

KY DOW

Drinking Water Update

**KY Water & Wastewater Operator
Association
Annual Conference**

April 16, 2012

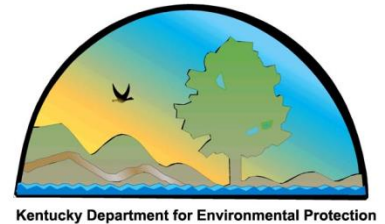


Presentation Summary

- DOW Organization
- Federal Activities
- State Activities

DOW Mission Statement

- *The mission of the Kentucky Division of Water is to **manage, protect and enhance** the quality of the Commonwealth's water resources for present and future generations through voluntary, regulatory and educational programs.*
- Julie's Mission Statement(s)
 - “Safe water for everyone at all times”
 - “Fair and consistent”

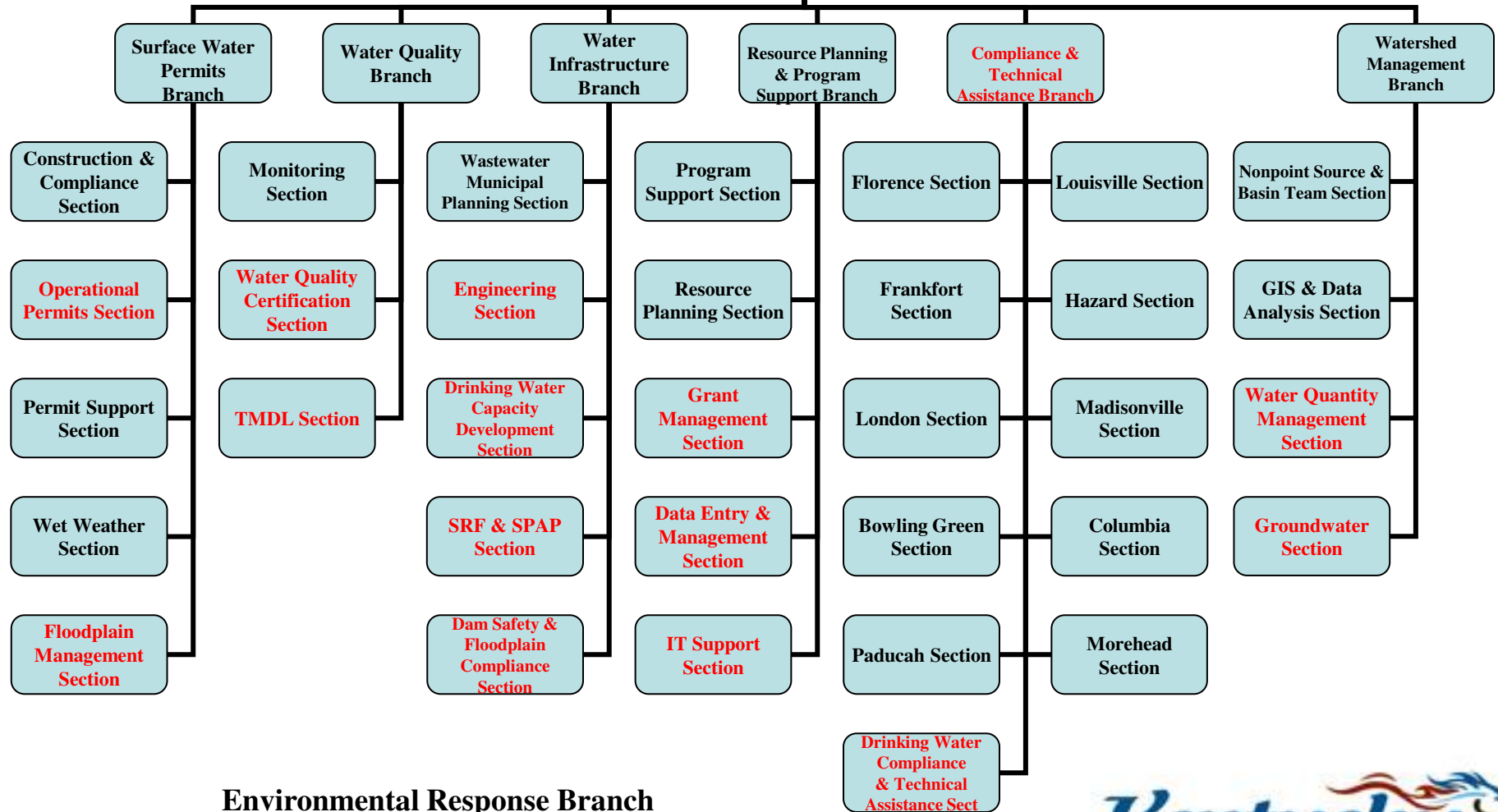


DOW Organization

Division of Compliance Assistance
Division of Enforcement

Division of Water

← Drinking Water Coordinator



Environmental Response Branch



The Basics

- Address: 200 Fair Oaks Lane, 4th Floor
Frankfort, KY 40601
- Phone: 502/564-3410
502/564-8158 (backdoor)
- Web: <http://water.ky.gov>
<http://dca.ky.gov/certification>

Drinking Water Staffing Changes

- Frank Hall no longer DWCTAS supervisor; he is now over the DW/WW Lab Certification Program
 - Jerry Pike, Todd Ritter and Natalie Bruner will rotate as acting section supervisor until the position is approved
- Arianna Lageman was promoted into the Lab Certification Program
 - She will handle 2011 year-end chemical compliance
 - Todd Ritter is now the Chemical Rule Manager (IOC/VOC/SOC/Secondaries)
 - Linda Metts is now handling inventory changes

Drinking Water Staffing Changes

- Julie Smoak left her position as the Capacity Development supervisor effective March 1
 - Brooke Gray left the CD group in mid-April
- 4 engineers from the Engineering Section of the Water Infrastructure Branch have been transferred to the new Resource Extraction (Coal) section in the Surface Water Permits Branch
 - Recession continues to affect both DW and WW projects
 - Example: in SFY11, only 450 DW plans were received compared to 1019 in 2007
- The Operator Certification program has a drinking water trainer vacancy due to Steve Crosman's untimely passing



Federal Drinking Water Activities



Federal DW Regulatory Actions

- On track for final regulation:
 - Revised Total Coliform Rule (RTCR): Fall of 2012
 - Long-Term Lead and Copper Rule (No date yet)
 - Unregulated Contaminant Monitoring Rule 3 (UCMR 3): Monitoring in 2013-2015
 - Perchlorate
- Considered for regulation or regulatory revision
 - Hexavalent chromium: In UCMR3?
 - Fluoride: Pending CDC/DPH action on supplemental fluoridation



Enforcement Response Policy & Targeting Tool

- In 2010 the ERP/ETT replaced the Significant Non-complier (SNC) list
- Points assigned for violations
 - Similar to the PN Tiers
 - Acute=10 points (including turbidity)
 - Chronic=5 points
 - M&R=1 point
 - Includes violations (both open and closed) over the past 5 years
 - Looking for historical trends of non-compliance
 - Intent is to avoid “band-aid” solutions



Enforcement Response Policy & Targeting Tool

- PWSs with 11 points or more must be Returned to Compliance (RTC) or under formal enforcement within 6 months
 - Formal enforcement means an Agreed Order
 - Will include all issues that impact the non-compliance such as regional office and capacity development concerns
 - 27 PWSs in the ERP process right now
 - Corrective Action Plans play a big role in the Agreed Order
- DBPs are KY's main violations



EPA Retrospective Review

- Presidential order to review all regulations
- EPA will focus on 4 areas but the primary 2 for KY are
 - LT2 SWTR: initial monitoring indicates less contamination than projected
 - Review of methods
 - May postpone the next round of source monitoring
 - CCR: looking to improve certification, reporting units/clarity and delivery
 - May look at electronic delivery options
 - CCR Listening Sessions (KY involved)



Federal Drinking Water Strategy

- Regulate contaminants by “groups”
 - Will first evaluate the carcinogenic VOCs
 - Common method, common treatment
 - Proposed rule in 2.5 years with final rule 2 years later
- Will revisit acrylamide and epichlorohydrin
- Renewed focus on small systems
- Looking closer at schools and day cares that are regulated PWSs
- More open with data (“transparency”)



Version 2.0



Public Water Supply Systems Search Parameters

Water System No.	
Water System Name	Frankfort Plant Board
Principal County Served	All
Water System Type	All
Primary Source Water Type	All
Point of Contact Type	None

Sample Search Parameters

Sample Class	Click to select a value...
Sample Collection Date Range	7/4/2009 To 7/4/2011

(The Sample Search always produces results for the last 2 years, unless you provide a specific date range.)

Search For Water Systems	Search For Samples	Review Consumer Confidence Data	Clear	Glossary
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[Click Here for the County Map of KENTUCKY](#)

<https://dep.gateway.ky.gov/DWW>



Search Compliance Data (Safe Drinking Water Program)

[Help](#)**Beta Release**[Send Comments](#)

Geographic Location

[Search](#)**EPA Region:**

No Region Selected

City:**State:**

IL - Illinois

IN - Indiana

KS - Kansas

KY - Kentucky

Use "ctrl" to select multiple options.

County:

Franklin County

☐**In Indian Country**

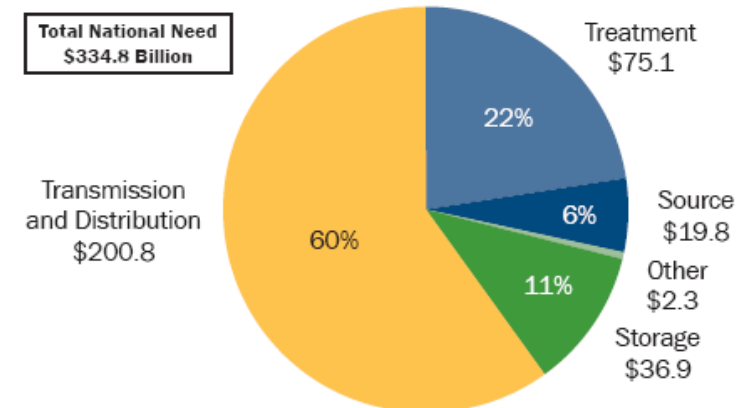
System Characteristics

[Search](#)**System Name:****PWSTDs:**

2011 Drinking Water “Needs” Survey

- The “Needs” survey results will set the SRF amounts for future years
 - Preliminary results show a \$1Trillion need
 - That’s \$1,000,000,000,000!
- 140 PWSs selected by EPA to participate
 - DOW staff assisted all selected through site visits
 - KY had 100% response!
- But SRF \$ are down
- Grants are disappearing

Total 20-Year Need by Project Type (in billions of January 2007 dollars)



Note: Numbers may not total due to rounding.

Lead Reduction Act

- Congress passed new legislation lowering the lead content for solder and adding a “wetted” surface requirement (less than 0.25% lead)
 - Effective in 2014
 - May be incorporated into Long Term LCR revisions
 - NSF and other certifying authorities involved
 - This should be forward-moving legislation and **will not** require that all meters, etc in the system be changed
 - Systems should have a plan in place in advance for implementing this change

KY Drinking Water Activities And Status



Drinking Water Compliance

- Public Water Systems (as of 12/31/2011) **467**
 - 150 Surface Water (32%)
 - 176 Surface Water Purchasers (38%)
 - 116 Ground Water (25%)
 - 25 Ground Water Purchasers (5%)
- Population Breakdown
 - 23% with population over 10K
 - Of those 108 PWS, 11 have more than 1 plant but not more than 3
 - 77% with populations less than 10K
 - 58% with populations less than 5000

75% purchase
25% produce



2011 CY SDWA Compliance

- 2012 is the second year of a 3-year period
- This 3-year period is the first in a 9-year cycle
 - Why is this important?
 - Asbestos and nitrite monitoring occur in the 1st 3-year period of the 9-year cycle

2011 CY SDWA Compliance

- 555 violations total (still decreasing each year)
 - Reporting 98 (17.7%)
 - Monitoring 300 (54.1%)
 - Public Notification 55 (9.9%)
 - Treatment Technique 10 (1.8%)
 - MCL 92 (16.6%)
- Summary
 - 81.6% MON/RPT/PN
 - 18.4% MCL/TT

60% of TT Stage 1
76% of MCL Stage 1

GPRA Goals

- KY commits to meeting certain goals in order to maintain primacy
 - % population receiving water from community water systems meeting health-based limits
 - Goal is 91% As of Jan 2012 at 89.5%
 - % community water systems providing water meeting health-based goals
 - Goal is 90% As of Jan 2012 at 97.6%

NOVs versus LOWs

- KY is exercising some “state discretion” regarding M&R violations (and only M&Rs)
 - Issuing Letters of Warning (LOW)
 - Issued for specific situations such as
 - Lab accountability
 - Incorrect form or missing information
 - Late submittals
 - The samples must have been collected and analyzed and the data properly submitted
 - Only 1 LOW per PWS per year

The Future of SDWIS

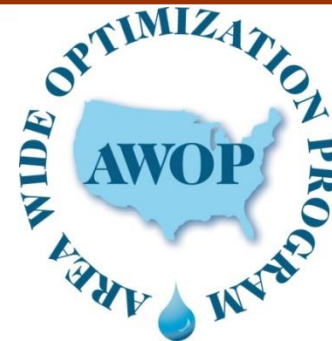
- The current SDWIS database is out-dated and too expensive for EPA to maintain
 - May do just 1 more upgrade before no longer supporting the program
- SDWIS Central as an interim move
 - Most states (KY) will not go this route
- SDWIS “Next Gen” will move the database to the “cloud” environment
 - Main servers, etc. maintained off-site by EPA
 - Improves data transparency
 - Issue with state-developed data entry tools and “ownership” of the data



PWS Staffing

- Despite the numbers, there is a shortage of certified operators in KY
- To address the issue, KY added “alternative staffing plan” language to 401 KAR 8:030
 - DOW willing to work with systems to staff plants and obtain certification for their operators
 - Systems must have a plan of action
 - DOW has developed an Alternate Staffing Checklist to assist with the plan
 - 14 PWSs with approved alternate staffing with 1 pending
 - Contact Julie Roney for more information

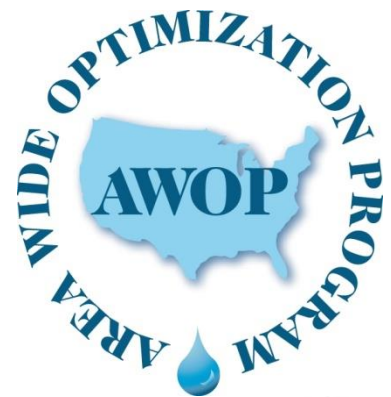
AWOP



- Re-vitalized AWOP in 2011
 - 14th year in the program
- Microbial/turbidity AWOP
 - 49 PWS are “Totally Optimized Plants” serving 1,513,897 (roughly 25% of the state population)
 - Roughly 32% of the surface water treatment plants are totally optimized for both settled and filtered water
 - Increase of almost 400,000 people receiving safer water
 - Only those PWSs that committed in writing to the goals will receive certifications
 - Information available on the program or contact Jackie Logsdon at 270/824-7529 or at Jackie.Logsdon@ky.gov

2011 AWOP

- Microbial/turbidity AWOP Summary of Totally Optimized Plants
 - Settled water turbidity 99.2 %
 - Goal of <1 or 2 NTU more than 95% of the time
 - Filtered water turbidity 98.9%
 - Goal of <0.1 NTU more than 95% of the time
- Disinfection By-product AWOP
 - Have completed 2 training sessions
- Distribution System Studies
- Chloramination Studies (2)



Drinking Water Lab Certification

- Federal EPA has moved the Crypto lab certification from the federal level down to the states
 - KY has 1 of 9 state-certified Crypto lab auditors
- May open 401 KAR 8:040 to be consistent with any general lab certification requirements from the WW lab regulation
- Looking to implement on-line analyzer calibration and standards



KY Wastewater Laboratory Certification

- Bill was successfully filed in 2011 to require WW lab certification for all WW discharges; signed into law on March 18, 2011 (KRS 224.10-670)
 - Will affect **all** labs/personnel that sample and analyze for WW parameters
 - Including WTPs (remember KYG 64??)
- KY drafting WW Lab Certification Manual
- Stakeholder involvement
 - 3rd meeting held on February 28th
 - Revised manual and regulation to stakeholders on April 4
- On track to file this summer



Stage 2 DBP Rule

- NOTE: Schedule 1 systems begin complying with the Stage 2 rule April 1, 2012 (~30 systems)
- Review your ISDE Report NOW
 - Make sure your new Stage 2 sites have the correct site codes
 - Contact your lab with the new sample sites
 - Contact DOW with questions
- Concern: EPA built in 3 years for systems to prepared
 - Projecting 30-50% initial non-compliance with the majority of non-compliance in the consecutive systems
 - Increased workload for state staff
 - **Systems are not ready**

Stage 2 DBP Rule

- Transition from Stage 1 to Stage 2
 - Stage 1 monitoring will occur up to the quarter in which you are scheduled to begin Stage 2
 - Then stop Stage 1 and begin Stage 2 sampling at the sites selected and on the schedule developed in the IDSE Report
 - Still do TOC monitoring
 - Stage 1 PNPs will need to be done

Stage 2 DBP Rule

- Operational Evaluation Level (OEL)
 - OEL projects the potential future non-compliance
 - Starts when systems have 3 quarters of data
 - Then each quarter forward
 - DOW has convened a stakeholder meeting to discuss the OEL investigation process
 - Comments have been received
 - DOW is opting to make this process as “user-friendly” and painless as possible and still meet the intent of the rule
 - KRWA and DOW developing the format

Stage 2 DBP Rule

- **New Stage 2 Report Forms**

- Look like the Stage 1 but say Stage 2 at the top
- Reason is how the Stage 2 sites are tied to the SDWIS-state compliance database
- Make sure your labs know that there are new forms

[illegible]

[http://water.ky.gov/DrinkingWater/
Pages/Forms.aspx](http://water.ky.gov/DrinkingWater/Pages/Forms.aspx)



LT2 Rule

- 5 PWSs in Bin 2 requiring additional 1 log of treatment
 - Again EPA built in 3 years for systems to improve treatment or build infrastructure
 - PWSs should use multiple toolbox options and strive for more than the 1 log additional treatment
- Start source water monitoring again in 2015
 - Impact of the retrospective review???
 - Will use the higher E.coli trigger of 100 cfu/100 ml for the Schedule 4 systems
 - EPA R4 guidance states at least 5 years between end of initial Crypto monitoring/bin classification and 2nd round of sampling
- Concerns with how states will track 2nd round of monitoring
 - DCTS?? SDWIS?? State database!!!

Capacity Development

- Focusing on managerial and financial tools and education for PWSs
 - Taking the message “up a level” to water system management and decision makers
- Launched a pilot Capacity Development Assistance Program (CDAP) with RCAP
 - Using DW SRF set-asides to help small systems with deficiencies identified through the Sanitary Surveys
- “Plan or be planned for”

Capacity Development

- Water loss/Water Audits
 - DOW working with AWWA Water Loss Committee
 - Cross-divisional efforts to approach water loss/non-revenue water
 - Education on the process for approaching water audits
 - Cost to produce water

Engineering and Plans Review

- Number of both DW and WW plans are still decreasing
 - 450 Plans received SFY 2011 compared to 1019 in 2007 and 556 in 2009
- SFY 2011 (Ending June 30, 2011) Summary

303 Distribution line extensions

97 Major distribution projects

17 Treatment projects

332 Collections extensions

19 WWTP Modifications

8 WWTP New

- Looking closer at the relationship between engineering projects and water quality



Coal and Other Energy Issues

- Coal issues are just now moving from the CWA side into the KY drinking water perspective
- 37 counties in KY (31%) have active DOW permits related to coal mining
 - Discharges impacting water quality of receiving streams
 - Potential ecological impacts as well as a potential decrease in the source water quality for drinking water plants
- Hydrofracturing for methane extraction

Pesticide General Permit

Pesticide General Permit

- Comment period has ended
- May affect drinking water systems
- Pest is defined as “any unwanted organism...may include...algae, mussels, fungus
- Pesticide is defined as “any substance or mixture of substances...for preventing, destroying...any pest; and any substance...for use as a plant regulator
- Eligible discharges to surface or near surface water
 - Discharges apply if over set size threshold limits (acres/miles) of total treatment area



“Green” Initiatives

- Good
 - Energy efficient pumps/motors
 - Electrical usage/demand
- Not so Good
 - Filter backwash recycling
 - WTPs running fewer hours
- Unusual
 - Building-by-building roof/rainwater capture systems for potable use

Nutrient Reduction

- Renewed focus on reducing the amount of nitrogen and phosphorus entering US waters
 - Nutrients can adversely affect DW sources
 - Taste and odors
 - DBPs
 - Harmful Algal Blooms (HAB) and toxins
 - Related to quality and quantity
 - For drinking water systems??
 - Phosphate corrosion inhibitors
 - Free ammonia associated with chloramine disinfection
- Increasing NO₃ levels in groundwater
 - Nationally nitrate NOVs have doubled in 8 years



Nutrient Reduction (Strategy)

- KY DOW approaching nutrients from a “reduction strategy” rather than across the board “numeric limits”
 - Nutrients are the 2nd most common cause of impairment for KY’s waters
 - Involves regulatory approach, voluntary reductions, stakeholder involvement and public education
 - Developing a strategy is challenging as it deals with the biological as well as chemical
 - Non-point sources can be tricky



Drinking Water “FYIs”



Drinking Water FYIs

- CCRs
 - No “partial” reviews (i.e., language without table)
 - Pre-review cut off date will be June 15th
 - Each system will be pre-reviewed only 3 times
- Sample site plans
 - Can’t re-use a site number
 - Update as your system grows
- Public Notifications
 - Number of PN violations up in 2011 as systems forget to PN and to PN on time



Drinking Water FYIs

- Boil Water Advisories (BWAs)
 - Refer to 8:150 and to the DOW BWA Guidance (if you don't have the latter, call your Regional Office or me)
 - Develop an internal SOP for your system that includes how breaks are repaired and disinfected, how sample sites are chosen and sampled, how and why decisions on BWAs are made
 - Then communicate this to your DOW Regional Office
 - Alternate ways to notify such as ring-down e911 type systems



Drinking Water FYIs

- Disinfection methods for tanks/mains/plant
 - Specified in 401 KAR 8:150
 - But can propose an alternate if meets the AWWA C651-653
 - Must get this approved by DOW prior to implementing
- Standard Operating Procedures
 - Key part of your O&M manuals
 - Streamlines daily operations and may keep emergencies from occurring
 - Training

Drinking Water FYIs

- KPDES Permit (Plant discharges)
 - With the renewal of KYG64, there are additional permit requirements
 - Meeting the total chlorine residual limit
 - Best Management Practices
- Field (Distribution system) Monitoring
 - The old “color wheel” is not an approved method for measuring chlorine residuals
 - Procedures for calibrating field instruments

DW Regulations Under Consideration

- 401 KAR 8:700 on Bottled Water
 - Removing citations to now non-existent regulations
 - Clarifying monitoring
- Capacity Development/Sustainability
 - Still considering
- Emergency Response Plans
 - May consider
- Submetering

Julie's Goals



DOW Outreach

- Drinking Water Advisory Committee (DWAC)
 - State agencies, professional organizations, technical providers, water systems
 - Subcommittees for Capacity Development, Regulations, Compliance, Engineering
- Inter-agency relationships
 - Division of Plumbing: Cross-connections, potable water
 - Department of Public Health: Fluoride, potable water, emergency response, MHPs, restaurants, ag micro-processors
 - PSC: Inspections, water loss, engineering, management
 - AG's Office: Rates/regulatory impacts
 - Parks: Pending discussion on storage tank maintenance issues



What's On Julie's Plate (Desk)...

- Budget issues (state and federal) and funding
- Regulatory development
 - Capacity development
 - Submetering
 - New definition for “semi-public” water systems?
- Home-based processors/microprocessors/small systems
- Integrating the CWA into the SDWA and vice versa
- Continued inter-agency cooperation
- Impacts of coal on public water systems
- EPA R4 Priority Review
- Emergency response to water outages



Questions?? Comments??

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<http://water.ky.gov>

<http://water.epa.gov/drink>

