Public Employees for Environmental Responsibility
PEER
Protecting Employees Who Protect Our Environment
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Brian Nickel
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Dear Mr. Nickel:

Thank you for the opportunity for Public Employees for Environmental Responsibility (PEER) to provide comments on the Environmental Protection Agency's (EPA) proposal to reissue National Pollution Discharge Elimination System (NPDES) municipal wastewater discharge permits to the cities of Coeur D'Alene, Post Falls and the Hayden Area Regional Sewer Board.

PEER believes that the draft NPDES permits are flawed because they avoid addressing the cumulative impact of pollutants discharged into the Spokane River and their cumulative impact on Lake Spokane. We are also concerned about calculations of water hardness and their impact on metal concentrations.

Regional protection is not provided: PEER believes that the approach taken by EPA to address the water quality problems from Idaho dischargers into the Spokane River fails to protect water quality because it does not take a comprehensive regional approach. It is well know that the Spokane River's waters are impaired. It is also well known that there are seven major discharges, four in Washington and three in Idaho, that contribute to the pollution in the river and lake. There are also nonpoint sources of pollutant loading into the river which consume all or most of the assimilative capacity for pollutants, leaving no capacity for the Washington point sources and very little for those discharging in Idaho. EPA has failed to account for the downstream state impact when setting permit limits for Idaho and the cumulative impact of the seven dischargers on the Spokane River.

Addressing only one state's contribution of pollutants discharged into the Spokane River is arbitrary and capricious in nature. Allowing the maximum discharge of pollutants capable of decreasing dissolved oxygen (DO) by 0.2 mg/L in the downstream section of

Lake Spokane by the Idaho dischargers without acknowledging contributions derived from Washington dischargers will result in violations of the current and proposed water quality standards that apply in Washington.

The City of Coeur d'Alene fact sheet misrepresents the applicable water quality criteria for DO and then uses the unsound rationale to develop permit limitations for phosphorous that are not protective of Washington water.

EPA has an obligation to consider all relevant information and set permit limits utilizing the full array of data available to protect the resource. The current approach falls far short of this goal and is unacceptable.

Regulations for establishing water quality-based effluent limitations in NPDES permits are specified in 40 CFR 122.44(d)(1)(i). These regulations clearly require EPA to establish permit limitations that will not cause, or contribute to violations of water quality standards. Discharges in compliance with the limitations EPA proposes for phosphorus and other nutrients will consume all of the loading capacity in Long Lake and thereby contribute to violation of state water quality standards.

> "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Furthermore, EPA was formed in part to act as an arbitrator between the states to help resolve interstate water quality issues. In the case of the Spokane River, EPA appears to have forgotten its mandate and attempted to circumvent the intention of the law by simply addressing pollution loading to an interstate river by only evaluating the discharges in Idaho and not the system as a whole.

A close examination of this permit shows the flawed design of the Idaho permits. The City of Coeur d'Alene's wastewater treatment plant outfall is located a mere 14 river miles from the Washington border. On page 10 of the fact sheet it states:

> "If the discharge has the reasonable potential to cause or contribute to non attainment of Washington's water quality standards, effluent limits must be derived from and comply with Washington's water quality standards, in addition to Idaho's water quality standards."

The fact sheet further notes on the same page that Washington's water quality criteria is more stringent in some cases than Idaho's.

On page 11 of the Fact sheet it states:

> "1. For dissolved oxygen, the Washington State Department of ecology (Ecology) has interpreted a "measurable decrease" from natural conditions to be a 0.2 mg/L decrease from natural conditions (Cusimano, 2004).
> 2. The Water Quality Standards for Surface Waters of the State of Washington (173-201A WAC) define "natural conditions" as the surface water quality that was present before any human-caused pollution."

Despite citing the need to create effluent limits that are compatible with Washington's water quality standard, EPA ignores the fact that Washington's newly adopted water quality standards for dissolved oxygen in freshwater authorizes a 0.2 mg/l increase from **cumulative** human sources.

PEER directs EPA to the appropriate water quality criteria to use for a permit that limit pollution that contributes to the degradation of dissolved oxygen. They are from Washington Administrative Code, WAC 173-201 A-200(1)(d)(i).

(i) When a water body's D.O. is lower than the criteria in Table 200 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered **cumulatively** may not cause the D.O. of that water body to decrease more than 0.2 mg/L.

(ii) For lakes, human actions considered **cumulatively** may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions.

Ecology evaluated water quality in the Spokane River and Lake Spokane (Cusiamno, 2004) and made it clear that current levels of point and nonpoint BOD and phosphorus loading violates the dissolved oxygen criteria in the lake and parts of the river. His modeling showed that dissolved oxygen depletion due to human causes would far exceed the allowable 0.2 mg/L for the current and permitted loads (page 95). Hence it is necessary for both states' discharges to cumulatively not decrease DO more than 0.2 mg/L.

Page C-4 of Appendix C discusses "Calculating Effluent Limits" and correctly points out that Ecology has determined from its TMDL analysis that the downstream end of Lake Spokane is the most critical location in the watershed with respect to dissolve oxygen impacts but then sets permit limitations in consideration of only the Idaho dischargers and provides the following statement to explain why it fails to acknowledge four other dischargers in Washington state.

> "This means that if discharges from the Idaho point sources are limited to the extent necessary to meet the DO standard in Lake Spokane, pH and DO conditions at the State border will meet the Washington standards. Therefore, the remainder of this discussion will focus on dissolved oxygen impacts in Lake Spokane rather than DO and pH effects at the State border."

This is compartmentalized logic that does not accurately analyze the impact of all pollution sources to Lake Spokane and it in fact essentially establishes a new elevated

pollutant load baseline for the state of Washington. The following statement from the same page of the fact sheet attempts to justify the non-protective permit limits.

> "The Washington TMDL for the Spokane River and Lake Spokane has not yet been finalized and approved, and therefore the final wasteload allocations are uncertain, as the final effluent limitations for point sources that will be based on those wasteload allocations. Point source dischargers in both States have raised questions as to the attainability of the DO standard in Lake Spokane. Once finalized and approved, the Lake Spokane/Spokane River DO TMDL will only assign load and wasteload allocations to sources discharging to the Spokane River in Washington State." …"For these reasons, the cumulative impact of all sources in both States on Lake Spokane dissolved oxygen concentrations cannot be determined at this time. Therefore, EPA believes it is appropriate at this time to analyze the effects of the Idaho discharges as distinct from Washington sources when deriving limits for the Idaho permits that are derived from and comply with Washington's water quality stands. Therefore, EPA proposes to limit the Idaho dischargers such that the cumulative loading from the three Idaho discharges will not cause a measurable decrease in dissolved oxygen concentration in the Lake Spokane relative to the natural condition of the watershed."

EPA modeling has been conducted in isolation from the input derived from Washington and will have the effect of violating Washington state's water quality standards by authorizing a decrease in DO by 0.2 mg/L by Idaho permittees and allowing an additional decrease of 0.2 mg/L from Washington dischargers. The simple arithmetic is that 0.2 mg/l plus 0.2 mg/l equals 0.4 mg/l, not 0.2 mg/l as EPA presumes in its permitting approach. It is also unlikely (no "reasonable assurance") that enough of the nonpoint source pollutant loading will be eliminated to create capacity for loading from any of the existing or proposed dischargers in Washington.

This is unacceptable math. If the state of Washington only allows a decrease of 0.2 mg/L of D.O. in impaired waters, EPA should not be responsible for coordinating and authorizing loading that will result in a greater decrease in DO in Lake Spokane. This myopic, single-state approach to an interstate water quality problem is inappropriate from a federal agency that is tasked with addressing and resolving interstate water quality issues. We are concerned with the precedent setting in nature of these permits and the lack of leadership from the agency in protecting the water quality.

We agree that EPA cannot deduce the final disposition of the Washington TMDL and permits but we strongly hold that EPA cannot disregard that process and ignore its impact. We also do not understand why EPA has taken this approach to permitting the Idaho dischargers after participating for many years in bi-state discussions about TMDL and permit development for the Spokane watershed. Given the apparent failure of a watershed-based approach to addressing pollutant loading, the only viable solution is for EPA to divide the allowable loading between the two states. One method for such a division is to establish permit limitations such that the Idaho dischargers would only be authorized to contribute the total pollutant loading that would cause no more than a 0.1

mg/L decreased in DO in Lake Spokane. The remaining 0.1 mg/L decrease would be allocated to sources of pollutant loading in Washington State via the TMDL under development. Although other approaches to divide the allowable loading are feasible, simply dividing it between the states may be the most easily defended way for EPA to fulfill its responsibilities in this situation.

Attached is an e-mail message from Mark Hicks, Senior Analyst, Surface Water Quality Standards at the Department of Ecology, which was obtained through a Public Disclosure Act request. The document is dated September 01, 2005 and was sent to senior Ecology Water Quality staff and copied to EPA staff. The senior water quality analyst states he is "bewildered about how EPA is dealing with dissolved oxygen issues". He then succinctly describes the issues PEER has outlined above by pointing out:

> "EPA appears poised to grant a 0.2 mg/l depression from naturally low dissolved oxygen levels to the point source dischargers in Idaho, and then grant another 0.2 mg/l depression for the Washington dischargers. However, our standards only allow a cumulative 0.2 mg/l depression below naturally low oxygen levels for all human sources combined (point and nonpoint), not 0.4 mg/l."

Hicks also states:

> "EPA has told us that the existing oxygen criteria are probably not protective enough to pass ESA, yet they appear ok with allowing a 0.4 further depression from natural levels that are below those questionable criteria. How can they be knowingly allowing an even greater depression from levels below what they question as protective?"

Hicks concludes with:

> "The current EPA dialogue on dissolved oxygen does not appear either defensible or logical. The current approach of treating each issue (CWA review, ESA review, NPDES permitting, TMDL) independently and inconsistently is almost certainly going to lead to greater problems for the state in the long run."

PEER strongly recommends that EPA revise the permit limitations for P, CBOD and NH3-N so that they will not cause, or contribute to a decrease of DO of greater 0.1 mg/L at the state border.

Problem with the Proposed Schedule to Achieve Compliance with Water Quality-Based Effluent Limitations: The proposed nine-year timeframe for these dischargers to install treatment and meet water quality-based effluent limitations are unreasonably long. Idaho appears to have no guidelines in the state's water quality standard for meeting water quality-based effluent limitations, as exist in Washington. Testing, construction and operation of advance treatment to achieve the permit limitations can reasonably and easily be accomplished within the five-year term of this permit. We do not understand why such a long timeframe is being allowed to address the long-standing water quality

problems in Long Lake. The long schedule is particularly puzzling when a locally developed advanced treatment system estimates it would take only three years to install their system. It is reasonable to assume that almost any of the viable technologies identified in EPA's recent report (Advanced Treatment to Achieve Low Concentrations of Phosphorus, April, 2007) could also be installed and fully operational within five years. Also the Clean Water Act specifies the term of an NPDES permit to be no longer than five years from the date of issuance. Including a schedule in the permit that is longer than this statutory timeframe is in consistent with the Clean Water Act.

Problems with Hardness Calculations: Hardness calculations for the effluent were made to determine the reasonable potential for metals to exceed the acute and chronic criteria established for lead, copper and zinc. Page 12 of the fact sheet states:

> "In the absence of an approved TMDL for the Idaho reach of the Spokane River for metals, EPA established "criteria end-of-pipe" water quality-based effluent limits for zinc in the 1999 permit, as modified effective May 13, 2004. This means that no mixing zone was allowed for zinc and the discharge was required to meet water quality criteria for zinc before the effluent was discharged to the receiving water. Criteria end-of-pipe effluent limits are retained in the current draft of the permit."

Despite the above statement, it is apparent that a dilution factor for acute and chronic criteria was utilized in EPA's calculation as Table E-1of Appendix E is entitled "Dilution Factors". Hardness-dependent criteria should be applied using the hardness of the receiving waters that the edge of the respective effluent mixing zone. Ecology has guidance in their permit writer's manual specifying that permit limitations for these criteria are to be developed using ambient criteria. EPA's toxicity support document also guides permit writers to use the hardness of the receiving waters found at the edge of the acute and chronic mixing zones.

PEER recommends that these values be recalculated without using dilution factors and appropriate metal limits set from that calculation.

Conclusion: The framework that has been used to determine the permit limits for phosphorous for the Idaho dischargers is flawed because it does not address the full gamut of pollution discharged into the Spokane River and Spokane Lake. Limits on pollutants from the Idaho dischargers must be calculated to equitably account for the pollutant loading into the river system from the Washington sources such that they do not cumulatively cause a violation of Washington State's water quality standards. Similarly, calculations for hardness must be made with no dilution factors so that the appropriate criteria are established for lead, copper and zinc.

Thank you for the opportunity to comment on the NPDES permits for the City of Coeur d'Alene.

Sincerely,

Sue Gunn

Sue Gunn, Ph.D.
Washington State Director

Attached: 9/1/05 Hicks email