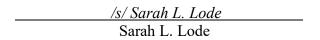
#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	) )
PROPOSED AMENDMENTS TO GROUNDWATER QUALITY	) R2022-018 ) (Rulemaking - Public Water Supply)
(35 ILL. ADM. CODE 620)	)

#### **NOTICE OF FILING**

To: ALL PARTIES ON THE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board the attached **Dynegy's Corrected Exhibit B to its Third Hearing Exhibits**, and a **Certificate of Service**, copies of which are hereby served upon you.



Dated: December 8, 2022

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# TESTIMONY OF LISA YOST

Regarding Proposed Amendments to Groundwater Quality Criteria (35 Ill. Adm. Code 620)

## Before Illinois Pollution Control Board

December 7, 2022 Chicago, Illinois



#### Credentials Ms. Yost, MPH, DABT

- Ms. Lisa Yost is a board-certified toxicologist with more than 30 years of experience assisting clients assessing human health risks related to exposure to a variety of chemical substances in environmental media
- She has conducted or supervised risk assessments under CERCLA, RCRA or state-led regulatory contexts
- Served on Technical Advisory Group providing input on selection of toxicity values as part of the Michigan: Part 201: Stakeholder Recommendations in Updating Michigan's Generic Cleanup Criteria for Michigan Department of Environment, Great Lakes, and Energy (EGLE)

- Diplomate, American Board of Toxicology (DABT) (certified in 1990; recertified in 1995, 2000, 2005, 2010, and 2015)
- 1980 Master of Public Health, Environmental and Industrial Health University of Michigan, Ann Arbor, MI, United States
- Professional Affiliations:
  - Society of Toxicology
  - Northland Society of Toxicology
  - Invited Member and Chair, Advisory Counsel to the Minnesota Department of Health Environmental Tracking and Biomonitoring

Ramboll

## Selenium

- Proposed Class I and Class II of 0.02 mg/L for protection of forage crops irrigated with groundwater based on USEPA (1972) reference is not representative of Illinois:
  - Intended for continuous irrigation, or fine grained alkaline soils
  - The 0.02 mg/L value was recommended for fine grained alkaline soils "until greater information is obtained" reflecting uncertainty in this value
  - Locations where issues were identified are unlike Illinois agriculture: Oregon,
     Wyoming, New Zealand, and Denmark with a focus on "range plants"
  - Illinois agricultural resources identify a need for supplementation with selenium and do not identify issues with selenium in forage

Recommend maintaining current Class I and Class II standard of 0.05 mg/L for selenium, consistent with the MCL and livestock watering recommendation in USEPA (1972)

#### Fluoride

 Proposed Class I and Class II values of 2 mg/l for fluoride based on tooth mottling in livestock through drinking groundwater, a cosmetic dental effect:

"It appears, however, that as little as 2 mg/L may cause tooth mottling under some circumstances. At least a several-fold increase in its concentration seems, however, required to produce other injurious effect." [USEPA 1972 emphasis added].

 Modification to address a cosmetic endpoint in livestock provides little benefit.

The current 4 mg/L Class I and Class II values are protective and are consistent with the enforceable MCL standard and is protective of livestock health

Ramboll

## Molybdenum Class I

- The proposed Class I standard of 0.019 mg/L is based on USEPA Integrated Risk Information System (IRIS) 1992 toxicity value derived from a flawed study in people (Koval'skiy et al. 1961) (e.g., issues with controls and measurement)
- More current analyses by ATSDR (2020) and European Chemical Agency (ECHA) rejected Koval'skiy et al. (1961) and relied on a study in rats (Murray et al. 2014)
  - ECHA determined no adjustment was needed to use a subchronic study to evaluate chronic effects because there were no further effects with chronic exposure in NTP (1997)

RfD (mg/kg-day)	Study Basis	Resulting health- based value
0.005 (chronic)	Koval'skiy et al. (1961)	0.019 mg/L
0.06 (intermediate)	Murray et al. (2014)	0.2 mg/L

- Class I standard of 0.2 mg/L is health protective.
- A groundwater molybdenum standard of 0.1 mg/L exists in Illinois in other regulatory contexts and the Board may wish to set a similar Class I standard for molybdenum.

Rambol

### Molybdenum Class II

- •The proposed Class II standard of 0.050 mg/L is based on protection of animals foraging on crops irrigated with groundwater.
- •Studies used as a basis for the proposed Class II molybdenum standard are not representative of Illinois agriculture
  - Molybdenum toxicity occurs primarily in the Western US, due to naturally occurring levels in soil and soil characteristics. Molybdenum is more readily absorbed in alkaline soils (Kaiser et al. (2005))
  - Illinois soils tend to be mildly acidic or neutral, while high salinity soils, mineralized soils and soils with a higher pH are more common in the Western US.
    - Available evidence does not suggest the need for a standard to protect against this endpoint in Illinois.
    - If a Class II standard for molybdenum is viewed as essential, it should be set no lower than 0.1 mg/L, consistent with other groundwater regulatory contexts in Illinois (see 35 Ill. Adm. Code § 845.600).

#### **CERTIFICATE OF SERVICE**

I, the undersigned, certify that on this 8th day of December, 2022, I have electronically served the attached **Dynegy's Corrected Exhibit B to its Third Hearing Exhibits** upon the individuals on the attached service list. I further certify that my email address is <a href="Sarah.Lode@afslaw.com">Sarah.Lode@afslaw.com</a>; the number of pages in the email transmission is 10; and the email transmission took place before 5:00 p.m.

/s/ Sarah L. Lode Sarah L. Lode

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