

**HEARING EXHIBIT**

IN THE MATTER OF )  
 )  
AMENDMENTS TO GENERAL USE ) R18-32  
WATER QUALITY STANDARDS ) (Rulemaking – Water)  
FOR CHLORIDE )

1. Amended Testimony of Cynthia Skrukrud, PhD, Sierra Club, Illinois Chapter (filed January 23, 2019)

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF: )  
 )  
AMENDMENTS TO THE GENERAL USE ) R18-32  
WATER QUALITY STANDARDS ) (Rulemaking – Water)  
FOR CHLORIDE )

**Testimony of Cynthia Skrukrud, PhD, Sierra Club, Illinois Chapter**

The testimony is offered on behalf of the Illinois Chapter of the Sierra Club. The Sierra Club seeks to protect and restore rivers, lakes, streams and wetlands throughout the state and improve water quality. Sierra Club represents over 30,000 members in Illinois.

Sierra Club members are affected by chloride pollution from highway deicing activities in the Northeast Illinois which is the focus of the discussion in this Petition to change Illinois chloride water standards statewide. Sierra Club members are also affected statewide by chloride and other pollution in the form of dissolved solids that is caused by coal mining and certain other industrial processes in regions throughout the state. The Club is very concerned with the rising levels of chloride in Illinois surface and ground waters and within waters in the Midwest region as a whole.

I am the Clean Water Program Director of the Illinois Chapter of the Sierra Club. A copy of my CV is attached as Exhibit A.

I look forward to reading answers to pre-filed questions and learning more about the proposal in the hearings that have been scheduled. The Sierra Club agrees that the current Illinois 500 mg/L chloride standard needs to be reconsidered. However, on the basis of the information now available, it is apparent that the Petition raises a number of serious concerns that must be addressed.

1. The Petition proposes to change the chloride standard statewide from all chloride sources but it considers only the effects of highway deicing activities in NE Illinois. In fact, there are sources of chloride pollution in addition to highway deicing activities and the logic of the Petition make little sense as applied, for example, to a coal mining operation in Southern Illinois.

2. The Petition applies the more lenient standard it finds suitable for the entire period of December 1 through April 30 for the entire state. However, in other cases (DO and ammonia) where the Board has adopted standards that apply to winter months, "winter" has not included the months of March and April. Moreover, temperatures in Southern Illinois are certainly warmer in February through April than they are in the portion of the state that was the focus of the authors of the Petition.

3. It is frequently claimed in the Petition and supporting testimony that there should be little concern for 30-day chronic effects because high levels of chloride following

highway deicing are unlikely to ever last that long. It is not considered what 30-day and longer levels of chloride might result from mining operations or other polluting activities.

4. The number of species tested at 10 °C is low. Of those species the LC50 acute toxic values at 10 °C for mayflies, Hyalella and C. dubia are respectively 1960, 2185 and 2197 mg/L. The proposed winter criterion of 1,010 mg/L is above the value that would be used if setting criterion for mayflies alone and is just barely below what would be proposed to protect Hyalella and C. Dubia using IEPA methods for an important species at 35 Ill. Adm. Code 302.615(h): acute criteria = LC 50 /2

5. Using the same comparison to 35 Ill. Adm. Code 302.615(h) the criterion proposed in the Petition for May through November, while following the most recent EPA published acute criteria (860 mg/L), do not appear to be protective using the LC50 values found for 25/23 °C by Dr. Soucek for mayflies, H. Azteca and fingernail clams of ~~326~~ 1359 mg/L, 1733 ~~226~~ mg/L and ~~1672~~ 1673 mg/L and by New England Bioassay for C. dubia of 1165 mg/L.

6. The Petition does not consider any possible effects of chloride adding to high total TDS/conductivity although U.S. EPA has found an important effect of high total conductivity on aquatic life. See *Draft Field-Based Methods for Developing Aquatic Life Criteria for Specific Conductivity* at <https://www.epa.gov/wqc/draft-field-based-methods-developing-aquatic-life-criteria-specific-conductivity>.

7. The criteria proposed by the petition do not appear to be protective of mussels, including the federally and state endangered species— the Northern riffleshell, as is discussed in the testimony provided by Laura Barghusen.



Cynthia L. Skrukruud, PhD  
Clean Water Program Director  
Sierra Club, Illinois Chapter