

Partners in Protecting Public Health

USEPA National Drinking Water Program Update for the NARUC
Water Committee



Presented at:
NARUC Winter Meeting
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Washington, DC

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Discussion Points

- Regulatory Update
- Key Surveys
- Full Cost Pricing & Infrastructure Sustainability
- Proposed Resolution Promoting National Dialogue on Role of Economic Regulation in Water

USEPA Regulatory Update

- **LT2/Stage 2 (Microbial & Disinfection Byproducts)**
- **Ground Water Rule**
- **Arsenic**

Long Term 2 Enhanced Surface Water Treatment Rule (LT2)

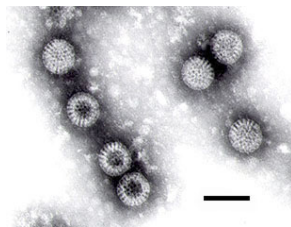
- **Objective:**
 - Reduce disease incidence
 - Cryptosporidium
 - Other pathogens
- **Applies to:**
 - 14,000 systems (Surface water & GWUDI)
 - 180 million people
- **Requirements:**
 - Initial Cryptosporidium Monitoring
 - Additional treatment in high risk systems
 - Cover or Treat open finished water storage reservoirs
 - Disinfection Benchmarking
- **Cost:**
 - Total average annual cost \$92-\$133 million
 - Average annual household cost \$1.67-\$2.59
 - 98% of Households will pay < \$12 per year for compliance
- **Schedule:**
 - Monitoring starts October, 2006 – October, 2008
 - Treatment installed by (approximately) 2011-2013

Surface Water Treatment

(Conventional and Direct Filtration)

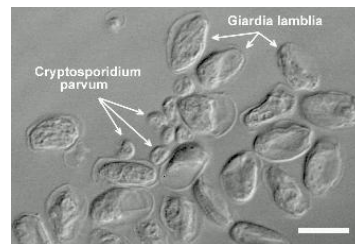
SWTR

- Giardia
 - 3 log removal & inactivation
- Viruses
 - 4 log removal & inactivation
- Turbidity limit
 - 95% of Readings < 0.5
 - Instantaneous maximum 5.0



IESWTR & LT1

- Cryptosporidium
 - 2 log removal
- Individual Filter Effluent
 - Continuous Monitoring
 - 95% of Readings < 0.3
 - Instantaneous maximum 1.0
- Prohibition on new uncovered finished water storage reservoirs.



LT2

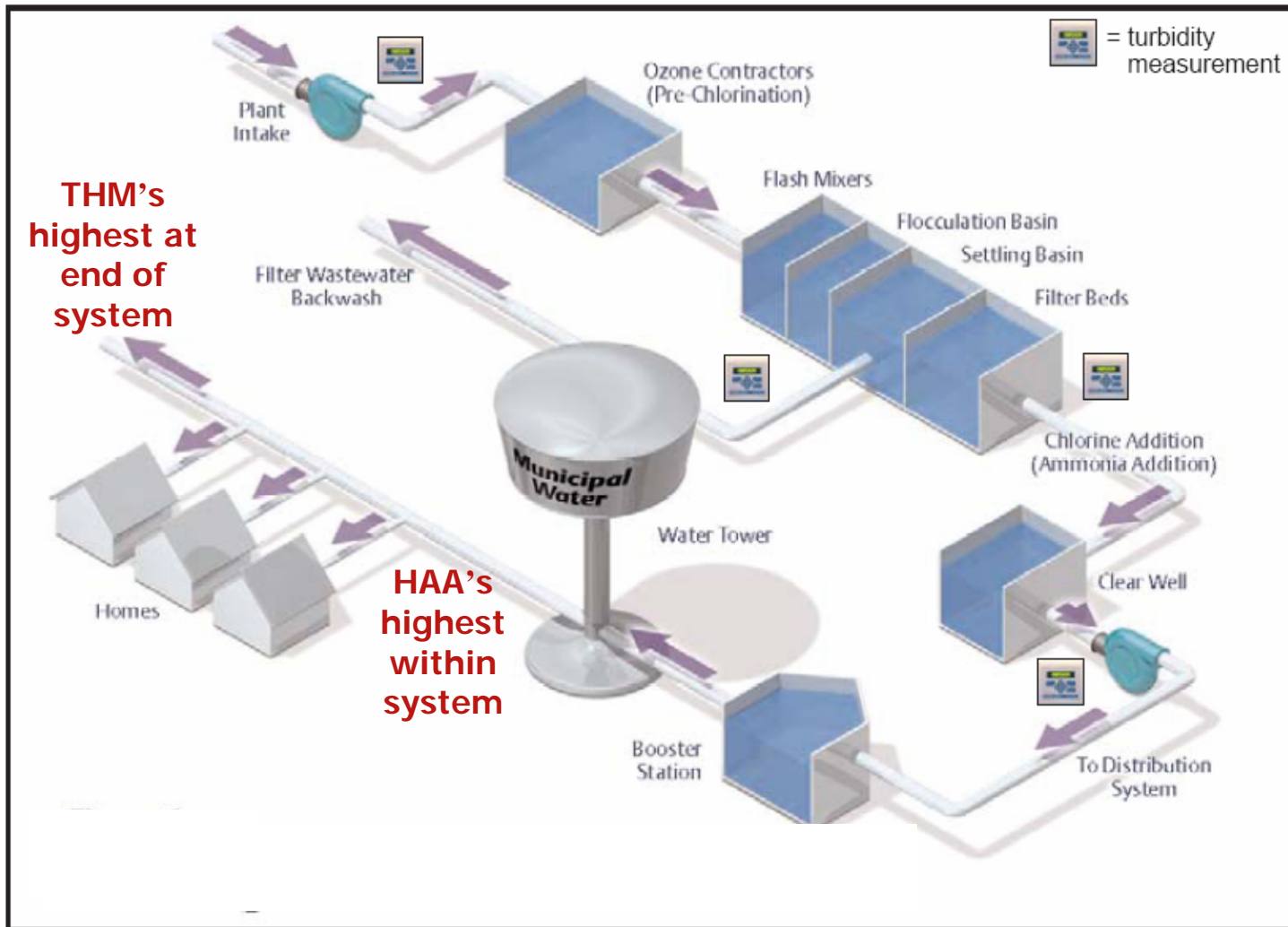
- Source Monitoring
 - Systems > 10,000 monitor source water for cryptosporidium
 - Systems < 10,000 monitor for E. Coli; those detecting problem go to crypto monitoring
- Additional Treatment Requirements Depend on Monitoring Results:
 - No additional Treatment
 - 1 additional log of reduction
 - 2 additional logs of reduction
 - 2.5 additional logs of reduction
- Requires existing uncovered finished water storage reservoirs to be covered or treated.

Stage 2 Disinfectants and Disinfection Byproducts Rule **(Stage 2 DBP Rule)**

- **Objective:**
 - Reduce DBP exposure & related potential health risks
 - Provide more equitable public health protection
- **Applies to:**
 - 75,000 systems
 - Disinfect with anything except UV
- **Requirements:**
 - Initial Distribution System Evaluation
 - Identify locations with high DBP concentrations
 - Locational Running Annual Average
 - TTHM and HAA5
 - Operational Evaluation Level for Early Warning
- **Cost:**
 - Total average annual cost \$79 million
- **Schedule:**
 - IDSE's over next few years
 - Compliance monitoring will begin 2012-2016
 - System must be in compliance after 1 year of monitoring

Initial Distribution System Evaluation

Locate DBP "Hot Spots" in Distribution System



Disinfection By-Product (DBP) Rules

	1979 THM Rule	Stage 1 DBP Rule	Stage 2 DBP Rule
Systems Regulated	>10,000	All	NC
THM MCL	100 ppb	80 ppb	NC
HAA5 MCL	---	60 ppb	
Compliance Determination	System Running Annual Average	System Running Annual Average	Locational Running Annual Average
MRDL	----	4.0 mg/L	NC
Other Requirements	----	TOC Removal via Enhanced Coagulation	Initial Distribution System Evaluation Significant Excursions

NC = No Change

Ground Water Rule

- **Objective:**
 - Identify ground water systems at greatest risk of contamination with disease causing viruses and bacteria
 - Require such systems to take steps to protect public health
- **Applies to:**
 - 147,000+ systems using ground water
- **Requirements:**
 - Sanitary Surveys
 - Source Water Monitoring
 - Corrective Actions
 - Compliance Monitoring
- **Cost:**
 - Total average annual cost \$62 million
 - 90% of Households in systems taking corrective actions will pay <\$3.20/year
- **Schedule:**
 - Systems must comply with rule requirements by **December 1, 2009**

Arsenic

- **Systems must comply January 23, 2006**
- **About 4,000 systems need to take action**
- **Clarification of 10ppb MCL as 0.010mg/l**

Arsenic Mitigation Strategies

- Abandonment

- Seasonal Use

- Blending



- Treatment

- Sidestream Treatment

Major Surveys

- **Drinking Water Infrastructure Needs Survey**
 - Conducted in 2007; Reported in February 2009
 - ***Identify 20-year Infrastructure Need by State***
 - Will Determine Allocation of DWSRF in FFY's 2010-2013
 - Census of systems >100,000 (580 systems)
 - Statistical sample of systems 3,300-100,000
 - Site visits to 600 systems <3,300
- **Community Water System Survey**
 - Conducted in 2007; Reported in December 2008
 - ***Identify financial and operating characteristics of CWS's***
 - Data used in Regulatory Impact Analyses
 - Census of systems >100,000
 - Statistical sample of systems 3,300-100,000 (fewer than Needs Survey)
 - Site visits to 600 systems <3,300 (Same systems as Needs Survey)

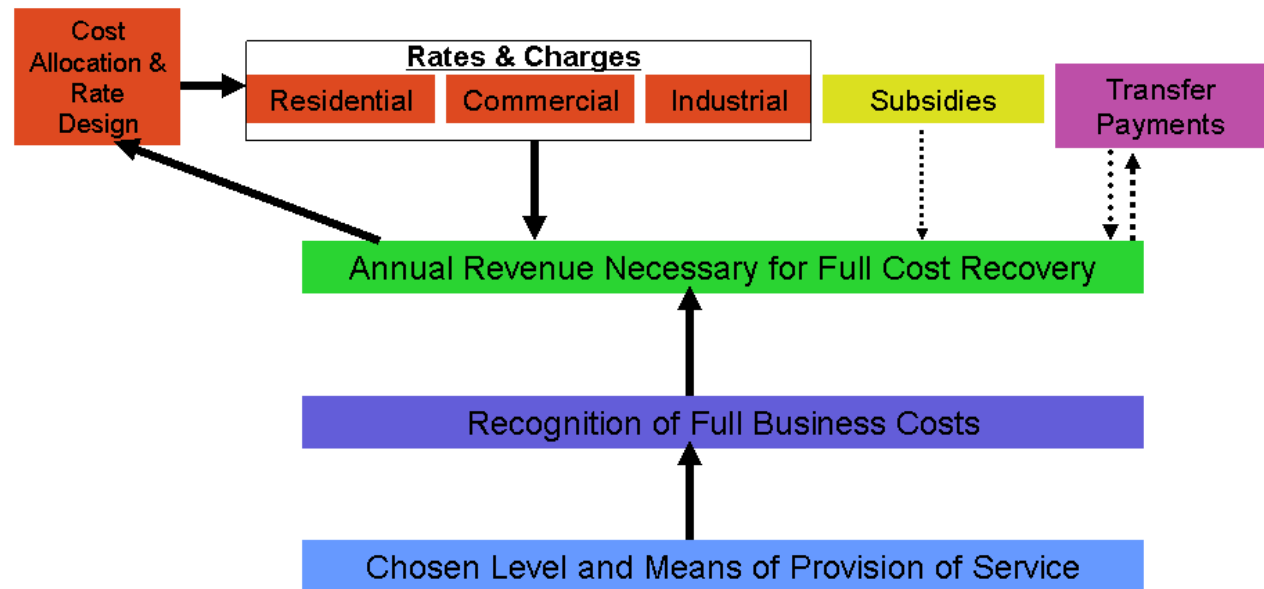
Full Cost Pricing & Infrastructure Sustainability

Definition of Full Cost Pricing

A pricing structure for Drinking Water and Wastewater service which fully recovers the cost of providing that service in an economically efficient, environmentally sound, and socially acceptable manner, and which promotes efficient water use by customers.

Conceptual Model for Full Cost Pricing

Recognizing & Recovering the Full Cost of Sustainable Utility Service



Full Cost Pricing Expert Workshop

November 1-3, 2006

Michigan State University

Full Cost Pricing Expert Workshop Participants



Drinking Water Utilities

Julias Ciaccia, Cleveland Water
Joe Gehin, Wausau, WI
John Huber, Louisville Water
Kathy Pape, Agua America
Paul Foran, American Water

Wastewater Utilities

David Williams, East Bay MUD
John O'Neil, Johnson County, KS

PUC Related

Commissioner Jack Betkoski, CT DPU
Dave Sheard, WI PSC
Christine Hoover, PA Office of Consumer Advocate

Consultants

John Cromwell, Stratus Consulting
John Guastella, Guastella Associates
Myron Olstein
Tom Chestnut, A&N Technical Services

Academics

Edna Loehman, Purdue University
Don Coursey, University of Chicago
Patrick Mann, West Virginia University
Jan Beecher, Michigan State University

Other Experts

Debra Coy, Janney Montgomery Scott
Heather Himmelberger, NM EFC

Expert Workshop on Full Cost Pricing of Water and Wastewater Service

Key Issues Identified

“Meta-Issues”

1. Least Cost Achievement of Environmental & Public Health Protection Goals Across Watersheds.
2. Role of Economic vis-à-vis Environmental & Public Health Regulation.
3. Public Education & Building Public Support.
4. Role of Federal & State Subsidies.
5. Impact of Global Climate Change.

Industry Structure

1. Consolidation
2. Ownership and Management Contestability
3. Level of Service

Utility Management

1. Best Practices for Operational Efficiency
2. Asset Management to drive to least-cost
3. Risk Recognition & Management
4. Cost of Capital
5. Alternative Capital Project Delivery Methods
6. Uniform System of Accounts
7. Information Resources to Support Ownership and Management Contestability
8. Pricing Paradigm

Expert Workshop Conclusions:

- Embedded in the Current Structure, Management, Operations, and Oversight of the Water and Wastewater Sector are Potentially Significant Inefficiencies
- Eliminating These Inefficiencies Will Help Minimize Future Cost Increases and Rate Increases.
- *Comprehensive Sectoral Reform is Needed and EPA's Role Should Be to Initiate, Inform, Enable and Facilitate a Broad National Dialogue Among All Stakeholders About How to Achieve Our National Public Health and Environmental Protection Goals in the Least Cost and Most Socially Acceptable Manner.*

Proposal for NARUC Water Committee Resolution

- **PURPOSE:**

- *Establish and document NARUC's interest in working with EPA to: initiate, inform, enable and facilitate a **broad national dialogue** among all stakeholders about the **potential role of economic regulation vis-à-vis public health and environmental regulation** in helping to achieve our national public health and environmental protection goals.*

- **SCHEDULE:**

- Discuss and adopt resolution at Summer Meeting