

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF: )  
)  
PROPOSED AMENDMENTS TO: ) R07-009  
35 Ill. Adm. Code 302.102(b)(6), 302.102(b)(8) ) Rulemaking – Water  
302.102(b)(10), 302.208(g), 309.103(c)(3), )  
405.109(b)(2)(A), 405.109(b)(2)(B), 406.100((d) )  
REPEALED 35 Ill. Adm. Code 406.203 Part 407, and )  
PROPOSED NEW 35 Ill. Adm. Code 302.208(h) )

**NOTICE OF FILING**

TO: See Attached Service List

PLEASE TAKE NOTICE that the Environmental Law and Policy Center of the Midwest (“ELPC”), Prairie Rivers Network and the Sierra Club today have electronically filed PRE-FILED TESTIMONY OF GLYNNIS COLLINS ON BEHALF OF PRAIRIE RIVERS NETWORK, SIERRA CLUB AND THE ENVIRONMENTAL LAW AND POLICY CENTER and FURTHER PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK AND SIERRA CLUB TO IEPA

Respectfully submitted,



Albert F. Ettinger (Reg. No.  
3125045)  
Counsel for Environmental Law &  
Policy Center, Prairie Rivers  
Network and Sierra Club

DATED: April 9, 2007

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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**PRE-FILED TESTIMONY OF GLYNNIS COLLINS ON BEHALF OF PRAIRIE RIVERS NETWORK, SIERRA CLUB AND THE ENVIRONMENTAL LAW AND POLICY CENTER**

I am Glynnis Collins, Watershed Scientist for Prairie Rivers Network. Today I am presenting testimony and a proposed modification to the Illinois Environmental Protection Agency’s proposed water quality standard. This testimony and proposal is being made on behalf of Prairie Rivers Network, the Illinois Chapter of the Sierra Club and the Environmental Law and Policy Center of the Midwest (“ELPC”). Prairie Rivers Network, the Sierra Club and ELPC have numerous members in Illinois who are concerned about water quality and protecting aquatic life in Illinois’ rivers, lakes and streams.

I have a Masters Degree in Biological Sciences from the University of Southern California in Los Angeles. I worked as an Environmental Scientist for the San Francisco Bay Regional Water Quality Control Board in Oakland, California from 1998 to 2003, and as a Visiting Senior Research Specialist in Agriculture at the Department of Natural Resources and Environmental Sciences, University of Illinois, in Urbana from 2003 to 2004. I have been Watershed Scientist at Prairie Rivers Network since 2005.

Prairie Rivers Network, Sierra Club and ELPC are generally supportive of the IEPA proposals regarding sulfate, total dissolved solids, and mixing zones. Of course we strongly approve of the proposal to delete the provisions of Subtitle D which were construed to allow mining operations to discharge dissolved solids in concentrations that could cause violation of water quality standards.

*Interactions between sulfate toxicity and other dissolved solids*

We believe that scientific work regarding the effects of dissolved solids on aquatic life should continue even after adoption of standards changes. We are not convinced that Illinois standards are fully protective of aquatic life as there are some potentially toxic dissolved solids which for which numeric water quality criteria do not exist in the Illinois standards. We are concerned about waters with high calcium levels and we are concerned regarding waters that have chloride levels higher than 500 mg/L.

Regarding calcium, some data suggests that when calcium is the primary cation in a solution, it may serve to increase the toxicity of sulfate. We understand that in some cases, mining operations use calcium hydroxide in their processing, which could result in the presence of large amounts of calcium in effluent. We recommend that the Agency investigate the potential for calcium hydroxide use to influence sulfate toxicity, and if necessary, restrict or regulate its use in individual permits.

Turning to chloride, the data we have reviewed show that with chloride concentrations higher than 25 mg/L, the toxicity of sulfate increases as chloride levels increase. This relationship holds true for chloride concentrations up to 500 mg/L, the upper limit of chloride concentrations in the available experimental data. While it is true that Illinois waters should not have chloride levels in excess of the water quality standard of 500 mg/L, it is a regrettable fact that many Illinois waters do not meet standards. The proposed rule does not define a sulfate standard for these waters, unless hardness is greater than 500 mg/L, in which case, under 302.208(h)(3)(B), the sulfate standard would be 2,000 mg/L. The proposed rule must provide an equation, numeric standard, or procedures for site-specific standards development covering the entire range of possible chloride and hardness levels in Illinois waters. The proposal, as written, lacks this information for waters with chloride concentrations of over 500 mg/L when hardness is less than or equal to 500 mg/L.

### *Mixing Zones*

More critically, we believe that the proposed changes to the mixing zone standards in Section 302.102 must be clarified by the Board and that current Agency practice regarding the area and volume in which mixing occurs must be codified by the Board so as to make the current Agency practice fully known to the public and fully enforceable. In particular, we propose that the language of Section 302.102(8) be changed to state:

(8) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing must not contain more than 25% of the cross-sectional area or volume of flow of a stream except for those streams where the dilution ratio is less than 3:1. In streams where the dilution ratio is less than 3:1, other than streams that have a zero flow for at least seven consecutive days recurring on average in nine years out of ten, the volume in which mixing occurs, alone or in combination with other volumes of mixing must not contain more than 50% of the volume of flow.

This proposal does not change the first sentence of the current rule and accepts the change proposed by IEPA to delete the second sentence of the current rule. Our proposed second sentence clarifies and specifies what dilution ratio is required when the dilution ratio is less than 3:1 and the stream is not among those streams that the proposal would regulate under 302.102(b)(6). We believe this is critical.

Currently, the standard simply does not say what is to happen when there is less than 3:1 dilution available but does provide that the discharge must meet the water quality standard at the end of the pipe if the discharge is made to zero flow streams. As stated by the

Agency in the hearing held March 7, the Agency has generally adopted a practice of requiring that mixing occur in no more than 50% of the flow in such cases. Although we have misgivings about this practice, we are willing to accept its continuation. This practice must, though, be spelled out in the standard, particularly as the proposed deletion of the current second sentence of 302.102(8) will allow mixing in waters providing less than 3:1 dilution to occur more frequently.

Our proposal deliberately allows an exception for the streams that frequently have zero flow that are covered by the Agency's proposed changes to Section 302.102(6) and, thus, should allow the mine discharges to very low flow streams that are contemplated by the Agency proposal.

Our proposal closes a lacuna in the current standard that is already unfortunate and that would be magnified in importance by the Agency proposal if it is adopted without our proposed language.

I want to stress that there is a great difference between most zero flow streams that have no flow for a seven day period *once* in ten years and the small subset of those streams that have zero flow for seven consecutive days *in nine years out of ten*. Many of the former waters have flow almost all of the time. These smaller but significant streams play a critical role in determining water quality, flow characteristics, and the health of aquatic life both locally and downstream. Protection of the ecological functions and water quality and flood mitigation services they provide is essential to overall protection of waters of the state.

Thank you for your consideration of these comments.

DATED: April 9, 2007

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**FURTHER PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK AND SIERRA CLUB TO IEPA**

The Environmental Law and Policy Center of the Midwest, Prairie Rivers Network and the Illinois Chapter of the Sierra Club hereby file the following questions to the Illinois Environmental Protection Agency regarding its proposal to change certain water quality standards in the above-captioned proceeding.

1. Agency staff have referred to the concept of "effluent treatment ditches" with regard to discharges from mining areas. Are these considered treatment works under 35 IAC 301.415?
2. Please describe the criteria used to determine whether a channel receiving discharge from a mining area is considered an "effluent treatment ditch" rather than a receiving water for the purposes of NPDES permitting.
3. Do these criteria for waterways receiving a discharge from a mining area differ from those used in permitting other types of facilities?
4. Are these criteria for waterways receiving a discharge from a mining area expected to change at all as a result of this rulemaking?

Respectfully submitted,



Albert F. Ettinger (Reg. No. 3125045)  
Counsel for Environmental Law &  
Policy Center, Prairie Rivers Network  
and Sierra Club

DATED: April 9, 2007

**CERTIFICATE OF SERVICE**

I, the undersigned, on oath state that I have served the attached PRE-FILED TESTIMONY OF GLYNNIS COLLINS ON BEHALF OF PRAIRIE RIVERS NETWORK, SIERRA CLUB AND THE ENVIRONMENTAL LAW AND POLICY CENTER and FURTHER PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK AND SIERRA CLUB TO IEPA upon the persons listed in the attached service list via U.S. Mail.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Albert Ettinger", with a long horizontal flourish extending to the right.

Albert F. Ettinger (Reg. No.  
3125045)  
Counsel for Environmental Law &  
Policy Center, Prairie Rivers  
Network and Sierra Club

DATED: April 9, 2007

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