

WATER QUALITY STANDARDS VARIANCES: NOT JUST FOR MERCURY



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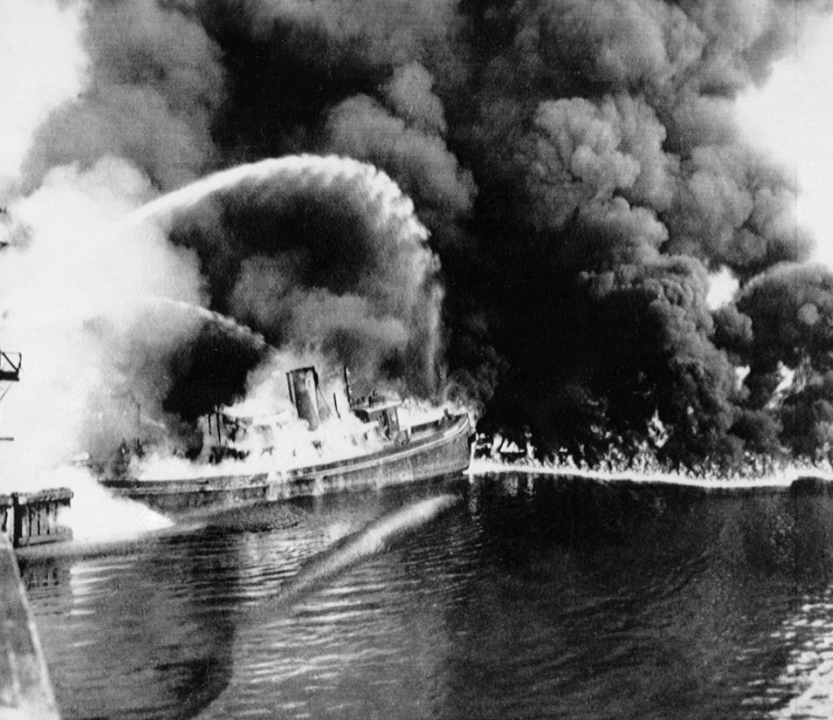
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OWEA 2019 Technical Conference & Expo | Huron, Ohio June 27, 2019

OVERVIEW

- Background
- Why pay attention
- Variance basics
- Call for action



BACKGROUND

“restore and maintain
the chemical, physical,
and biological integrity
of the Nation’s waters”

Clean Water Act

Section 101(a)



NATIONAL GOAL

- “wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water”
- Section 101(a)(2)
- “to be achieved by July 1, 1983”

A blue-toned map of the Great Lakes basin in North America, showing the outlines of the five Great Lakes (Superior, Michigan, Huron, Erie, and Ontario) and the surrounding states and provinces. The map is semi-transparent, allowing the text to be overlaid clearly.

GREAT LAKES INITIATIVE (GLI) 1995

- **Water quality criteria for 29 pollutants**
Aquatic life, wildlife, and human health
- **Detailed methods for additional criteria**
- **Implementation procedures**
 - **Water quality-based effluent limits (WQBELs)**
 - **Total maximum daily loads (TMDLs)**
- **Antidegradation policies and procedures**



MERCURY (TOTAL RECOVERABLE)

- Existing: 12 ng/L (ppt) [human health]
- GLI (1997) < 1.3 ng/L [wildlife]

MERCURY VARIANCE GUIDANCE OHIO EPA (2000)

- New analytical method is 200x more sensitive

Method Detection Level = 0.2 ng/L

- Need to prevent “substantial and widespread social and economic impacts”

\$10 million for 1 pound removed

- General variance avoids individual social and economic impact studies

APPLICATION PROCEDURE

- 30-day average WQBEL & will meet 12 ng/L
- Certification statement
- Description of mercury reduction/elimination measures undertaken
- Plan of Study (POS)
 - Complete plan for Hg source identification & evaluation
 - Implementation schedule
- Explanation why can't comply with WQBEL without end-of-pipe controls (intake water and raw materials)

PERMIT CONDITIONS

- Initial limit
- Pollution Minimization Program (PMP)
 - Control strategy to locate, identify & reduce sources
 - Monitoring progress
 - Annual report
- Re-opener provision
- Monitoring requirements...



WHY PAY ATTENTION?

Human health protection -
0.3 mg/kg methylmercury

Fish Consumption Advisories

Mink 0.15 mg/kg

Belted kingfisher 0.13 mg/kg

(Recent US EPA letter)



MONTANA STATEWIDE NUTRIENT VARIANCE

#1

- Nitrogen & phosphorus criteria with achievable implementation strategy [EPA-approved!]
 - Statewide
 - 17-year schedule
- Litigation over APA [Upper Missouri Waterkeeper]
- Variable ruling by judge
 - Granted summary judgment
 - OK to consider economic impacts
 - Confused about “highest attainable condition”

ILLINOIS TIME-LIMITED WATER QUALITY STANDARD (VARIANCE) FOR CHLORIDE

- **New standard (500 mg/L) for Chicago Area Waterway System (CAWS) and Lower Des Plaines River**
- **CAWS Chloride Initiative Work Group (led by MWRD)**
- **15 years to implement best management practices (BMPs) to meet standard**

Note: US EPA to release new national recommendations for chloride (and sulfate) criteria

FEDERAL AMMONIA CRITERIA



https://www.youtube.com/watch?v=31qBrRawDK8&feature=player_detailpage#t=82

PFAS/PFOA



VARIANCE BASICS

- Temporary modification of the water quality standard for discharger(s)
- Same test as for a Use Attainability Analysis (UAA) which is referred to as a “permanent” change

FEASIBILITY FACTORS TEST

- 1) Naturally occurring
- 2) Natural, ephemeral intermittent or low flow conditions or water levels
- 3) Human caused conditions or sources that cannot be remedied or would cause more damage to correct
- 4) Dams, diversions or other hydrologic modifications
- 5) Physical conditions (aquatic life)
- 6) Substantial and widespread economic and social impact*

* Most commonly used variance factor

WATER QUALITY STANDARDS REGULATORY REVISIONS (2015)*

- A. Determination that new or revised WQS are necessary
- B. Designated uses
- C. Triennial reviews
- D. Antidegradation
- E. **WQS variances**
- F. Compliance schedules in permits
- G. Other changes

*WQS regulation drives many programs – established in 1983 and not revised till 2015.

RULEMAKING: WQS VARIANCE

- Provides explicit regulatory framework for adoption
- Clarifies that variances are legal
 - 75% from GLI!
- Requires adoption of the “highest attainable condition”
- Can be longer than 5 years
- Can be discharger-specific or pollutant-specific

GO
FORTH!





Daylighted stream

**“TO BE ACHIEVED BY
JULY 1, 1983”**

NON-COMPLIANCE