification that the lowering of water quality is necessary for social and economic development.

# Adaptive Management Process

- Systematic monitoring of stormwater quality at representative outfalls to characterize discharges in order to appraise effectiveness of control measures and make appropriate changes where needed.
- Some states apply adaptive management to individual stormwater permits
- WA applies adaptive management to construction general permit
  - Use of turbidity benchmarks to evaluate control measures
- Industrial stormwater discharges
  - MN draft permit
- Can systematic “monitoring” of control measures, other than stormwater or receiving water quality monitoring, be used to maintain water quality?



# Watershed Approach

- Possible partnerships with watershed districts, joint powers organizations, and/or other public/private entities
- Tracking trends in water quality
- Cumulative impacts
- Local knowledge and control
- Can not delegate regulatory authority





# Watershed Approach – Pennsylvania example

- Stormwater Management Act (Act 167)
- Counties develop watershed-based stormwater management plans that are implemented by affected municipalities through local ordinances
- PA Department of Environmental Protection (DEP) administers reimbursements and grants to prepare comprehensive watershed plans
- DEP uses a BMP approach that generally encourages infiltration and management of net increases in volume.

# Issue Paper 8 – Discussion Points

1. Given the wide fluctuation of flow and pollutants in stormwater runoff, how could these and other factors such as rainfall intensity, duration and frequency be applied to nondegradation under a general permit?

# Issue Paper 8 – Discussion Points

2 (a) Should the concept of “significant discharge” be applied to NPDES-permitted stormwater activities?

2 (b) Could multiple levels of “significant discharge” (a scaled approach) be used to identify and “sort” activities that have greater potential to impact the quality of receiving waters?

2 (c) If the concept of “significance” is used, how should it be defined for stormwater discharges? Criteria for defining “significance” may include:

- ease in the identification of “significant” activities,
- “parameters of concern” (e.g. specific pollutants, flow, toxics, temperature)
- consistent approach,
- surrogate or proxy measures (e.g. land cover, land use, etc.),
- characteristics of the receiving water,
- and connection between the activity and its impact on the receiving water.



# Issue Paper 8 – Discussion Points

3. Should the concepts of “new discharges”, “expanded discharges” or “baseline conditions” be applied to regulated stormwater activities for Construction, Industrial and for MS4 activities?

(a) If so, how should these terms be defined and applied?

(b) If not, what other concepts/terms could be used to describe stormwater activities that have the potential to impact receiving waters?

(c) Given the thousands of applicants seeking coverage under a general permit it may be impractical to establish baseline conditions based on quality of the receiving water. What are some options for ensuring that water quality does not deteriorate?

# Issue Paper 8 – Discussion Points

4. What methods and criteria should be used in the assessment of stormwater impacts on receiving waters, especially considering the various types of receiving waters? Examples may include volume/flow, particular pollutants (pollutants of concern), surrogate measures, etc.

# Issue Paper 8 – Discussion Points

5. An adaptive management approach evaluates the effectiveness of control measures during and between permit cycles, and makes modifications to those control measures where necessary. Is this a reasonable approach? If so, what tools could be used in the evaluation of control measures?

- current technologies (e.g. best available treatment technologically and reasonably achievable)?
- design standards?
- certification of BMPs or technologies?
- benchmark monitoring?
- other?



# Issue Paper 8 – Discussion Points

6. Federal antidegradation regulation requires public participation be incorporated in a State's decision to lower the quality of high quality waters. One of the challenges of fulfilling this requirement for regulated stormwater activities is reconciling the site-specific nature of antidegradation with the large number of applicants falling under general permits. Where, when and how should public participation occur for the nondegradation component of regulated stormwater activities?

# Issue Paper 8 – Discussion Points

7. Under the current rule for the protection of Outstanding Resource Values Waters (ORVWs), new or expanded point-source discharges are prohibited to the most pristine or sensitive ORVWs. This presents a particular challenge to regulated stormwater activities where stormwater runoff may be necessary for the hydrologic maintenance of an ORVW. What are the best ways to fulfill the federal requirement of “maintaining and protecting” these waters if prohibition of all stormwater discharge may not be desirable?

# Issue Paper 8 – Discussion Points

8. What are some administrative and technical functions where nondegradation could be implemented at the local (e.g. municipal, watershed) level, yet not delegate authority to the local level?





# Next Steps

- Focused meeting on stormwater issues scheduled for March 10th or 13th
- Next general stakeholder meeting scheduled for April
- Additional comments received up to one week after meeting
- Additional opportunities for discussion
- Nondegradation Rulemaking Web Page:
  - <http://www.pca.state.mn.us/water/nondegradation-rule.html>

# Focused Meeting

- Desired Environmental Outcomes
- Policy Issues
- Process Issues