
GREELEY PERMIT ISSUES

AMMONIA AND WET

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City of Greeley



Personal Background at Greeley WPCF

- 1982-1985 Plant Operator
 - 1985-1995 Industrial Pretreatment
Coordinator/Lab Technician/
Lab Supervisor
 - 1995-2006 Industrial Pretreatment
Supervisor/Water Quality/
Assistant Manager....
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Overview

- Brief history of draft permit process
 - Discuss outcome of Greeley's Permit
 - Ammonia
 - CAM - AMMTOX Modeling
 - Daily Maximum Limits versus Average Weekly Limits
 - WET
 - NOEC and IC 25
 - Opportunity for Regulatory Revision via Stakeholders Workgroup
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Draft Permit History

(prior to public notice)

- City allowed to comment on three drafts prior to public notice. Evolving document.
 - Typographical corrections
 - Metals RP and data inconsistencies
 - Ammonia and WET
 - Ammonia monthly average and maximum daily
 - Change from NOEC and $IC_{25} \leq IWC$ **to**
NOEC \leq IWC
 - Turn around from Division was quick (3 in less than a month)
 - Permit changed significantly immediately prior to public notice
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Draft Permit History

(30 day public notice)

- City commented on 30 items
 - Metals (offered to vet and validate data and re-submit)
 - Ammonia daily maximum limit versus weekly average (operating a POTW is like steering a ship not a sports car)
 - NOEC and $IC_{25} \leq IWC$ **to** $NOEC \leq IWC$ (no basis for change)
 - WET single species (Allowed in guidance also tried on last renewal)
 - WET sub-lethal toxicity “failures” 2 in past permit cycle.
 - WET one lethality failure in past permit cycle
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Final Permit

- Issued four working days later
 - Ammonia monthly average and daily maximum limits
 - WET NOEC \leq IWC
 - Lethality or Toxicity (sub-lethal effects)
 - 2 species
 - Division Cited Water Quality Regulations
 - Definition of Acute
 - WET Guidance
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Division/Greeley Meeting (First)

- Contacted Division and requested a meeting
 - RMI brought on board
 - Max Grimes and Jim Egan
 - Davis Graham and Stubbs law firm retained to assist in Appeal process if needed
 - Soft negotiating position
 - Division stood firm, but was open to further discussion
 - CAM Model inconsistencies monthly variations
 - NOEC and IC25 position paper
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Petition for Adjudicatory Hearing and Request for Stay

- Filed prior to 30 days after permit issued
 - Requested Hearing and Stay for :
 - Daily Maximum Ammonia
 - Concern of meeting daily limit
 - State Regulation conflicts with Federal law 40 CFR 122.45 (d)(2) that POTW's shall have average weekly and average monthly limits unless impracticable
 - Sub-lethal limit
 - Not allowed to comment
 - Change in WET lethality limit from NOEC and $IC_{25} \leq IWC$ **to** $NOEC \leq IWC$
 - Not justified in rationale
 - Division granted
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Research and Position Papers

- RMI
 - Max Grimes and Jim Egan
 - Risk Sciences
 - Tim Moore
 - Greeley W & S Environmental and Water Resources Council
 - John Kolanz
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Research and Position Papers

■ CAM Model

- ❑ December & January limit inconsistencies
 - ❑ Recur module – Stream pH and temp outliers “set point” issue
 - ❑ Apply AMMTOX Recur Module to automatically remove pH and temp outliers
 - ❑ Input new set points into CAM Reach Mod module
 - ❑ Resulted in higher daily maximum and monthly average limits
 - ❑ Division was highly cooperative
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Research and Position Papers

- WET
 - NOEC and IC25
 - EPA endorses concept in other Regions because it minimizes the uncertainty caused by analytical variability when interpreting data
 - Lack of agreement between two does not invalidate test, but it triggers more intensive QA/QC review to identify statistical anomalies.
 - When statistical and biological effects are in agreement then confidence in toxicity or non-toxicity result are clearly established.
 - Comprehensive data validation review of one of Greeley's sub-lethal toxicity "failures"
 - $\text{NOEC} \leq \text{IWC}$ but IC25 100%
 - Super performing controls resulting in excessive test sensitivity
 - Lack of stable dose response
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Research and Position Papers

■ Daily Maximum Ammonia Limits

- State Regulation requiring daily maximum limits violate 5CCR 1002-61.8(2)(g)(ii) which is substantively the same as Federal Regulation 40 CFR 122.45(d)(2)
 - “All permit limitations, shall unless impracticable be stated as: Average weekly and average monthly limitations for POTW’s”
 - Before imposing a daily maximum limitation on a POTW, the permitting authority must first determine that expressing the limitation as a weekly average is impracticable. The Division relied on “acute standard” definition and made no such determination concerning the Greeley Permit
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Daily Maximum Ammonia Limits

- The position paper cites several administrative law cases and regulatory documents
 - Great Lakes Guidance
 - EPA document determined that Acute WQBEL's could not be expressed as daily limits unless weekly limit was impracticable
 - City of Ames, Iowa
 - Permit Appeal of CBOD and Ammonia limits. EPA wrote permit but did not prove weekly average limit was impracticable
 - Borough of Naugatuck
 - TRC
 - Failed to comment in permit so could not challenge
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Division/Greeley Meeting (Second)

- Division agreed with CAM - AMMTOX modeling to remove outliers in Recur Module

 - Division agreed to NOEC and IC25 language
 - Interim Modification to WET guidance
 - Proposed a workgroup to revise WET guidance document accordingly

 - Division admitted regulatory conflict regarding Daily maximum limits versus weekly average limits
 - Greeley decided not to pursue because new daily Ammonia limits generated by CAM - AMMTOX re-model are easily met
 - Division proposed a workgroup to revise Regulation 61 document accordingly
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Stipulated Settlement and Dismissal of Appeal

- City is preparing to file after draft permit reviewed and commented. May 15, 2006
 - 30 day Public Notice starting May 26, 2006
 - Permit should be final in July 2006
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