

# Drinking Water Regulatory Update

**ASTHO Member Meeting  
Minneapolis, MN  
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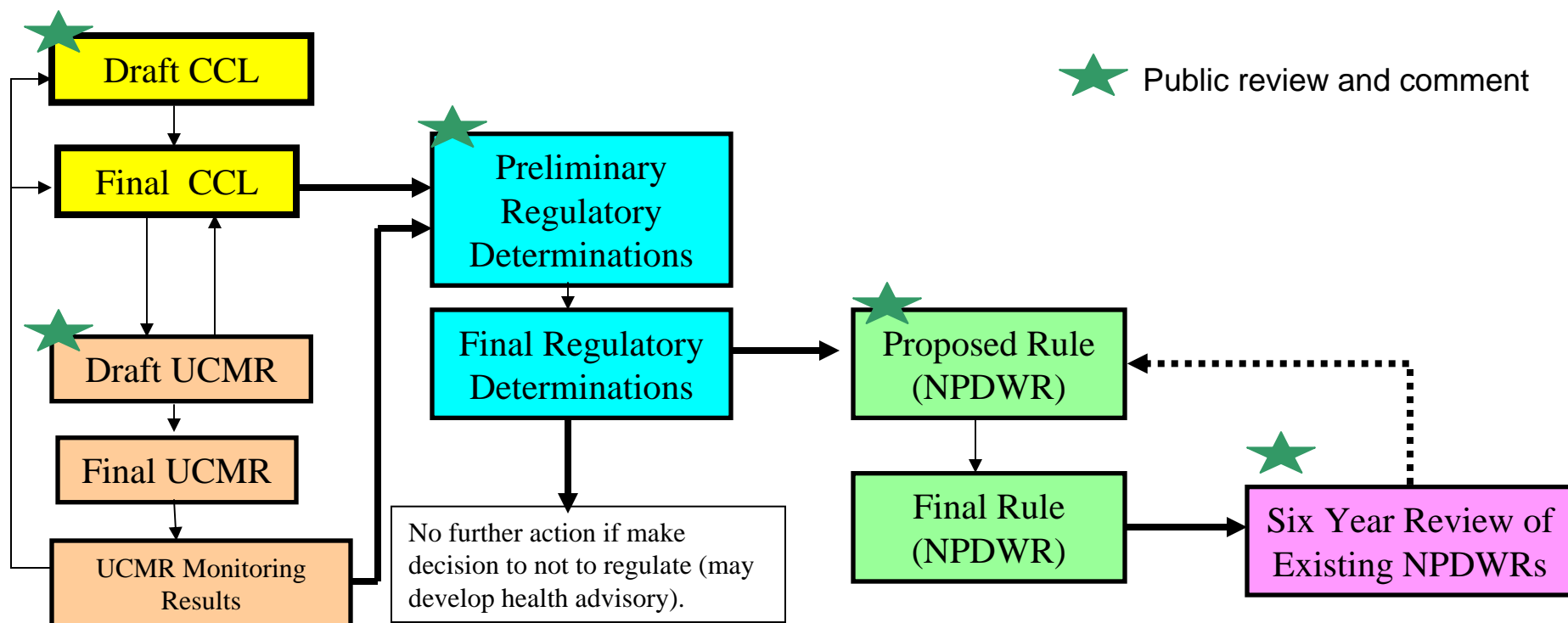


# Overview

- The SDWA Regulatory Process.
- Contaminant Prioritization
- Regulatory Review
- Regulation Revision
- Carbon Sequestration
- Measures



# Generalized Flow of Regulatory Processes



At each stage, need increased specificity and confidence in the type of supporting data used (e.g. health and occurrence).



# Contaminant Prioritization: Contaminant Candidate List 3

- The CCL identifies contaminants that:
  - are known or anticipated to occur in public water systems; and
  - May require regulation
- Draft CCL 3 published on February 21, 2008.
  - Implemented NAS & NDWAC recommended process
  - 93 chemical contaminants
  - 11 microbial contaminants
- Seeking public comment on the draft list and process
  - Comment period open for 90 days, Closes May 21, 2008
- The Draft CCL 3 represents significant step forward in improving the process to identify contaminants
  - **more comprehensive, data driven, reproducible process**





# Contaminant Prioritization: Contaminants on Draft CCL3

- 104 contaminants include:
  - 45 pesticides and degradates
  - 35 chemicals used in commerce or manufacturing
  - 11 microbial pathogens
  - 9 disinfection by-products
  - 3 miscellaneous/other
- 16 were listed on CCL1 & 2
- 19 are listed for monitoring under UCMR2



# Contaminant Prioritization: Unregulated Contaminant Monitoring Rule 2

- UCMR collects monitoring data for contaminants suspected to be present in drinking water, but that do not have SDWA rules.
- Up to 30 contaminants in one cycle.



## **Contaminant Prioritization: UCMR 2**

- Proposed August 2006; Final Rule published January 4, 2007.
- 25 contaminants in final rule
- Monitoring Jan 2008 – Dec 2010





# Contaminant Prioritization: UCMR 2

- Dimethoate
- Terbufos sulfone
- Five Flame Retardants
  - 2,2',4,4'-tetrabromodiphenyl ether (BDE-47)
  - 2,2',4,4',5-pentabromodiphenyl ether (BDE-99)
  - 2,2',4,4',5,5'-hexabromobiphenyl (HBB)
  - 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)
  - 2,2',4,4',6-pentabromodiphenyl ether (BDE-100)
- Three Explosives
  - 1,3-dinitrobenzene
  - 2,4,6-trinitrotoluene (TNT)
  - Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)
- Three Parent Acetanilides
  - Acetochlor
  - Alachlor
  - Metolachlor
- Six Acetanilide Degradates
  - Acetochlor ethane sulfonic acid (ESA) and Acetochlor oxanilic acid (OA)
  - Alachlor ethane sulfonic acid(ESA) and Alachlor oxanilic acid (OA)
  - Metolachlor ethane sulfonic acid(ESA) and Metolachlor oxanilic acid (OA)
- Six Nitrosamines
  - N-nitroso-diethylamine (NDEA)
  - N-nitroso-dimethylamine (NDMA)
  - N-nitroso-di-n-butylamine (NDBA)
  - N-nitroso-di-n-propylamine (NDPA)
  - N-nitroso-methylethylamine (NMEA)
  - N-nitroso-pyrrolidine (NPYR)



## Contaminant Prioritization: Research Planning & Coordination

- Identify key research to support TCR and CCL3/future regulatory determinations
- Work with ORD to revise the Drinking Water Multi-Year Plan.
- Continue to coordinate with AwwaRF.
- The DRINK website contains more than 1,000 research projects.

• [epa.gov/drink](http://epa.gov/drink)





# Contaminant Prioritization: Making Regulatory Determinations

SDWA requires EPA to publish a Maximum Contaminant Level Goal (MCLG) and promulgate an NPDWR for a contaminant if the Administrator determines that -

- *The contaminant may have an adverse effect on the health of persons;*
- *The contaminant is known to occur or there is substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and*
- *In the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.*



SDWA Section 1412(b)(1)



# Contaminant Prioritization: CCL 2 Regulatory Determinations

- Feb 2005 – published CCL2 (51 remaining contaminants from CCL 1).
- Evaluated and prepared regulatory determinations for a subset of contaminants.
- Published preliminary determinations not to regulate 11 contaminants (next slide) in the May 1, 2007 FR.
- Received public comment from nine organizations or individuals; most were supportive of the preliminary determination.
- Planning to make final determinations by July 2008 – Statutory deadline for final determinations.



# 11 Regulatory Determination Contaminants

#	Contaminant	Preliminary Determination	Rationale
1	Boron	Do not regulate but update current health advisory (HA value will increase).	Low occurrence at level of concern; no meaningful opportunity.
2 3	Dacthal Mono and Di Acid Degradates	Do not regulate but update health advisory to include degradates.	Low occurrence at level of concern; no meaningful opportunity.
4	DDE*	Do not regulate.	No/low occurrence at level of concern; no meaningful opportunity.
5	1,3-Dichloropropene	Do not regulate but update the current health advisory.	No/low occurrence at level of concern; no meaningful opportunity.
6 7	2,4-Dinitrotoluene 2,6-Dinitrotoluene	Do not regulate but update current health advisory for both.	No/low occurrence at level of concern; no meaningful opportunity.
8	EPTC**	Do not regulate.	No occurrence at level of concern; no meaningful opportunity.
9	Fonofos (cancelled pesticide)	Do not regulate.	No occurrence at level of concern; no meaningful opportunity.
10	Terbacil	Do not regulate.	No occurrence at level of concern; no meaningful opportunity.
11	1,1,2,2-Tetrachloroethane	Do not regulate but update current health advisory.	Low occurrence at level of concern; no meaningful opportunity.

\*DDE = 1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene (degradate of DDT); \*\*EPTC = s-Ethyl-dipropylthiocarbamate



## Regulatory Review: (Six Year Review)

- EPA required to review and, if appropriate, revise existing NPDWRs every six years
- In 2003, EPA completed 1st Six Year Review; reviewed 69 NPDWRs and made decision to revise Total Coliform Rule
- Currently, performing 2<sup>nd</sup> Six Year Review
- State/EPA work group identifying implementation issues
- Expect to publish preliminary review results ~ summer 2009.



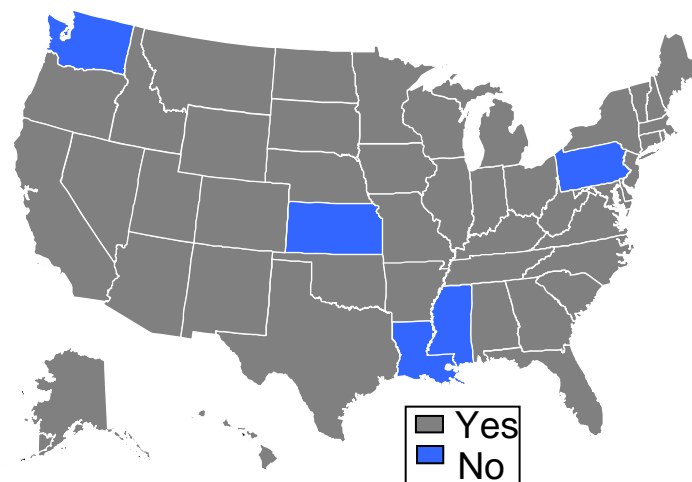
# Key Elements of Six-Year Review Protocol

Review Element	Purpose of Review Element
<b>Health Effects</b>	<ul style="list-style-type: none"> <li>• Identify potential changes that could impact the Maximum Contaminant Level Goal (MCLG).</li> </ul>
<b>Analytical Methods</b>	<ul style="list-style-type: none"> <li>• Identify potential changes in “analytical feasibility” - analytes where the Maximum Contaminant Level (MCL) is set at feasible level of measurement or where a non-zero MCLG may decrease.</li> </ul>
<b>Treatment Technology</b>	<ul style="list-style-type: none"> <li>• Identify treatment feasibility for contaminants with potentially lower MCLG/MCL.</li> <li>• Identify whether potential changes for Treatment Technique (TT) contaminants.</li> </ul>
<b>Occurrence</b>	<ul style="list-style-type: none"> <li>• Identify extent of occurrence/exposure at current MCL and other potential MCLs.</li> </ul>
<b>Other Regulatory Revisions</b>	<ul style="list-style-type: none"> <li>• Identify non-MCLG/MCL or non-TT types of changes that are contaminant-specific and not being addressed through alternative mechanisms. Typically implementation-related issues.</li> </ul>



# Regulatory Review: Six Year Review Factors

- For contaminants where no new health assessments have been completed, performing literature searches for other toxicological endpoints and/or developmental & reproductive end points.
- PWS occurrence data critical to develop estimates of national occurrence
  - 45 states plus several tribes, territories and DC provided occurrence data in response to the April 2007 ICR request
- Working with state co-regulators to identify key implementation issues.







# Regulatory Activities: TCR/Distribution System

- Total Coliform Rule/Distribution Systems Advisory Committee (TCRDSAC) established in July 2007
- Purpose:
  - recommend revisions to the TCR and advice on distribution systems issues
  - consider information needs to better assess public health risks from distribution systems
- 15 members representing broad range of stakeholder interests
  - ASDWA – Jerry Smith, MN {Darrell Osterhoudt - alternate}
  - ECOS – Patti Fauver, UT {Beth Messer – alternate}
- Affiliated Technical Work Group (TWG) to assist with the advisory committee on technical issues



# Regulatory Activities: TCRDSAC

- TCR Revision Issues:
  - Should the rule construct change from *monitoring* to *monitoring-investigation-corrective action* to provide better public health protection?
  - What is an appropriate trigger for investigation-corrective actions?
  - What sampling frequency should be required?
    - Should reductions in monitoring frequency be allowed if specific criteria are met?
  - What constitutes investigations and corrective actions?
  - Should non-acute MCL violation be eliminated in favor of TT?
  
- Distribution System Issues:
  - Technical Workgroup is evaluating the research and information collection needed to inform regulatory decisions on:
    - Cross connections and backflow
    - Storage
    - New and repaired water mains
    - Intrusion
    - Biofilm
    - Nitrification
    - Contaminant accumulation



# Regulatory Activities: TCR/Distribution System Next Steps

## **TCRDSAC**

- 6 meetings held through February
- 4 additional meetings planned before anticipated Agreement in Principle Fall 2008

## **TCR revisions/Distribution System Issues**

- Proposed revision scheduled for publication in 2010
- On DS issues, EPA plans to work with AwwaRF, States, water systems, CDC to develop a plan for research and information collection



# Regulatory Activities: Lead and Copper Rule Revisions

- Targeted Short -Term Revisions finalized October 10, 2007.
  - Clarify monitoring requirements.
  - Strengthen long-term treatment change evaluation.
  - Assure customer notification of results.
  - Clarify lead service line “test out” provisions.
  - Improve public education requirements (NDWAC recommendations).



## Regulatory Activities: Lead and Copper Rule Revisions

- Work currently starting on Long-Term Revisions
- Remaining Long -Term Issues include:
  - Tiering of lead and copper monitoring.
  - Customer involvement in lead and copper sampling.
  - Monitoring in consecutive systems.
  - Lead service line replacement.



# Regulatory Activities: Carbon Sequestration

- EPA developing **Proposed Rule** for commercial scale Geologic Sequestration (GS) of CO<sub>2</sub>
  - Announced October 11, 2007
  - Estimated publication July, 2008
- Proposed rule uses Safe Drinking Water Act (SDWA) authorities and Underground Injection Control (UIC) Program
- Priority placed on avoiding endangerment of underground sources of drinking water



# Carbon Sequestration Rulemaking Background: Unique Challenges

## Adapt existing Underground Injection Control (UIC) framework to CO<sub>2</sub> injection

### Special Considerations for GS UIC Program Elements



- Large Volumes
- Buoyant
- Low Viscosity
- Corrosive

- Site Characterization
- Well Construction
- Mechanical Integrity Testing
- Area Of Review
- Monitoring
- Closure and Post Closure Care



# Regulatory Activities: Carbon Sequestration

- Proposed rule: July 2008
  - Working closely with EPA's OAR and DOE.
  - States on workgroup: OH, AL, TX, MS UIC programs.





# Regulatory Tools: Program Performance Measure Development

- Objective is to estimate the public health impacts of improved drinking water quality
  - Develop health-based measures for EPA's 2009-2014 strategic plan by May 2008
- Progress and Next Steps
  - In November 2007, National Drinking Water Advisory Committee (NDWAC) reviewed measures framework and recommended the following two measures:
    - Reduced bladder cancer cases from implementation of the Disinfection By-Products Rules, and
    - Reduced cases of Cryptosporidiosis from implementation of the Long-Term 2 Enhanced Surface Water Treatment Rule
  - Methodologies for measures based on the Stage 2 and LT2 rule models and analyses, respectively
  - Science Advisory Board (SAB) consultation is scheduled for April