

# DEQ Nutrient Work Group 7th Meeting Summary January 21, 2010

## Introductions

A list of the members and others in attendance is attached below as Appendix 1.

## Agenda

- Review of the December 1, 2009 Meeting Summary
- 2010 Meeting Calendar
- EPA Questions
- Legal Questions
- Nutrient Permit Alternative Analysis
- Nutrient Criteria Affordability Advisory Group Recommendations
- Economic Impacts of Numeric Nutrient Standards
- NWG Work Plan
- Public Comment
- Next Meeting Schedule

## Review of the December 1, 2009 Meeting Summary

NWG members present at this meeting had no comments on the December 1, 2009 meeting summary.

## 2010 Meeting Calendar

To accommodate work being done through committees, DEQ proposed that NWG meet on a bimonthly schedule. A committee is working with Dr. Suplee on the alternative analysis and a committee will be developing a proposal for an affordability variance for private entities.

*NWG Action - Those members of the NWG present at this meeting agreed to the following meeting schedule: Monday, March 15; Thursday, May 20; Thursday, June 17; Thursday, September 16; and Thursday, November 18. These dates and the schedule of committee meetings will be posted on the NWG web page.*

## EPA Questions

At the December NWG meeting, EPA was asked to give its view of the permit shield, delayed effective dates for numeric nutrient standards, and the 1% median household income (MHI) cap in the affordability variance. Rosemary Rowe discussed the permit shield and Tina Laidlaw the delayed effective date. The appropriate EPA personnel for the 1% MHI cap were not available for this meeting, so this topic will be addressed at the next NWG meeting in March. Ms. Laidlaw also discussed a proposed EPA rule for Florida numeric nutrient standards.

Permit Shield - Rosemary Rowe explained EPA's view of the permit shield using a handout including language from section 402 of the Clean Water Act and a July 1, 1994 EPA memorandum setting out a policy statement regarding the scope of a shield associated with National Pollutant Discharge System (NPDES) permits. A copy of the handout is included

below in Appendix 2. Quoting from the policy statement, “A permit provides authorization and therefore a shield for the following pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process when discharged from specified outfalls...”

*Question - Are you aware of third party challenges to the permit shield?*

Answer - No.

Delayed Effective Date - Tina Laidlaw discussed this topic. EPA has approved delayed effective dates twice in Colorado. It approved a delay from 2007 to July 2010 for nonyphenol standards because of uncertainties arising from analytical methods for the detection of the compound and possible source control strategies. The Colorado Water Quality Control Commission has since postponed the effective date for nonyphenol standards to January 2011. The Colorado WQCC also adopted a 5-year delayed effective date for the Grand Lake clarity numeric standard. The Region took no action on that numeric standard because we anticipate seeing a revised standard prior to when the standard would go into effect in 2013. Should DEQ decide to request a delayed effective date, it must provide EPA with a rationale for the delay. DEQ should provide the public an opportunity to comment on a delay proposal as part of the public comment period for rulemaking.

*Question - Are you aware of third party challenges to a standard delay?*

Answer - No.

*Question - You mentioned that EPA has approved delays twice in Region 8. What was the level of interest in these decisions from third parties such as local governments and environmental and industry groups?*

Answer - Colorado had extensive stakeholder involvement in the Grand Lake decision, including environmental groups. Information may be available on the Colorado Water Quality Control Commission web site regarding the nonyphenol decision.

*Question - Have you discussed with DEQ a delayed effective date for numeric nutrient standards?*

Answer - We have discussed a delay as one possible option for standard implementation as it would allow us to see how the pieces fit together.

Answer by Mike Suplee - DEQ has discussed internally using delayed effective dates from a technical perspective. A delay might be appropriate for nitrates in the western part of the state and for phosphorus in the eastern part because the scientific rationale is not yet completely clear for standards for these pollutants. We do not see a rationale for delaying total phosphorus and total nitrogen in western Montana.

Answer by Bob Bukantis – A delayed effective data may allow the state time to address implementation components and variance requirements, as well as allow for other issues to be addressed that are not yet apparent.

*Question - Does EPA have written policy guidance regarding delayed standard effective dates?*

Answer - We do not have written guidance for delayed effective dates.

*Question - Does the lack of guidance mean that each region is on its own regarding delayed effective dates?*

Answer - EPA Headquarters is aware of Colorado's use of delayed effective dates and the Region's approval of the nonyphenol standard.

*Question - What sort of technical issues might be considered for a rationale for a delay request?*

Answer - Examples might include allowing more time to resolve issues surrounding variances or for dischargers to gather data. Any deferral decision would be based on the rationale provided. A deferral request should be part of the standard package the state provides to the public for comment and to EPA.

*Question - Has the issue of a delayed effective date arisen in the Wisconsin litigation?*

Answer – We are not aware that this issue was raised in the Notice of Intent.

*Question - Would EPA decide on a delayed standard effective date on a state-by-state basis?*

Answer - The decision would be case-by-case, not state-by-state.

Florida Nutrient Criteria - Ms. Laidlaw reported that EPA proposed a rule for numeric nutrient standards in Florida on January 14, 2010. The standards would address lakes, wadeable streams, with consideration for impacts on downstream areas including estuaries. The proposal is subject to a 60-day comment period. The proposal includes consideration of downstream impacts and, a new concept, restoration standards. At the March NWG meeting, Ms. Laidlaw will be prepared to discuss the proposal in more detail and will provide a summary of the proposed criteria and a description of the methods used to development them

*Question - Is the restoration standard approach and statutory rationale for it described in writing?*

Answer - We are still trying to understand the restoration standard. We will provide what we can about it and be prepared to discuss it in more detail at the next meeting.

*Question - Does Region 8 have a preference between variances or a restoration standard for the approach in Montana?*

Answer - Both options are available. The variance procedure appears to make sense; we are not clear about the restoration standard approach.

*Comment - The variance approach that DEQ is considering and we are working on is under consideration in other states.*

*Comment - The previous group's agreement on recommendations for an affordability variance for public systems was based on a 1% of MHI cap. This cap level was in turn based on recognition of the significant contribution of non-point sources to nutrient pollution. Would you please ask Headquarters to discuss the non-point contribution in its response to the 1% cap?*

Answer - We will do so.

Answer by Mike Suplee - When I met with Headquarters officials last June and discussed the affordability variance, I explained the non-point concern to them.

*Question - Is it EPA's intent to apply numeric nutrient standards to all permits including storm water?*

Answer by Rosemary Rowe - Yes, but I am not sure about storm water permits. A turbidity standard proposal is being developed.

*Question - Are numeric nutrient standards being driven by EPA or the states?*

Answer - Both.

*Comment - Numeric nutrient standards are also being driven by third parties.*

*Question - The EPA Inspector General recently issued a report. Are there specific activities in Region 8 resulting from it?*

Answer - The report calls for performance accountability measures (PAMs) which we have to report on quarterly for nutrients. In the past, we tracked state progress towards adopting standards. Now we will be providing details by water bodies. We will also require states to report actions for next year in performance partnership grant agreements.

*Question - Will you require specific milestones for standard adoption?*

Answer - No.

*Question - What is the situation in Washington regarding Puget Sound?*

Answer by Dave Clark - In the past, Washington has not opted to develop numeric nutrient standards, but this may change. A total maximum daily load (TMDL) is being debated for the south portion of Puget Sound. The limits of technology is an issue, and the Department of Ecology is examining nutrient removal technologies and possible technology standards.

## **Legal Questions**

At the December NWG meeting, Don Quander volunteered to list outstanding legal questions regarding the development of numeric nutrient standards. The list he presented included the following:

- Challenges to numeric nutrient standards and variances - What is DEQ's sense regarding legal challenges, perhaps under the Montana Constitution's clean and healthful provisions, to adoption of standards and variances?
- TMDL connection - How will TMDL permits tie to numeric nutrient standards? What does US District Judge Molloy's TMDL order require happen by 2012?

*Comment by Ron Steg - Judge Molloy has ordered the state to complete TMDLs for water bodies on the 1996 impaired list by the end of 2012.*

*Comment - The parties that brought the lawsuit will likely seek further guidance from the court if this deadline is not met. We encourage the state to proceed with development and implement TMDLs as soon as possible.*

*Comment by Jenny Chambers - Both NPDES permits and TMDLs address only the existing water quality standards. At present the only nutrient standards are narrative, not numeric. The*

*only regulatory requirement of TMDLs is that waste load allocations must be included in NPDES permits. The response to waste load allocations will likely be phased into permits.*

*Comment - Waste load allocations for nutrients will have to accommodate variances.*

*Comment by George Mathieus - From a big picture perspective, adoption of numeric nutrient standards will not be a big issue for complying with the 2012 deadline to develop TMDLs for streams listed on the impaired list in 1996. Numeric nutrient standards will not be a major factor in how we are proceeding with TMDL development.*

- State adoption of numeric nutrient standards more stringent than federal requirements or guidance - Under state law, can Montana adopt numeric nutrient standards more stringent than federal requirements or guidance? Must there be a public health context for state standards to be more stringent than federal requirements or guidance?

*Comment by Dr. Suplee - EPA issued guidance for nutrient standards in 2000. We have carried out comparisons to these values and the vast majority of numeric nutrient criteria DEQ is considering are less stringent than the EPA guidance.*

*Comment by Bob Bukantis - Under Section 304(a) of the Federal Clean Water Act, EPA does the science for state standards, which the state can then adopt or it can develop its own standards based on sound science.*

- Economic Analysis of Numeric Nutrient Standards - What kind of economic analysis must support adoption of numeric nutrient standards? Consideration should be given to the requirements in 2-4-415 MCA.

*Comment - Another legal issue that I want to see addressed is whether aerial application of fertilizer would be subject to a permit. Court cases and EPA have required permits for aerial application of pesticides. If permits are required for pesticides, similar requirements for aerial applications of fertilizers appear possible.*

*Response by Jenny Chambers - EPA was required by a federal district judge to require permits for aerial pesticide applications. EPA requested and received a two year stay of the judge's order to develop permits for the aerial application of pesticides directly to receiving waters. This decision does not address fertilizer. Industry and agriculture groups may appeal this order.*

*Response by Ron Steg - EPA is not seeing any movement to requirement permits for the aerial application of pesticides.*

*Comment - Litigation has occurred over the cyanide content of aerial fire retardants. Environmental group attorneys have discussed and rejected other aerial application issues in Michigan and Minnesota cases. In particular, we do not see the logic of extending permitting to the aerial application of fertilizers.*

## **Nutrient Permit Alternative Analysis Land Application and Water Rights**

Flow Chart - Dr. Suplee stated that the committee considering the alternative analysis did not meet since the December 1, 2009 NWG meeting, so he does not yet have a flow chart detailing the alternative analysis.

Land Application and Water Rights - Because of the questions that arose at the December NWG meeting, DEQ staff met with DNRC officials to discuss land application of sewage treatment plant effluent and water rights. Todd Teegarden reported on this meeting. In 1996, DNRC issued an order stating that the City of Deer Lodge was not required to obtain either a new water right permit or a change authorization before land applying its sewage treatment plant effluent and that downstream appropriators could not require the continued discharge of the effluent into the Clark Fork River. DNRC intends to stick to this ruling so long as the sewage effluent discharger maintains control over the discharge water, the discharge meets agronomic rates, and the use of the discharge does not constitute a beneficial use.

*Question - What is meant by agronomic rate?*

*Answer - The agronomic rate refers to the hydrologic loading of the soil and the nitrogen uptake of the plants. The agronomic rate would not result in any leaching of nitrogen to the ground water.*

*Comment - DNRC has issued a water right for effluent discharge through a ditch.*

*Comment - We are seeing challenges to land application based on water rights.*

*Comment - In Billings, we have been told that the use to which the treatment plant effluent is applied is what matters. Agriculture use is acceptable, but using the effluent to create a wetland or for ground water recharge would require a water right permit.*

*Comment - The Washington legislature passed as statute granting exclusive use of water to the utility that reclaimed it.*

*Comment - We need clear guidance regarding this topic. We will not escape it by dodging it now. If we run into water right challenges, we will not be able to get an answer in time to proceed with a land application project.*

*Comment - We need answers to two questions. Can a treatment plant reduce its discharge? To what uses can treatment plant effluent be applied?*

*Comment by Gerald Mueller - I will put this topic on the agenda of the next NWG meeting, and I ask that DEQ to arrange for the appropriate DEQ and DNRC officials to attend and explain when land application would be an acceptable alternative for complying with nutrient standards.*

### **Nutrient Criteria Affordability Advisory Group Recommendations**

At the December NWG meeting, Dr. Suplee reviewed the recommendations made by the DEQ Nutrient Criteria Affordability Advisory Group for public entity affordability criteria. Gerald Mueller asked if any NWG member had concerns about or suggested changes to the recommendations. No member of the NWG present at this meeting had any concerns or suggested changes to the recommendations.

*NWG Action - Those members of the NWG present at this meeting accepted the recommendations of the Nutrient Criteria Affordability Advisory Group for public entity affordability criteria.*

## **Economic Impacts of Numeric Nutrient Standards**

Dr. Jeff Blend presented a preliminary analysis of the economic impacts of numeric nutrient standards using a PowerPoint presentation entitled, "[Estimated Benefits and Costs of Compliance with Nutrient Criteria in Montana.](#)" The content of the presentation is included below in Appendix 3. Dr. Blend's conclusions were:

- The monetary costs of meeting nutrient standards are much greater than monetary benefits;
- The overall benefits and costs are cloudy because of data problems;
- A variety of ecosystem and non-monetary benefits are hard to quantify;
- Decision makers must weigh monetary values versus policy values; policy values are human values that are codified; and
- Value systems that incorporate water quality and aesthetics come at a cost

*Question - in the chart about % of MHI spent on wastewater treatment, does the size of the towns shown matter?*

*Answer - Yes.*

*Comment - The amount of expenditures that you show are a result of the available financial support, not on all of the water treatment needed. Small towns are 50 years behind in infrastructure funding.*

*Question - Are communities required to spend up to the affordable limits for nutrient discharge control?*

*Answer - Yes.*

*Question - Are low cost minor improvements available?*

*Answer by Dave Aune - Yes. For example, lagoon systems are lower in costs than mechanical treatment and can have various low-cost improvements added to them that will reduce effluent nutrient concentrations.*

*Comment - While the technology and control costs would vary for individual plants, the ultimate process and impacts would be in sync for public and private dischargers. Conceptually, the affordability criteria would be different for public and private dischargers.*

*Comment - You should look at Duffield's work estimating the value of healthy ecosystems in the Natural Resources Damage lawsuit. He compared the upper Clark Fork with the Madison.*

*Question - One of your conclusions is that the overall benefits and costs of the numeric nutrient standard are cloudy because of data problems. When will the clouds clear up?*

*Answer - I am not sure when benefits will uncloud; the issue is lack of research. Cost data problems are more a function of resources to estimate costs.*

*Comment - Your analysis does not look at the costs of full compliance with the numeric nutrient standards. Understanding the costs of compliance without affordability and technology variances would be helpful.*

*Question - How was the \$2.6 million drinking water benefit determined?*

Answer - It was developed from survey data. Drinking water costs attributable to eutrophication were estimated using the amount of money spent on bottled water that could potentially be attributed to avoidance of taste and odor problems in surface-water-derived tap water.

*Question - You calculated Montana benefits from numeric nutrient standards from national benefits by using the ratio of Montana population to national population. What would be the results of using a different method, such as using the area of Montana compared to the area of the US?*

Answer - Using a land base instead of population would increase the Montana benefits. The benefits will likely still be less than costs.

*Comment - You could look at the 305(b) reporting to compare the miles of impacted streams in Montana versus the comparable national value.*

Response by Dr. Suplee - The 305 data vary too much from state to state to be useful for comparisons. You might look at the EMAP data for national lakes and wadeable streams.

*Comment - I have recommended before considering the costs and benefits of zero discharges such as composting toilets and use of gray water. I saw this approach in use in a low income housing development in South Africa.*

Response by Dr. Suplee - At international conferences, reports have discussed using new toilet systems that separate waste streams at the household level.

*Comment - Currently, sewer charges are based on water use which does not provide an incentive to reduce waste production.*

*Comment - For small towns, treating wastes at a central location is easier than trying to go into every house.*

*Comment - We should look for the biggest bang for our treatment dollars. Addressing non-point sources may be less costly.*

*Comment - Calculating the value of intrinsic benefits is a challenge. Often this value is set at zero because of the difficulty of assessing it even though we know zero is not the right answer.*

*Question - How do economics figure into setting numeric nutrient standards?*

Answer by Dr. Suplee - Economics is addressed at the implementation level through affordability and economic caps for individual dischargers. Economics does not affect standard setting because standards must protect beneficial uses.

*Comment - While EPA must review and approve state standards under the Clean Water Act, standard adoption by the Board of Environmental Review is controlled by Montana statutes.*

+Comment by Gerald Mueller - Dr. Suplee has offered his view of the role of economics. We should ask the DEQ to respond officially to this, so I will add it to the list of legal questions.

## **NWG Work Plan**

Gerald Mueller reminded the NWG that its work plan has three components: the legal basis for the nutrient standards, the scientific basis for the standards, and standard implementation. EPA and DEQ will be asked to address EPA's view of the 1% MHI cap, and the legal questions identified at today's meeting. Dr. Suplee said that he will be revising the technical memorandum underlying the nutrient standards, and the revision may result in some changes to the standard recommendations. Mr. Mueller stated that most of the remaining work involves how numeric nutrient standards would be implemented.

## **Public Comment**

*Comment - Small communities must keep all of their infrastructure in good repair, not just waste water systems. They must, for example, maintain streets and fire protection, in addition to water treatment. Affordability should therefore look at a community's ability to make all necessary infrastructure investments.*

Response by Mike Suplee - When the DEQ Nutrient Criteria Affordability Advisory Group developed the affordability tests for public entities, it included all waste water utility costs, including collection and treatment costs. The entire cost of a waste water upgrade might cause nutrient treatment costs to be deferred to the next investment cycle.

## **Next Meeting**

The next meeting is scheduled for Monday, March 15 at a Helena location to be announced. The agenda may include:

- DEQ response to the legal issues raised at this meeting;
- EPA's view of the 1% MHI affordability cap;
- A report from the alternative analysis subcommittee including a flow chart of the alternative process and discussion of the draft trading policy;
- The Yellowstone River model;
- A discussion with DEQ and DNRC concerning land application and water right issues;
- Continued discussion of the economic impacts of the numeric nutrient standards; and
- An update from the committee considering a proposal for affordability criteria for private entities.

**Appendix 1**  
**NWG Attendance List**  
**January 21, 2010**

**Members**

Dave Aune	Great Western Engineering
John Rundquist	City of Helena
Scott Murphy	Morrison-Maierly, Inc.
Brian Sugden	Plum Creek
Jim Edgcomb	Montana Department of Commerce
Dick Hoehne	Town of Philipsburg
Donald Quander	Holland & Hart/Missoula Petroleum Association
Michael Perrodin	BNSF Railway
Don Allen	Western Environmental Trade Association (WETA)
Jim Jensen	Montana Environmental Information Center
Jeff Tiberi	Conservation Districts

**Alternate Members**

Kate Miller	Montana Department of Commerce/Treasure State Endowment (alternate for Jim Edgcomb)
Doug Parker	Hydrometrics (alternate for Debbie Shea)

**Non-Voting Members**

Dr. Jeff Blend	Department of Environmental Quality (DEQ), Economist
Dr. Mike Suplee	DEQ, Water Quality Standards Section, Water Quality Specialist

**Other Meeting Participants**

Dave Clark	H2R
Mark Simonich	Helena Association of Realtors
Jessie Luther	Browning, Kaleczyc, Berry, and Hoven
Gary Swanly	RM
Mark Kieser	Kiesser & Associates, LLC (MI)
Joe Kolman	Legislature
George Mathieus	DEQ Planning, Prevention and Assistance Division
David Mumford	City of Billings
Alan Towerton	City of Billings
Ron Steg	EPA
Tina Laidlaw	EPA
Rosemary Rowe	EPA
Todd Teegarden	DEQ Technical and Financial Assistance Bureau Chief
Judel Buls	AE2S, Inc.
Brian Levin	Brown and Caldwell
Ron Nissan	CHS - Refinery Billings
Claudia Massman	DEQ Attorney
Jenny Chambers	DEQ Water Protection Bureau Chief
Bob Bukantis	DEQ, Water Quality Planning, Water Quality Standards Section Supervisor

## Appendix 2

(3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.

(4) In any case where, after the date of enactment of this paragraph, the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, or request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within 30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this Act.

(e) In accordance with guidelines promulgated pursuant to subsection (i)(2) of section 304 of this Act, the Administrator authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

(g) Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(h) In the event any condition of a permit for discharges from a treatment works (as defined in section 212 of this Act) which is publicly owned is violated, a State with a program approved under subsection (b) of this section or the Administrator, where no State program is approved or where the Administrator determines pursuant to section 309(a) of this Act that a State with an approved program has not commenced appropriate enforcement action with respect to such permit, may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated.

(i) Nothing in this section shall be construed to limit the authority of the Administrator to take action pursuant to section 309 of this Act.

(j) A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or permit, or portion thereof, shall further be available on request for the purpose of reproduction.

(k) Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 309 and 505, with sections 301, 302, 306, 307, and 403, except any standard imposed under section 307 for a toxic pollutant injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) section 301, 306, and 402, of this Act, or (2) section 13 of the Act of March

3, 1899, unless the Administrator or other plaintiff proves that final administrative disposition of such application has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on the date of enactment of the Federal Water Pollution Control Act Amendments of 1972, in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date of enactment which source is not subject to section 13 of the Act of March 3, 1899, the discharge by such source shall not be a violation of this Act if such a source applies for a permit for discharge pursuant to this section within such 180-day period.

(l) Limitation on Permit Requirement.--

(1) Agricultural Return Flows.--The Administrator shall not require a permit under this section, for discharge composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit. [402(l)(1) designated by PL 100-4]

(2) Stormwater Runoff From Oil, Gas, and Mining Operations.--The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations. [402(l)(2) added by PL 100-4]

(m) Additional Pretreatment of Conventional Pollutants Not Required.--To the extent a treatment works (as defined in section 212 of this Act) which is publicly owned is not meeting the requirements of a permit issued under this section for such treatment works as a result of inadequate design or operation of such treatment works, the Administrator, in issuing a permit under this section, shall not require pretreatment by a person introducing conventional pollutants identified pursuant to section 304(a)(4) of this Act into such treatment works other than pretreatment required to assure compliance with pretreatment standards under subsection (b)(8) of this section and section 307(b)(1) of this Act. Nothing in this subsection shall affect the Administrator's authority under sections 307 and 309 of this Act, affect State and local authority under sections 307(b)(4) and 510 of this Act, relieve such treatment works of its obligations to meet requirements established under this Act, or otherwise preclude such works from pursuing whatever feasible options are available to meet its responsibility to comply with its permit under this section. [402(m) added by PL 100-4]



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

REGIONAL ADMINISTRATORS  
OFFICE

JUL 1 1994

*Perciasepe*

JUL 12 AM 9:57

MEMORANDUM

SUBJECT: Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits *0/630*

FROM: Robert Perciasepe *Bob Perciasepe*  
Assistant Administrator for Water

*SAH* Steven A. Herman  
Assistant Administrator for Enforcement

Jean C. Nelson *JCN*  
General Counsel

TO: Regional Administrators  
Regional Counsels

RA: \_\_\_\_\_  
DRA: \_\_\_\_\_  
OTHER: *RC*  
FILE #: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

Recently, questions have been raised regarding EPA's interpretation of the scope of the "shield" associated with National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act (CWA). Section 402(k) of the CWA -- the "shield" provision -- provides that compliance with an NPDES permit shall be deemed compliance, for purposes of section 309 and 505 enforcement, with sections 301, 302, 306, 307 and 403 of the CWA (except for any standard imposed under section 307 for toxic pollutants injurious to human health). This policy statement describes EPA's position on the scope of the authorization to discharge under an NPDES permit, and the shield thus associated with the permit authorization.

Individual NPDES Permits

As part of an application for an individual NPDES permit, EPA requires that an applicant provide information on its facility. In the case of industrial permit applications, this includes specific information about the presence and quantity of a number of specific pollutants in the facility's effluent, as well as on all waste streams and operations contributing to the facility's effluent and the treatment the wastewater receives. Applications for municipal discharges focus primarily on the operation and treatment processes at the municipal treatment works. See 40 C.F.R. § 122.21.

Historically, EPA has viewed the permit, together with material submitted during the application process and information in the public record accompanying the permit, as important bases

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for an authorization to discharge under section 402 of the CWA. The availability of the section 402(k) shield is predicated upon the issuance of an NPDES permit and a permittee's full compliance with all applicable application requirements, any additional information requests made by the permit authority and any applicable notification requirements. See 40 C.F.R. §§122.41(1) and 122.42. Also see, 45 Fed. Reg. 33311-12, 33522-23 (May 19, 1980).

A permit provides authorization and therefore a shield for the following pollutants resulting from facility processes, waste streams and operations that have been clearly identified in the permit application process when discharged from specified outfalls:

- 1) Pollutants specifically limited in the permit or pollutants which the permit, fact sheet, or administrative record explicitly identify as controlled through indicator parameters;<sup>1</sup>
- 2) Pollutants for which the permit authority has not established limits or other permit conditions, but which are specifically identified as present in facility discharges during the permit application process; and
- 3) Pollutants not identified as present but which are constituents of wastestreams, operations or processes that were clearly identified during the permit application process.<sup>2</sup>

With respect to subparts 2 and 3 of the permit authorization described above, EPA recognizes that a discharger may make changes to its permitted facility (which contribute pollutants to the effluent at a permitted outfall) during the effective period of the NPDES permit. Pollutants associated with these changes (provided they are within the scope of the operations identified in the permit application) are also authorized provided the discharger has complied in a timely manner with all applicable notification requirements (see 40 C.F.R. §§ 122.41(1) and 122.42(a) & (b)) and the permit does not otherwise limit or prohibit such discharges.

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<sup>1</sup> Of course, authorization is only provided to discharge such pollutants within the limits and subject to the conditions set forth in the permit.

<sup>2</sup> The permit, of course, may explicitly prohibit or limit the scope of such discharges.

Notwithstanding any pollutants that may be authorized pursuant to subparts 1 and 2 above, an NPDES permit does not authorize the discharge of any pollutants associated with wastestreams, operations, or processes which existed at the time of the permit application and which were not clearly identified during the application process.

#### General NPDES Permits

Section 402(k) also shields discharges of pollutants authorized under a general permit. EPA's position is that general permits authorize the discharge of all pollutants within the specified scope of a particular general permit, subject to all pollutant limits, notification requirements and other conditions within a particular general permit so long as the permittee complies with all EPA application requirements for the general permit.

EPA regulations provide the circumstances for which discharges may be authorized under a general permit. See 40 C.F.R. §122.28. To obtain authorization to discharge under a general permit (and consequently, the protection of the shield), in most cases, the prospective permittee must submit either a written notice of intent to be subject to the general permit or a permit application as appropriate. General permittees are also subject to the notification provisions of 40 C.F.R. §§ 122.41 and 122.42.

#### Spills

While NPDES permits may authorize the discharge of pollutants associated with intermittent flows, permits do not generally authorize the discharge of pollutants associated with spills. There may be limited circumstances where anticipated spills are fully disclosed to EPA and considered during the permitting process as documented in the public record consistent with applicable NPDES regulations. In such circumstances, the discharge of pollutants from such spills would be authorized so long as the permit does not otherwise limit or prohibit such discharges and such a spill does not violate any statutory or regulatory provision.

#### CERCLA

Finally, there also has been some question regarding the relationship of the NPDES permit shield and the "federally permitted release" exemption under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

EPA's position is that the scope of federally permitted releases under CERCLA section 101(10)(A), (B) and (C) is currently defined by the regulations at 40 C.F.R. § 117.12, which implement language in section 311 of the CWA that is very similar to the federally permitted release definitions. Thus, the Agency takes the position that the NPDES permit shield outlined above in no way expands the scope of the federally permitted releases under CERCLA.

#### Next Steps

The Office of Water has established two regulatory workgroups which are working on revisions to the NPDES permit application regulations for municipal and industrial dischargers. We want the regulations to ensure the applicant has the responsibility to more fully characterize the nature of its effluent, and the contributions of the effluent to the receiving water. In addressing this issue, we will review EPA's position on the scope of the shield provided by §402(k). In addition, we will consider changes to related NPDES permit regulations, including whether to revise the requirements for: facilities to notify EPA (or the State) of modifications to its operations or processes; facilities to notify EPA (or the State) of changes in the discharge; notification to the public of the nature of the discharge limitations a permittee is held responsible for; and the use of indicator pollutants.

We encourage the Regions to actively participate in the development of these updated regulations. The current schedule calls for proposal of the changes to the municipal application requirements in 1994 and promulgation of the revised regulations in 1996. Our new schedule for changes to the industrial application requirements, for which there is more interest in permit shield issues, is proposal of the regulation changes in FY 1995.

If you have any questions on these issues, please contact us or have your staff contact, Cynthia Dougherty in the Office of Water at 202 260-9545, David Hindin in the Office of Enforcement at 202 501-6004, or Richard Witt in OGC at 202 260-7715.

cc: Elliott P. Laws  
Regional Water Management Division Directors  
ORC Water Branch Chiefs  
Lois Schiffer, DOJ  
Joel Gross, DOJ

**Appendix 3**  
**Estimated Benefits and Costs of Compliance with Nutrient Criteria in**  
**Montana**  
**Jeff Blend**  
**Montana Department of Environmental Quality**  
**January 21, 2010**

- Estimated Benefits and costs of all entities affected in Montana by nutrient criteria
- Estimated values in this analysis are for compliance only
- It is assumed that nutrient criteria values are not reached
  - Affordability
  - LOT
- If criteria values were reached, costs would be greater and benefits would be greater than the results of this analysis

**The Results**

<b>Benefits (annual)</b>	<b>Costs (annual)</b>
<u>Quantifiable</u>	
est. < \$7 million (Dodds et. al.)—Rec., drinking water, prop. Values	est. > \$40 million \$40 M for public sector WWTPs
<u>Non-quantifiable</u>	
+ Other economic benefits (agric, health, non-monetary)	+ Private sector costs (30-70 businesses)
+ Ecosystem benefits	+ Other costs (admin, transaction)
Benefits are long-term	At least 20 years

**Benefits-Quantifiable**

- Dodds Study- "Eutrophication of U.S. Freshwaters: Analysis of Potential Economic Damages"
- Estimated the economic value of higher water quality as result of nutrient standards over current water quality for the entire U.S.
- Methods:
  - Compared current TN and TP concentrations for the U.S. EPA nutrient ecoregions with estimated reference conditions.
  - Calculated potential annual value losses in recreational water usage, waterfront real estate values, spending on recovery of threatened and endangered species, and drinking water

- Values may be underestimated/research gaps

### **Values Estimated in Dodds**

- Recreational Water Usage—Algal bloom effect on boating, fishing, other rec. loss of trip-related expenses
- Property values can decrease with declines in water clarity--data from 37 lakes in the Mississippi River headwaters region to calculate percent gain or loss in property values per 1 m change in Secchi depth.
- Biodiversity: assume 25% of all imperiled aquatic species are threatened in part by human-induced eutrophication and therefore 25% of all recovery costs of U.S. Federal Endangered Species Act plans
- Drinking water costs attributable to eutrophication were estimated using the amount of money spent on bottled water that could potentially be attributed to avoidance of taste and odor problems in surface-water-derived tap water
- Costs not measurable
  - number of days water bodies were closed for contact and noncontact use
  - number of fish kills
  - human and livestock deaths and sicknesses
  - money spent on watershed restoration and developing nutrient criteria
  - money spent on macrophyte removal
  - water treatments added by municipalities as a result of eutrophication
- Cost are probably conservative
- Estimated a value of \$2.2 B annually for total U.S. costs from not meeting standards (or benefit of meeting standard)
- Prorated that number proportionately by population (0.31%) to come up with a Montana number-about \$7 M in benefits
- < \$7 M because not meeting standards
- Rec water usage (\$3.2 M), Waterfront prop values (\$1 M), endangered species (\$0.15 M), and drinking water (\$2.6 M)
- Could be more or less based on assumptions

### **Non Quantifiable Benefits-Anthropocentric**

- Improved water quality for economic uses: Less treatment needed for incoming water into a business, industry or WWTP, tourism
- Improved Agricultural water supply (less clogging of irrigation canals, cattle)
- Increased Human Health
- Option Value and Existence value of cleaner water
- Aesthetics from meeting nutrient standards (wilderness, birdwatching, fishing experience)
- Some of these benefits could be minor, and may be partially captured in \$7 M figure.

### **Non Quantifiable Benefits-Non Human**

- Non-Human benefits including improved health of plants, riparian areas, wildlife, water and nutrient cycles
- Maintenance of dissolved oxygen levels suitable for aquatic life and fisheries
- Minimization of daily pH changes which can harm fisheries
- Maintenance of healthy aquatic life communities including more sensitive species (fish kills down, biodiversity up, macrophyte growth).

## Costs

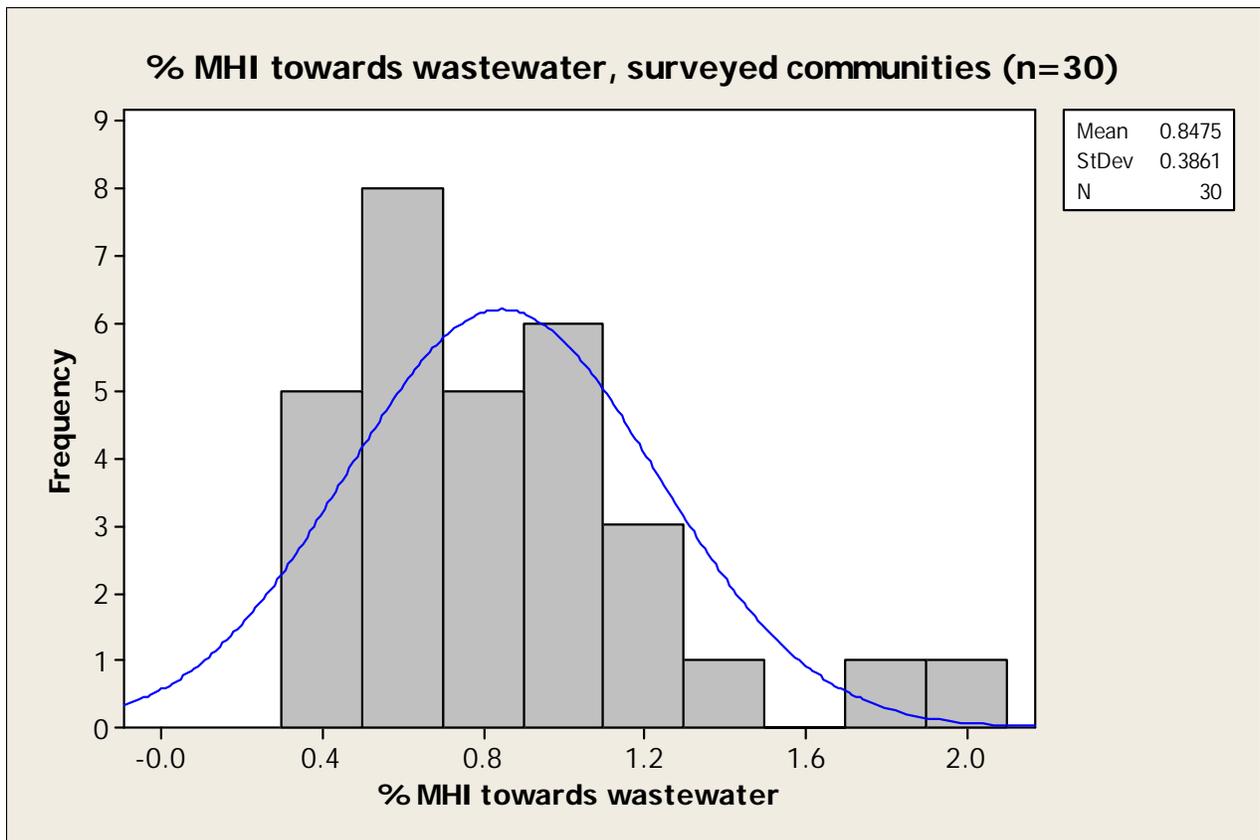
- Public Sector (WWTPs) + private sector (30-70 businesses) + government costs + other costs
- Public sector was the only sector that we could quantify

### Costs—Quantifiable: Public Sector

- Public WWTPs have to upgrade to meet nutrient standards-about 135 out of 200 total WWTPs
- In most cases, towns will hit limits of affordability
- In a few cases, larger cities will hit limits of technology (LOT)
- Difference between current rates and affordability limit (or LOT) is the public cost of nutrient compliance, which is paid for by sewer rate payers over avg. 20 years
- Out of 200 towns, 60 do not discharge from their WWTP and would not have to comply (thus, no cost for those towns)
- Another 3 or 4 discharge to a lake or land app
- 135 towns discharge, and those 135 would have to comply with Nutrient standards
- Used affordability limits on all 135 towns (even large cities) to estimate cost difference between current payment and those limits
- 135 total towns for a total estimate of \$39.8 million more in annual costs than they face now

### \$39.8 M Costs—Quantifiable: Public Sector (cont.)

- Technically infeasible at this point to gather info on all towns. For minority of towns (30), current sewer rates and discharge rates are known.
- For towns where these numbers unknown, we used the distribution of values from the 30 towns as a basis for assigning values to towns we don't know
- Histogram of the 30 representative towns
- Randomly assigned values to unknown towns (105) of current rates as a % of MHI and flow % from histogram of towns we do know
- Assumptions
  - If WWTP discharge > 50% of flow, 1.4% of MHI
  - If WWTP discharge < 50% of flow, 1.0% of MHI



**Other Costs-Non Quantifiable**

- Private sector costs unknown, but will likely be tens of millions of dollars
  - Smurfit Stone \$53 Million (recently shut down)
  - Refinery \$11 Million
- Each company is unique, and costs to each are currently unknown
- Administration costs
- Other costs
- Non monetary—Opportunity costs

## The Results

Benefits (annual)	Costs (annual)
<u>Quantifiable</u>	
est. < \$7 million (Dodds et. al.)—Rec., drinking water, prop. Values	est. > \$40 million \$40 M for public sector WWTPs
<u>Non-quantifiable</u>	
+ Other economic benefits (agric, health, non- monetary)	+ Private sector costs (30-70 businesses)
+ Ecosystem benefits	+ Other costs (admin, transaction)
Benefits are long-term	At least 20 years

## Conclusions

- Monetary costs of meeting nutrient standards are much greater than monetary benefits
- Overall Benefits and Costs are cloudy-Lack of data problem
- A variety of ecosystem and non-monetary benefits are hard to quantify
- Monetary decision versus policy decision—Policy values are human values that are codified
- Value systems that incorporate water quality and aesthetics come at a cost