MISSOURI COALITION FOR THE ENVIRONMENT
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March 18, 2008

Phil Schroeder
Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102

**Re: Proposed Missouri Antidegradation Rule and Implementation Procedure, April 20, 2007**

Dear Mr. Schroeder:

The Missouri Coalition for the Environment ("the Coalition") submits the following comments regarding Missouri's proposed Antidegradation Rule and Implementation Procedure ("Proposed Rules"). We have great appreciation for the effort the Department of Natural Resources (the "Department") has put into drafting the Proposed Rules and the opportunity it has given the Coalition to participate in this process. We also appreciate the Department's stated commitment to comply with its proposed rulemaking schedule and with the "milestone completion dates" set forth in the Joint Stipulation of Modification of Settlement Agreement entered in to by the Coalition and the EPA. We look forward to the completion of the rulemaking as scheduled and to the Department's submission of the revised standards to EPA as required by 40 CFR 131.20, but believe that several provisions of the rule must be clarified in order to provide conformance with the Clean Water Act and a sufficient basis for EPA review pursuant to 33 U.S.C. §1313(c)(3).

To that end, please provide clarification regarding the following issues:

**I. Applicability of Antidegradation Rule and Implementation Procedure Prior to Effective Date of Proposed Amendment**

As written, the Proposed Rules appear to exempt any entity that submits either a construction or an operating permit application to the Department prior to the effective date of the Proposed Rules. *Proposed Rules, p. 34.* As you well know, both state and federal law prohibit such an exemption. *10 CSR 20-7.031(2); 40 CFR 131.12.* The

Department has, on more than one occasion, publicly stated that compliance with antidegradation laws is an existing obligation. We include one of those public statements below:

MR. PHIL SCHROEDER:

5 on antidegradation. I want to remind the Commission
6 that this document that we're presenting to you today
7 doesn't create new rules. It -- what it's intended to
8 do is implement a current rule. That current rule
9 requires that the State of Missouri in its review of
10 permit applications review the necessity for a
11 discharge first; then review the social and economic
12 importance of the activities that are causing the
13 discharge. Those requirements are already existing in
14 our State Rule. And, what we need to do in terms of
15 adopting this document is understand the procedure by
16 which we can do that. I just wanted to make sure
17 that's clear to the Commissioners.
*CWC Hearing 4/20/07, transcript, p. 14.*

As accurately stated by Phil Schroeder, existing law requires an examination of necessity and social and economic importance. EPA simply cannot approve Missouri's Proposed Rules if they do not comply with the state's water quality standards or with the federal Clean Water Act. An exemption of this sort by the state also renders each and every permit for a new or increased discharge subject to legal challenge.

**Responses Needed**:

1. Please verify that the Department will require all permit applicants (including those that apply for a construction or an operating permit prior to the effective date of the Proposed Rules) to comply with both state and federal antidegradation regulations.

2. Please also verify that before allowing any lowering of water quality, the Department will insure that such allowance is necessary and important pursuant to 10 CSR 20-7.031(2) and 40 CFR 131.12.

3. Finally, please clarify how the Department will enforce antidegradation requirements prior to the effective date of the Proposed Rules.

## II. Pollutants of Concern

The Proposed Rules create confusion regarding precisely which pollutants will be included in the antidegradation review. The Proposed Rules define the term "Pollutants of Concern" in two places. On page 7, Pollutants of Concern (POC) include pollutants that "affect beneficial uses(s) in waters of the state. POCs include pollutants that create

conditions unfavorable to beneficial uses in the water body receiving the discharge . . . " On page 15, POCs "include those pollutants reasonably expected to be present in the discharge and for which the assimilative capacity and permissible loads can be reasonable calculated."

Both of these definitions, by connecting the term to beneficial uses and to assimilative capacity, could be interpreted to exclude pollutants that currently lack numeric criteria in Missouri's water quality regulations. How, for instance, does one calculate assimilative capacity for a pollutant that currently lacks a numeric criterion? The method for calculating assimilative capacity on page 22, and the calculations of minimal degradation in Appendix 3 of the Proposed Rules, by relying on a numeric criterion, also appear to support a narrow reading of Pollutants of Concern that impermissibly limits the term to pollutants with numeric criteria.

EPA has commented on the inappropriateness of such a limitation. In its comment letter of February 15, 2007 EPA stated that Pollutants of Concern cannot exclude pollutants that lack specific criteria if those pollutants have the potential to degrade water quality.

Although the Department has publicly stated that the antidegradation procedures apply to "nutrients and sediments and other pollutants that do not have numeric criteria" and that have "the potential to affect a beneficial use," (CWC hearing transcript, 4/20/07, pp. 18-19) the definitions of Pollutants of Concern create uncertainty, necessitating clarification from the Department. Without this clarification, EPA cannot approve the Proposed Rules as written.

**Responses Needed**

1. Please verify that the term "Pollutants of Concern" does not exclude pollutants that have the potential to degrade water quality, but that lack specific numeric criteria.

2. Please state the conditions under which pollutants such as Nitrogen, Phosphorus and sediment, for which no numeric criteria currently exist in Missouri's water quality regulations will be considered pollutants of concern in an antidegradation review.

3. Please state how the "significance" of the proposed degradation will be calculated in an antidegradation review for pollutants that lack numeric criteria.

**III. Tier I Antidegradation Review**

The Proposed Rules appear to violate not only antidegradation regulations, but federal regulations regarding effluent limits as well. There are several places on page 13 of the rules that suggest that additional loadings of Tier I pollutants are permissible. For instance, the second paragraph on page 13 states that "[t]ier 1 reviews allow pollutants to be discharged in accordance with the WQS" *Proposed Rules*, p. 13.

Similarly, the third paragraph on page 13 states that "the water may receive the same [Tier I] pollutants if: 1) the discharge would not cause or contribute to a violation of the WQS." Finally, the following language in the last paragraph of page 13 also suggests that additional loadings are permissible: "prior to allowing any new or expanded discharges of that [Tier I] pollutant . . . " *Id.*

By definition, however, Tier I pollutants are "at, near or violating WQS" *Id.* Thus, a discharge of a Tier I pollutant in accordance with WQS would necessarily prohibit that very discharge. While there may be a few instances where a very small addition of Tier I pollutants would not violate water quality standards, in most cases, an additional loading of a pollutant so close to the water quality criterion would "cause or contribute to a violation of water quality standards" in violation of 40 CFR 122.44(d).

The Department needs to clarify, not only for EPA, but also for the regulated community, which appears so eager to classify pollutants as Tier I, that such increased loadings will be the exception, rather than the norm unless the discharger can meet the water quality criteria at the end of the pipe.

The Proposed Rules also assign tier review levels based on a statistical test that utilizes the 90% confidence interval of the ambient concentrations of a minimum of five data points per pollutant. Tier I review is required where the 90th percentile of the data is greater than 95% of the applicable criterion. In its comment letter of February 15, 2007, EPA advised the Department to provide justification for the selected statistical test. Though the statistical approach has varied somewhat from the earlier draft that EPA commented on, to our knowledge, the Department has not provided justification for this latest approach.

There is also a discrepancy within the Proposed Rules regarding the minimum sample size required for the above analysis. While page 21 requires at least 5 samples, page 41 states that the method "could be used regardless of data set size." The Department should verify that a minimum of five samples will be required for the analysis. Any sample size smaller than five will render the statistical analysis unrepresentative, and, therefore, insupportable. Again, federal and state law require Tier II protection for water quality that exceeds water quality criteria. An unsupportable statistical method that assigns pollutants to tier review levels, and in this case, one that would disproportionately assign pollutants to Tier I review, cannot be approved by EPA.

Finally, the Department should stand firm in requiring data collection (where sufficient data does not already exist) by permit applicants. An under-funded and under-staffed water protection program should not be saddled with this additional burden. Please join us in supporting the premise that the discharge of pollutants is a privilege rather than a right. As such, it is no great burden upon dischargers to collect water quality data that will assist the Department in its efforts to achieve compliance with antidegradation laws.

**Responses Needed**

1. Please verify that additional loadings of pollutants that are at, near or violating water quality criteria will be prohibited without a prior showing that such additional loadings will meet the applicable water quality criteria at the end of the pipe.

2. In the alternative, please verify that additional loadings of pollutants that are at, near or violating water quality criteria will be prohibited without a prior showing that such additional loadings will not cause or contribute to a violation of water quality standards.

3. Please provide the legal and scientific bases for the statistical approach for determining tier review levels. Why the 90th percentile and why 95% of the water quality criterion?

3. Please verify that a minimum of five samples will be required for the statistical analysis set forth in Appendix 2.

**IV. Necessity of Degradation and the Alternatives Analysis**

Without clarification regarding the economic efficiency element of the alternatives analysis, the Proposed Rules could be interpreted in such a way as to render them contrary to both federal and state law. Specifically, the rules provide that alternatives greater than 120 percent of the base costs "are generally considered to not be economically efficient." *Proposed Rules, p. 26.* The rule provides no basis whatsoever for this generalization, and we have good reason to believe (because we were told so) that the permit reviewers will simply reject all alternatives that price out at more than 120% as unreasonable.

The Department cannot simply presume that an alternative that costs more than 120% of base cost is economically inefficient. Federal and state law require a showing of necessity before water quality can be degraded. *40 CFR 131.12 and 10 CSR 20-7.031(2).* In other words, the state must demonstrate that degradation is necessary, because no reasonable alternative exists. An unsupported presumption of unreasonableness, however, fails to satisfy the necessity element of antidegradation law. If EPA allows the state to make such presumptions, it will render the "necessary" element of antidegradation meaningless.

EPA approval of Missouri's 120% presumption, without clarification, would be contrary to both the meaning and the intent of the federal antidegradation policy and, therefore, subject to judicial challenge. The Proposed Rule allows for a rebuttal of the 120% presumption-of-inefficiency where "evidence exists to the contrary." *Proposed Rules, p. 26.* The rules also list several factors "that might warrant consideration of alternatives of greater costs (above 120 percent)." *Id.* Verification from the Department

that the alternatives analysis will in each case include consideration of alternatives that "optimize the balance between water quality benefits and project costs" (Proposed Rules, p. 25) and that are also "affordable" by the applicant as defined on pages 27-28 of the Proposed Rules is required before EPA can approve this provision.

**Responses Needed**

1. Please verify that the Proposed Rules do not allow rejection of an alternative based simply on a cost calculation that exceeds 120% of the base cost.

2. Please verify that the Department will, in each case, examine both water quality benefits and project costs for various pollution treatment alternatives in making its determination of reasonableness and necessity.

**V. General Permits**

While general permits are mentioned on pages 35 and 36, the Proposed Rules are completely void of procedures that describe how antidegradation will be implemented on general permits. As you know, an earlier draft contained several bullets that clearly set forth antidegradation implementation procedures for new or expanded general discharges. These bullet points would have provided a method by which Missouri could have ensured that general permits comply with federal and state antidegradation requirements. Instead, the Proposed Rules simply state "General Permits will be addressed as they expire after the effective date of the Missouri Antidegradation Rule and Implementation Procedure." *Proposed Rules, pp. 35-36.*

We think the Department knows that this language, standing alone, is insufficient to meet federal requirements, including the requirement to provide sufficient public notice. The following is an excerpt from Phil Schroeder's testimony before the Clean Water Commission on April 20, 2007:

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9 implement antideg to general permits. Without that [the
infamous bullets] in
10 there, there's really not much to state it other than
11 we'll address it when the time comes and I'm not sure
12 that that's sufficient to be able to reassure those
13 that we're going to do that job in some structured way.
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That the Department allowed those bullets to be deleted without objection is highly disappointing.

In commenting on an earlier draft, EPA asked for clarification regarding how the Department intends to conduct Tier II review of new or expanded general discharges. *EPA Comments 2/15/07, E-8.* Instead of providing what was asked for, the Department readily agreed to delete the bullet points that would have provided the requested clarity.

By failing to provide clarification regarding general permits and other issues, the Department has created the impression that it believes it can simply ignore EPA's comments. We hope this does not continue to be the case. We also believe it will be difficult for EPA to defend an approval of the Proposed Rules without a response in the record that addresses both the agency's comments and the requested responses below.

**Responses Needed**:

1. Please state how the Department will perform an alternatives analysis and socioeconomic review on general permit templates.

2. Please state how the Department will ensure that existing general permits are not significantly degrading water quality.

3. Please state how the Department will account for cumulative impacts to water quality caused by general permits over time.

4. Please state how the Department will ensure that both individual and cumulative impacts from general permit discharges are insignificant.

5. Please state whether the Department will require individual permits (and the associated antidegradation review) for an activity that poses a risk of causing significant degradation.

**VI. Unclassified Waters**

While the Proposed Rules state on page 10 that "all waters of the state" are subject to those rules, and on page 22 that "this antidegradation implementation procedure applies to all waters of the state regardless of use designations or water classification," the rules' allowance for both individual and cumulative de minimis exemptions from Tier II antidegradation review and the linking of Pollutants of Concern to beneficial uses create confusion as to how a permit reviewer will conduct an antidegradation review on a discharge to an unclassified stream.

EPA noted the uncertainty in its comment letter of February 15, 2007, and asked the Department to clarify the antidegradation review process for unclassified waters. *EPA's comments 2/15/07, E-2.* In particular, EPA stated that "it is difficult to understand how assimilative capacity will be calculated and, as such, how the potential for degradation will be evaluated." *Id.* Unfortunately, the Proposed Rules fail to address these issues leaving EPA with an insufficient basis for approval without further direction from the Department.

**Responses Needed**

1. Please describe how an antidegradation review on a new or expanded discharge to an unclassified segment will be conducted

2. Please confirm that new or expanded discharges to unclassified streams that will significantly lower water quality will be prohibited without a prior showing of necessity and socioeconomic importance.

## VII. 401 Certifications

The Proposed Rules presume that the state's 401 certification program and the Army Corps of Engineers' 404 permitting process are managed in such a way as to prohibit significant degradation. According to page 36 of the rules, "applicants who fulfill the terms and conditions of applicable §404 permits, and the terms and conditions of the department's corresponding §401 water quality certification, will have fulfilled the antidegradation requirements." The problem with this approach, however, is that neither of these permitting programs is examining existing in-stream water quality before authorizing a discharge. As such, it is impossible for the Department to ensure that significant degradation will not in fact occur through simple compliance with permit conditions.

The Proposed Rules also presume that because the 404(b)(1) Guidelines require a permit applicant to perform an alternatives analysis and to chose the least environmentally damaging practicable alternative, that all 404 permitted discharges will satisfy antidegradation requirements. It is well known that the Army Corps of Engineers commonly authorizes projects that are not in fact the least damaging practicable alternative. Regardless, the Department cannot simply presume that the Army Corps of Engineers is requiring alternatives analyses that conform to state and federal antidegradation regulations without some sort of oversight and verification.

And what of the socioeconomic importance analysis required by 40 CFR 131.12(a)(2)? There is no comparable requirement in the 404(b)(1) guidelines and the state cannot waive this critical component of the antidegradation review.

We do not see how EPA can approve these rules without a demonstration by the Department that it will not issue 401 certifications without a prior showing of insignificance or, where discharges are shown to be significant, without a verification that 1) the 404(b)(1) alternatives analysis conforms with the state's antidegradation implementation procedures and 2) the proposed discharge is of demonstrated social or economic importance.

**Responses Needed**

1. Please explain how EWQ and "minimal degradation" will be determined in the 401 certification process.

2. Please state how social and economic importance will be demonstrated in the state's 401 certification process.

3. Please explain how the state will ensure that 401 certifications will allow only degradation that has been demonstrated to be "necessary."

## VIII. Temporary Degradation

The Proposed Rules allow a complete exemption from Tier II review for those discharges that will result in "temporary degradation." *Proposed Rules, p. 16.* Although an exemption from Tier II review for temporary degradation is contemplated in EPA Region VIII guidance, according to the EPA, the exempted degradation must be temporary *and limited. United States EPA Region VIII Guidance: Antidegradation Implementation (1993), p. 11.* Region VIII suggests such exemptions be limited to impacts that lower the ambient concentration of a discharged pollutant by less than 5% *and* are of less than one month duration. *Id.*

Unfortunately, the Proposed Rules fail to adequately define temporary degradation and lack any specific limitations regarding impacts to water quality and the duration of those impacts. Without further clarification of the meaning of "temporary degradation," the potential for abuse is very high. The rules also lack a basis for EPA approval because, as written, anything goes. Although the definition includes a list of factors to consider when making a temporary degradation decision, the permit writer has been provided with no guidance or ascertainable criteria regarding how to interpret or apply those factors. We note that while temporary degradation is permissible in Tier III waters, the Proposed Rules allow such degradation only upon a showing that impacts will in fact be temporary. We ask for clarification that the same showing will be required before temporary discharges are granted an exemption from Tier II review.

**Responses Needed**

1. Will the Department require a demonstration on the part of the discharger that water quality degradation will in fact be temporary before exempting a discharge from Tier II review?

2. If so, what kind of showing of temporary impacts will be required?

## IX. CSO/SSO Exemptions

We find it very curious that the Proposed Rules exempt CSO and SSO treatment byproduct discharges and any CSO or SSO control project that results in a net decrease in the related pollutant loadings. *Proposed Rules, p. 15.* EPA apparently found this curious as well and requested an explanation from the Department in their comments of February 15, 2007. *EPA Comments 2/15/07, E-5.* Forgive us, but these exemptions reek of favoritism to the St. Louis Metropolitan Sewer District and are insupportable without a showing by the Department that such discharges will in fact result in "minimal degradation" as defined by Missouri's implementation procedures. A simple net decrease in CSO or SSO pollutant discharges is not per se insignificant, it is simply a decrease.

**Responses Needed**

1. Please provide the scientific and legal bases for exempting CSO and SSO treatment byproduct discharges from Missouri's Tier II antidegradation requirements.

2. Please provide the scientific and legal bases for exempting CSO or SSO control projects that result in a net decrease in pollutant loadings from Missouri's Tier II antidegradation requirements.

## X. Calculations of Minimal Degradation

The Proposed Rules define minimal degradation as "the reduction of the facility assimilative capacity for any pollutant by less than 10 percent as a result of any single discharge and the reduction of the segment assimilative capacity for any pollutant by less than 20 percent . . . ." *Proposed Rules, p. 6.* The example calculations for minimal degradation provided in Appendix 3, however, do not accurately reflect this definition, as each example calculates minimal degradation using only the chronic criterion of the selected pollutant. An accurate calculation of assimilative capacity must utilize both the chronic and the acute criterion for each pollutant of concern and the appropriate permit effluent limit for both of these criteria. For instance, one calculation should be performed using the acute criterion and the daily effluent limit and a second calculation should be performed using the chronic criterion and the average maximum effluent limit. The percent of FAC for each of these calculations should be below 10% before the proposed discharge can be considered to be "minimal degradation" and therefore exempt from Tier II review.

**Response Needed**

1. Please state whether the Department will perform (or require the discharger to perform) minimal degradation calculations using both the acute and the chronic criteria (where available) with the appropriate corresponding effluent concentrations for each Pollutant of Concern.

Thank you for working with us throughout this process. We look forward to your responses.

Sincerely,

Kim A. Knowles

Cc:
William "Art" Spratlin
Director
Waters, Wetlands & Pesticides
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901 N. 5th Street
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**Phil Schroeder /WPCP/DEQ/MODNR**
03/19/2008 04:35 PM

To Donna Menown/WPCP/DEQ/MODNR@MODNR
cc
bcc
Subject Fw: antideg comments from MCE

----- Forwarded by Phil Schroeder/WPCP/DEQ/MODNR on 03/19/2008 04:35 PM -----

**"Kim Knowles" <kknowles@moenviron.org>**
03/19/2008 04:12 PM
Please respond to kknowles@moenviron.org

To phil.schroeder@dnr.mo.gov
cc kknowles@moenviron.org
Subject antideg comments from MCE

Hi Phil,
Attached please find the Coalition's comments regarding the proposed antidegradation rules.
Thank you,
Kim

Kim Knowles
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2008_03_18_Antideg_MCE_DNR.pdf

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STATE OF MISSOURI

Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

April 15, 2008

Ms. Kim A. Knowles
Missouri Coalition for the Environment
6267 Delmar Boulevard 2E
St. Louis, MO 63130

Dear Ms. Knowles:

Thank you for your letter transmitting comments from the Missouri Coalition for the Environment (the Coalition) dated March 18, 2008, regarding the proposed amendment to Missouri's Code of State Regulations at 10 CSR 20-7.031(2). This proposed rule amendment pertains to the state's antidegradation policy and incorporates, by reference, the Missouri Antidegradation Rule and Implementation Procedure (AIP) adopted by the Missouri Clean Water Commission (CWC) on April 20, 2007.

The Coalition requests verification and/or clarification on the following points to which the department provides a response:

**I. Applicability of antidegradation rule and implementation procedure prior to the effective date of proposed amendment.**

1. Please verify that the department will require all permit applicants (including those that apply for a construction or an operating permit prior to the effective date of the Proposed Rules) to comply with both the state and federal antidegradation regulations.
2. Please also verify that before allowing any lowering of water quality, the Department will insure that such an allowance is necessary and important pursuant to 10 CSR 20-7.031(2) and 40 CFR 131.12.
3. Finally, please clarify how the Department will enforce antidegradation requirements prior to the effective date of the Proposed Rules.

**Department Response**: The department is already working with applicants on preparing for implementation of the AIP. The current rule prohibits the department from requiring the specific steps of the AIP until the new rule is in effect; however, most permit holders should be aware of the proposed August 2008 effective date and be taking steps to ensure that applications for construction permits following that date adhere to the new requirements. The department is also holding workshops with permit holders to provide the best possible assurance that full implementation of the procedures will be achieved upon the effective date of the rule amendment.

The portions quoted by the Coalition from the AIP (Page 34) was a reminder that the current state rule prohibits the department from requiring the steps outlined in the AIP until these procedures are promulgated into the rule. Perhaps it would have been clearer if the sentence read: "The department will not require an antidegradation review ***in accordance with these***

***procedures*** for any proposed new or expanded discharges for which an entity submits an application for a construction or an operating permit prior to the effective date of these procedures".

The portion of the minutes of the April 20, 2007 CWC meeting quoted by the Coalition were meant to remind the CWC and anyone reading the AIP that two requirements exist when establishing state standards satisfying the federal antidegradation policy at 40 CFR 131.12. States must develop statewide antidegradation policies *and* identify the methods for implementing such policies. The department developed an antidegradation policy many years ago, through the CWC, which was promulgated into the code of state regulations (CSR) at 10 CSR 20-7.031(2). The department wanted to be clear that no changes were being proposed to the existing policy. Providing that distinction was intended only to keep the discussion properly focused on the second requirement, i.e. the development of an *implementation* procedure and to not invite reopening the policy which has already been approved by the Environmental Protection Agency (EPA).

As you probably know, the department's current decisions on permit applications relative to the antidegradation rule are not guided by any written procedure, such as the AIP; therefore, past and current decisions were and are currently based strictly on each individual's reading of the antidegradation policy as stated in the rule. Each permitting office relies on the judgment of their staff. This includes each of the department's regional offices which rely on occasional advice from the central office. Furthermore, only occasionally are the details of these decisions found in fact sheets or water quality review sheets; therefore, an explanation of the current permitting decisions relative to the antidegradation rule would require specific inquiries with each permitting office on a substantial group of past permits involving increased discharges. The department does not have the available time or resources to make this level of review or to provide a detailed response prior to the deadline for providing responses to your comments on this rulemaking. Also, the department sees no viable way to provide instant and useable guidance to all permitting offices short of requiring use of the AIP. As you know, that action is prohibited by rule where it requires the AIP to be "effective", i.e. in rule, before implementation. We hope that instead of a detailed response, you will accept this general response and assist the state in ensuring the full implementation of these new procedures that will be effective in only a few months.

## II. Pollutants of Concern

1. Please verify that the term "Pollutants of Concern" does not exclude pollutants that have the potential to degrade water quality, but that lack specific numeric criteria.
2. Please state the conditions under which pollutants such as Nitrogen, Phosphorus and sediment, for which no numeric criteria currently exist in Missouri's water quality regulations will be considered pollutants of concern in an antidegradation review.
3. Please state how the "significance" of the proposed degradation will be calculated in an antidegradation review for pollutants that lack numeric criteria.

**Department Response**: The department will require a Tier 2 antidegradation review on pollutants for which there are no numeric criteria if an assimilative capacity within the receiving water exists and if a pollution threshold (numeric translator) can be reasonably developed. It is reasonable to expect applicants to explore a range of pollution control alternatives for these pollutants when sufficient science is available to understand the effects that these pollutants have on water quality and the attainability of beneficial uses. Sufficient science is available to understand the effects of nutrients and sediments on aquatic life, and the current science provides a reasonable basis for calculating waste load allocations for these

pollutants on point source discharges. Examples of these calculations are found in several recent Total Maximum Daily Loads written by the department and EPA.

The effects of emerging pollutants such as pharmaceuticals, endocrine disruptors and caffeine are still not understood well enough to establish a meaningful threshold or reliable process for their control. These emerging chemicals will be included into the antidegradation reviews as our understanding improves on the pollutant thresholds critical to protecting water uses and on the wastewater treatment processes effective for their control.

An administrative record will be created for each application involving a new or expanding discharge. The record may consist of either a narrative within the Fact Sheet or Water Quality Review Sheet, or as part of the information provided by the applicant. The record will document how the antidegradation policy applies to each identified pollutant of concern. Furthermore, the record will provide a basis for determining the necessity to discharge and the importance of the discharging activity to socio-economic development. This administrative record will be available for public review when a public notice is made of a draft permit as required by the current permitting procedures.

## III. Tier I Antidegradation Review

1. Please verify that additional loadings of pollutants that are at, near or violating water quality criteria will be prohibited without a prior showing that such additional loadings will meet the applicable water quality criteria at the end of the pipe.
2. In the alternative, please verify that additional loadings of pollutants that are at, near or violating water quality criteria will be prohibited without a prior showing that such additional loadings will not cause or contribute to a violation of water quality standards.
3. Please provide the legal and scientific basis for the statistical approach for determining tier review levels. Why the $90^{th}$ percentile and why the 95% of the water quality criterion?
4. Please verify that a minimum of five samples will be required for the statistical analysis set forth in Appendix 2.

**Department Response**: New or expanded discharges will not be allowed under any circumstances if they create a reasonable potential for exceeding water quality standards. In that Tier 1 pollutants are "at, near or in violation" of the numeric water quality criteria (i.e. where no assimilative capacity remains), an additional discharge of these pollutants would be largely restricted to unique conditions. One possible scenario may be in a trading situation where the pollutants are reduced in one segment to offset the increase of the same pollutant in a different segment of the same waterbody. The redistribution of pollutants in this manner may be part of an effort to move the pollutant to less a sensitive segment (e.g. away from mussel beds), or to accommodate a longer range plan for reducing pollutants within a watershed, such as when individual treatment facilities are connected to a centralized system.

Any water body that presents little or no assimilative capacity for additional pollutants will be protected through a Tier 1 review. The review must assure that the new or expanded discharge does not rely on the assimilation of a pollutant in order to achieve a water quality standard. An example where this may be true is where the concentration of the pollutant of concern in the discharge meets the water quality criterion at the outfall; however, the department must also consider if an increase in pollutant *mass* (total amount versus concentration) would pose a reasonable potential for a standards violation.

The statistical factors used in Appendix 2 are simply examples. The purpose of Appendix 2 is to illustrate how data may be evaluated in the process of determining existing water quality (EWQ). Each situation may require a different approach based on the actual levels of pollutants found. Also, data needs may be affected by the variation in analytical results and type of discharges occurring (storm water versus dry-weather releases). The department encourages applicants to discuss sampling plans in enough advance of the need for permit action in order to ensure a sufficient collection of representative data. When EWQ determinations are integral to an antidegradation review, the data supporting the determination will be available for pubic review during the public notice of the draft permit. The department invites public participation in the review of the EWQ data as added assurance of making a proper decision on allowing degradation.

## IV. Necessity of Degradation and the Alternatives Analysis

1. Please verify that the Proposed Rules do not allow rejection of an alternative based simply on a cost calculation that exceeds 120% of the base cost.
2. Please verify that the department will, in each case, examine treatment alternatives in making its determination of reasonableness and necessity.

**Department Response**: A "cost effective and reasonable" alternative is defined in the AIP as an alternative that is selected through a properly conducted alternatives analysis. Such analysis determines an appropriate alternative by examining a range of pollution control options and selecting the one that provides the greatest pollution control that is also practical, economic efficient and affordable. The use of these three measures (practicability, economic efficiency and affordability) ensures that the selected alternative will be chosen through a structured analysis that considers the factors that determine the most cost effective and reasonable options for reducing pollution.

The 120% threshold of the current base operating costs is a "rule of thumb" for determining the economic efficiency of an alternative. A higher threshold may be appropriate if the water body receiving the discharge has a unique or an especially high value. The department would support a higher threshold for economic efficiency when the public prefers preserving the quality of water over keeping their cost for wastewater treatment below 2% of their median household income. The department will examine available water body information that may justify a close examination of the thresholds used in the alternative analysis. Information may include recorded locations of sensitive aquatic species, scientific significance, and special recreational uses. The department also encourages public review and comment on draft permit actions to identify other unique situations that justify special attention.

## V. General Permits

1. Please state how the department will perform an alternatives analysis and socio-economic review on general permit templates.
2. Please state how the department will ensure that existing general permits are not significantly degrading water quality.
3. Please state how the department will account for cumulative impacts to water quality caused by permits over time.
4. Please state how the department will ensure that both individual and cumulative impacts from general permit discharges are insignificant.
5. Please state whether the department will require individual permits (and the associated antidegradation review) for an activity that poses a risk of causing significant degradation.

**Department Response**: As the templates on general permits (GPs) are reopened for renewal, the department will identify within the applicability section of the GP those activities that qualify for the GP and for which new or expanded discharges are justified by the AIP. Following discussions with prospective applicants, a basis will be provided as to why these activities are generally considered as necessary for important socio-economic development. The department will also identify Best Management Practices (BMPs) and/or effluent limits for typical discharge scenarios that satisfy the three parts of the alternative analysis, i.e. practicability, economic efficiency and affordability. Those BMPs and/or limits must meet the criteria for the selection of a pollution control alternative appropriate for the type of discharging activity proposed. Because GPs contain standard terms and conditions, the identified BMPs and/or limits will be required at all permitted sites involving the type of activity that qualifies for the GP. The basic premise is that the use of these standard BMPs and/or limits will represent the highest level of pollution control generally accepted as practicable, economically efficient and affordable for the type of activity causing the discharge. The administrative record created at the time a GP template is redeveloped must also provide the documentation that, for the types of discharge activities covered by the GP, no other cost-effective and reasonable alternatives are available to prevent or lessen a discharge from the activity covered by the GP.

The AIP does not require that GPs hold degradation to insignificant levels. Instead, the AIP requires that degradation be controlled to the extent practicable, economically efficient and affordable. The issuance of GPs that require pollution control determined in this manner and that are restricted to an identified group of discharge activities known to support important socio-economic development, will only result in degradation that is justified in accordance with the AIP.

Any group of activities for which a standard set of pollution controls cannot be identified within the terms of a GP to satisfy the requirements of an alternatives analysis will not be covered by a GP. These activities will be required to obtain a site-specific permit as well as perform an antidegradation review during each permit application process.

## VI. Unclassified Waters

1. Please describe how an antidegradation review on a new or expanded discharge to an unclassified segment will be conducted.
2. Please confirm that new or expanded discharges to unclassified streams that will significantly lower water quality will be prohibited without a prior showing of necessity and socio-economic importance.

**Department Response**: The AIP affords the same level of review on unclassified waters as it does for classified waters; however, the water quality criteria are different (chronic criteria versus acute criteria) and therefore the calculation of assimilative capacity will reflect these differences. Otherwise, the reviews between unclassified and classified waters should be identical. The only scenario for which an antidegradation review may not be conducted on an unclassified water is where an aquatic life use is demonstrated as unattainable through a Use Attainability Analysis and the proposed discharge has no reasonable potential for lowering water quality significantly in the first downstream classified segment.

## VII. 401 Certifications

1. Please explain how EWQ and minimal degradation will be determined in the 401 certification process.

2. Please state how social and economic importance will be demonstrated in the state's 401 certification process.
3. Please explain how the state will ensure that 401 certifications will allow only degradation that has been demonstrated to be "necessary".

**Department Response**: Generally, the requirements for project design and completion specified by 404(b)(1) Guidelines Part 230.10 contain elements that satisfy EPA's requirements for antidegradation reviews at 131.12(a)(2). These federal requirements ensure that each project undergoes an alternative analysis and considers practicable mitigation of impact on aquatic ecosystems. Each project is reviewed through a sequence of questions aimed at ensuring the least amount of stream degradation possible. Example questions include: 1) Can adverse impact to the aquatic ecosystem be avoided through the selection of a least environmentally damaging practicable alternative?; 2) Can any unavoidable impacts be minimized through appropriate and practicable measures?; and 3) Can any unavoidable adverse impacts, which remain after minimizing measures have been taken, be compensated through appropriate and applicable measures?

The federal guidance also further states that no discharge shall be permitted if there is a practicable alternative which would have less impact on the aquatic ecosystem. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics.

Therefore, each 401 certification provides assurance that each project is designed following an alternatives analysis and an examination of available methods to mitigate impact. If these provisions are met, all projects receiving a 401 certification should satisfy the fundamental requirements of the AIP.

The Coalition may review the specific guidance establishing the level of review afforded to 401 certifications at the following web addresses:

http://www.mvs.usace.army.mil/permits/guidelines.pdf

http://www.nwk.usace.army.mil/regulatory/compensatory%20mitigation/MSMM%20February%202007.pdf

A presumption is made by the AIP that projects requiring 401 certifications have an intrinsic socio-economic importance. If it becomes evident that a project involving significant degradation is not necessary to support important socio-economic development, further information will be requested from the applicant to complete the administrative record.

**VIII. Temporary Degradation**

1. Will the Department require a demonstration on the part of the discharger that water quality degradation will in fact be temporary before exempting a discharge from a Tier II review?
2. If so, what kind of showing of temporary impacts will be required?

**Department Response**: The AIP defines temporary degradation on Page 8 and provides guidance on Page 23 for identifying activities that would result in temporary degradation. The

applicant must provide information sufficient for the department to evaluate the temporary nature of the discharge in accordance with the AIP. This information and the department's preliminary findings will be published for public review with the draft permit. The final determination will be made by the department based on the guidance within the AIP and following the review of any public comments.

A follow-up review of the activity is not required by the AIP, but one may be provided depending on the potential for the discharge to result in significant degradation of water quality. Conditions may also be placed on site-specific permits so that the applicant must monitor and report the effects of a discharge. Any significant differences discovered between the findings following an antidegradation review and the actual effects measured in the water body receiving the discharge may be reason for the department to reopen the permit to address the discrepancy.

## IX. CSO/SSO Exemptions

1. Please provide the scientific and legal basis for exempting CSO and SSO treatment byproduct discharges from the Missouri's Tier II antidegradation requirements.
2. Please provide the scientific and legal basis for exempting CSO and SSO control projects that result in a net decrease in pollutant loadings from Missouri's Tier II antidegradation requirements.

**Department Response**: The department needs more experience in administering the AIP in order to fully understand how the antidegradation policy can effectively interrelate with wet weather issues. There is a general lack of federal guidance on this issue and an absence of clarity in other states as well. More time is needed to fully identify how the antidegradation rule assists in identifying the best approach to address new and expanded discharges resulting from improvements in wet weather treatment strategies.

SSOs are prohibited by the Clean Water Act. Therefore, there would be no benefit to reference SSOs in the AIP, since no discharge through a SSO will be permitted. Consequently, the department is removing any reference to exemptions to SSOs in the AIP.

CSOs generally remnants of historic and large scale sewer collection systems requiring long-term solutions achieved through incremental improvements. The methods for addressing wet weather discharges are much different than the methods used to control the new or expanding discharges associated with future community growth and development. The department agrees that further clarification is needed with respect to the applicability of antidegradation reviews to treatment proposals affecting CSOs. The department is seeking clarification from EPA.

In the meantime, the department will give deference to the requirements dictated by the national CSO policies when addressing these discharges. These policies set forth distinct approaches for reducing the effects of wet weather discharges (e.g., Nine Minimum Control Measures, Long-Term Control Plan, etc.). Both the antidegradation and wet weather policies emphasize the need for maximum pollution reduction, but offer different approaches to meet that goal. The approaches needed to address the widespread, historic and long-term needs generally presented by wet weather issues require different approaches than the approaches generally used in determining appropriate wastewater treatment needed to accommodate new growth. For example, in some cases, short-term degradation may be necessary to achieve long-term improvements in streams affected by wet weather discharges. This short-term degradation may result from the redistribution of wastewater flows within a collection system or from incremental adjustments in treatment that results in the generation of by-products.

By exempting certain wet weather discharges, the AIP recognizes these separate regulatory programs and supports the existing, yet different, regulatory approaches to achieve the reduction or elimination of wet weather discharges.

To avoid any interference the AIP may have with implementing the CSO policies, the department is revising the AIP to simply reference the national CSO policies in the AIP for determining future permitting decisions regarding wet weather discharges. A similar approach was used in coordinating the AIP with the 404 permitting and 401 certification activities on Page 37 of the AIP. The changes in the AIP will appear on Page 16 and clarifies that all wet weather discharges are subject to the national wet weather policies and are not subject to additional review under the AIP as long as the discharger is in compliance with these national policies.

To keep the two programs separate, and to avoid any interference one may have on the other, the department is revising the AIP to simply reference the national CSO and SSO policies in the AIP as the guiding policy on determining treatment for wet weather discharges. A similar approach was used in coordinating the AIP with the 404 permitting and 401 certification activities on Page 37 of the AIP. The changes in the AIP will appear on Page 16 and clarifies that all wet weather discharges are subject to the national wet weather policies and are not subject to additional review under the AIP as long as the discharger is in compliance with these national policies.

## X. Calculations of Minimal Degradation

1. Please state whether the department will perform (or require the discharger to perform) minimal degradation calculations using both the acute and the chronic criteria (where applicable) with the appropriate corresponding effluent concentrations for each pollutant of concern (POC).

**Department Response**: The AIP requires EWQ be measured during "critical flow conditions". This generally means when the water body is most susceptible to the effects of pollution. Because uses may become susceptible to chronic or acute criteria, the AIP does not limit the review of EWQ to chronic criteria. The example equations provided in Appendix 3 of the AIP serve to demonstrate the process for determining EWQ and percentage use of the FAC or SAC. The decision to base the equation on chronic or acute criteria is best made on a site-by-site basis considering factors such as the POC, the susceptibility of attainable uses to the POC, and discharge scenarios (e.g., storm water versus dry-weather discharges).

Thank you for your detailed comments and for participating in the development of the AIP. I sincerely hope the department's responses are satisfactory in providing the clarification or verification you desired. If you have any questions, please contact me at (573) 751-6770 or by mail at P.O. Box 176, Jefferson City, Missouri 65102

Sincerely,

WATER PROTECTION PROGRAM

*Signed by Phil Schroeder*

Philip A. Schroeder, Chief
Water Quality Monitoring and Assessment Section

PAS:lsm