Draft, March 10, 2009

# "Options to Address Important Antidegradation Issues Related to NPDES-Permitted Stormwater Activities", presented at:

## Stakeholder Meeting for Revisions to Rules Governing Antidegradation, Issues Related to Regulated Stormwater Activities, 9:00am – 12:00pm, March 10, 2009, MPCA, St. Paul, MN

"Have-to-haves" (not "have-to-halves")

- Meet federal requirements: CWA, and policy and implementation methods consistent with 40 CFR § 131.12.
- Decisions regarding impacts to water quality must take into account the characteristics of receiving waters.
- Rule that allows for an effective (protective and efficient) permit program. One that allows general permits to be issued with each renewal.

When reviewing the suggested approaches please keep in mind that how these approaches would be implemented will vary depending on the type of regulated stormwater activity.

| **Issue** | **Current Approach** | **Suggested Approach(es) for NPDES-permitted Stormwater Activities** |
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| Issue 1. How do we know if water quality will be maintained or impacted (degraded) as a result of a proposed permitted discharge or activity?<br><br>In order to make meaningful antidegradation decisions, we need information on how proposed permitted discharges will impact water quality. | Under current Rules, "new or expanded discharges" are compared to baseline conditions, which are tied to a specific date.<br><br>A comparison is made between the resulting impacts to water quality from a proposed permitted discharge to a baseline condition. The baseline condition is the water quality condition as of the date when rules were adopted which created regulatory control. For the purposes of this discussion these dates are termed "effective dates". Effective dates for ORVWs are either 1984 or 1988 depending on when the ORVW was designated, and the effective date for All Waters is 1988.<br><br>For All Waters, baselines may be adjusted to reflect improvements in water quality when loading to a | ***Option 1. Applicant meets permit conditions***<br><br>Under this approach criteria would be identified in the Rule that each permit program would be required to consider in the development of "permit conditions". When implemented these conditions would ensure that water quality is maintained and antidegradation provisions would be fulfilled. (See Issue 3 for when an applicant cannot meet permit conditions).<br><br>"Permit conditions" may include quantitative thresholds for each specified criterion, prescribed control measures, or a combination of both. The key to this approach is that there must be supporting evidence that "permit conditions" will maintain water quality. |

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| | waterbody is eliminated or reduced. If no data is available to determine baseline conditions or the data collected after the effective date (1988) is of better quality then more recent data may be used in baseline determination.<br><br>Permitted discharges that will impact water quality are “”new or expanded discharges”. These terms are used to describe impacts to water quality that have not previously occurred or have not previously been regulated.<br><br>"New discharge" means a discharge that was not in existence before the effective date (rule adoption: 1988 Nondegradation for All Waters; 1984 or 1988 Nondegradation for ORVWs).<br><br>"Expanded discharge" means a discharge that changes in volume, quality, location, or any other manner after effective date, 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 by the agency on effective date.<br><br>Note: For antidegradation purposes, baselines traditionally refer to the condition of the receiving water. | <u>Quantitative thresholds</u><br>Examples of quantitative thresholds include effluent limits, benchmark values and surrogate measures such as changes in land use or impervious cover. The use of these thresholds provides for flexibility where the applicant determines how the thresholds are met. The Agency would need to some type of review process to ensure that the control measures used to achieve the thresholds are protecting water quality.<br><br><u>Prescriptive control measures</u><br>Examples include BMPs and design standards. One of the challenges of using prescriptive measures is that “one size does not fit all”. Under this approach multiple control measures would need to be developed for multiple situations. The Agency would need to spend considerable effort “up front” in the development of the control measures. However, the application review process would be less arduous because control measure effectiveness has already been established. The applicant would still need to verify the control measures are designed, constructed and maintained to some specifications.<br><br>***Option 2. Determination of changes in water quality through modeling.***<br>• Modeling used among applicants would need to be prescribed or at least standardized for efficient review process.<br>• Approach may not be practical for applicants seeking coverage under general permits where timely and meaningful |

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| | | review is required.<br>• Appropriate for individual permits?<br>• Where are resources best spent?<br><u>Important criteria</u><br><br>When developing permit conditions or models the following criteria need to be taken into account:<br><br>Level of protection required<br>• Protecting existing uses (tier 1)<br>• Protecting assimilative capacity of high quality waters (tier 2)<br>• Protecting special waters i.e. ORVWs (tier 3)<br>Stormwater type<br>• Municipal (MS4)<br>• Industrial (ISW)<br>• Construction (CSW)<br>Waterbody type<br>• Rivers/streams<br>- size/order<br>• Lakes<br>- size, depth<br>• Wetlands<br>- size, type<br>Parameters of concern<br>• Toxics (ISW, MS4)<br>• Nutrients (MS4, CSW)<br>• Solids/sediments (CSW, MS4, ISW)<br>• Flow/volume (CSW, MS4, ISW)<br>• Temperature (MS4, ISW)<br>• Others?<br>• Surrogates |

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| | | - Impervious cover (MS4, ISW)<br>- Others?<br>Capacity to accomplish the task<br>• Applicant<br>• Agency<br>"Size" of runoff event<br>Proximity to waterbody<br>Site-specific conditions (e.g. size, slope, soil type)<br>_____<br><br><u>Are baselines needed?</u><br><br>Baselines provide a means of measurement; a management tool to record and react to trends.<br><br>If needed, what are the most appropriate baselines? Baselines could be based on:<br>a) effective adoption/designation date (current approach),<br>b) date on which NPDES permit coverage first regulated a particular stormwater discharge,<br>c) existing (current) water quality, or<br>d) pre-settlement or "natural" conditions.<br><br>Baseline conditions are typically thought of in terms of water quality conditions. Obtaining adequate water quality information, either current or previous conditions, may be unrealistic, especially for individual applicants under a general permit.<br><br>Can surrogate measures, such as changes in land use or impervious cover, be used? |

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| Issue 2. How will we ensure water quality is being maintained? | Discharge Monitoring Reports (DMRs) from wastewater treatment facilities.<br>Compliance with stormwater permit requirements.<br>Ambient water quality monitoring. | An adaptive management approach used to verify that water quality is not being degraded.<br>Options:<br>1. Benchmark monitoring of control measures (effectiveness monitoring).<br>2. Validation that control measures are designed, constructed and maintained to some specification.<br>3. Monitoring of receiving waters under certain conditions (examples may include individual permits, specially-protected waters such as ORVWs, etc.).<br>4. Combination of the above.<br>5. Other. |
| Issue 3. What triggers tier 2 review?<br><br>Antidegradation review is conducted when a proposed activity will lower water quality in a high quality water. A review may be triggered when the proposed activity is above a pre-determined threshold or level of significance. | "Significant discharge" = > 200,000 GPD, or toxics > 1% over baseline<br><br>Under the current "All Waters" approach review is required when the discharge is deemed to be a "significant". "Significant discharge" means:<br>(1) a new discharge of sewage, industrial, or other wastes greater than 200,000 gallons per day to any water other than a class 7, limited resource value water; or<br>(2) an expanded discharge of sewage, industrial, or other wastes that expands by more than 200,000 gallons per day and that discharges to any water other than a class 7, limited resource value water; or<br>(3) a new or expanded discharge containing any toxic pollutant at a mass loading rate likely to increase the concentration of the toxicant in the receiving water by greater than one percent over the baseline quality.<br>This determination shall be made using:<br>• data collected from the receiving water or | ***A step-wise approach to determine the need for individual review.***<br><br>Step 1. Those discharges that are not required to obtain permit coverage will not need to undergo any type of antidegradation review.<br><br>Step 2. For permitted discharges, if the permit conditions can be met no individual antidegradation review would be required. However, to fulfill the site-specific nature of antidegradation, the applicant would need to provide information regarding:<br>• The type and scale of activity<br>• The receiving water(s)<br>• How antidegradation provisions specified in the permit will be satisfied<br><br>Step 3. For those permitted discharges that cannot meet permit conditions, the applicant may |

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| | from a water representative of the receiving water;<br>• the entire 7Q10 flow of the receiving water as defined in part 7050.0130, subpart 3; and<br>• a mass balance equation that treats all toxic pollutants as conservative substances.<br><br>If the discharge is sewage, the flow rate used to determine significance under this part is the design average wet weather flow for the wettest 30-day period. For discharges of industrial and other wastes, the flow rate to be used is the design maximum daily flow rate. In determining the significance of a discharge to a lake or other nonflowing receiving water, a mixing zone may be established. | demonstrate through modeling assessments how water quality will be otherwise maintained. In addition to the information supplied above the applicant would need to provide an analysis of reasonable non-degrading alternatives.<br><br>Step 4. For discharges that can not meet the permit requirements and where there are no reasonable non-degrading alternatives, the application would require individual review. In addition to the information supplied above, the applicant would need to provide the following:<br>• Reasonable minimally-degrading alternatives<br>• Impacts to the quality of the receiving water (e.g. loading rates, use of assimilative capacity)<br>• Justification for important social or economic development |
| Issue 4. Public participation in the review of proposed permitted discharges that would lower water quality in high-quality waters.<br><br>In particular the need to identify how the public participation requirement is met for individual applicants under a general permit. | Minn. R. 7050 "The commissioner shall provide notice and an opportunity for a public hearing in accordance with the permit requirements in chapter 7001 before establishing reasonable control requirements for a new or expanded significant discharge."<br><br>Public participation process for general permits addressed under Minn. R. 7001.0110 Public comments. (Subpart 1. Submission of written comments): "During the public comment period established in the public notice of an agency permit, an interested person, including the applicant, may submit written comments on the application or on the | ***The opportunity for public participation or review may occur at various points in the permitting process.***<br><br>Public participation at time of general permit issuance in the review of permit conditions. Will the permit conditions maintain water quality? This essentially would be a review of non-degrading alternatives or control measures.<br><br>Public participation at time of application is a cursory review where the applicant verifies that permit conditions will be met. The applicant provides the following information: |

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| | draft permit. If the subject of the draft permit and public notice is the modification of a permit, these comments must be limited to the portion of the permit proposed to be modified. During the public comment period, the person may also submit a petition for a public informational meeting or a contested case hearing **on the application**. Petitions for an informational meeting must meet the requirements of part 7000.0650, subpart 4. Petitions for a contested case hearing must meet the requirements of part 7000.1800. | • Receiving water<br>• Type and scale of activity<br>• Reference to general permit conditions<br>• How permit conditions will be met (which non-degrading alternatives/control measures were selected)<br>• Contact information<br>This information would be provided on an Agency Web page and/or local newspaper for public review.<br><br>Public participation would also occur when an applicant is unable to meet permit conditions and where modeling assessments indicate that water quality will be lowered. The public would have the opportunity to comment on the analysis of minimally-degrading alternatives and the justification for important social and economic development. |
| Issue 5. Protecting Outstanding Resource Value Waters (ORVWs)<br><br>40 § CFR 131.12 (a)(3) requires that "(w)here 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 | For ORVW – Restricted waters, 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.<br><br>For ORVW – Prohibited waters, no person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste. Loads are frozen at baseline conditions. | ***Options for ORVW – Restricted waters***<br><br>Option 1. Applicant would not be allowed coverage under a general permit. Applicant would need to determine how water quality will be impacted and demonstrate that there are no prudent or feasible alternatives. If the waterbody is a high quality water, tier 2 review including public participation, intergovernmental cooperation and a demonstration of the need for social or economic development.<br><br>Option 2. Applicant would be allowed coverage under a general permit but would be required to meet stricter permit conditions. |

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| quality shall be **maintained and protected.**"<br><br>Stormwater discharges are naturally-occurring events. The elimination of stormwater flow would not be realistic or desirable.<br><br>Tier 2 protection still applies to ORVWs where they are of high quality (this may come up with allowing impacts to ORVWs-Restricted waters, even when they met the "prudent and feasible" test. | | ***Options for ORVW – Prohibited waters***<br><br>Any applicant proposing an activity that would impact an ORVW – Prohibited water would not be allowed coverage under a general permit. In order to demonstrate that water quality will be maintained and protected the following options are provided:<br><br>Option 1. Maintain same conditions (hydrology, pollutant loading) as baseline through prescribed, protective, "super" BMPs.<br><br>Option 2. Maintain same conditions (hydrology, pollutant loading) as baseline through the meeting prescribed, protective, "super" quantitative thresholds (effluent limits?). With this approach, the permit defines what quantitative thresholds must be met and the applicant decides how those thresholds will be met.<br><br>Option 3. Require special monitoring requirements, either of the receiving water or for BMP effectiveness.<br><br>Option 4. Use an approach similar to Illinois, where there is an exemption for "existing site stormwater discharges that comply with applicable federal and State stormwater management regulations, and that maintain designated and existing uses."<br><br>Option 5. Other, hybrid or combination. |