



# What's new at EPA

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# The impact of Congress

- Senate Environment and Public Works Committee hearings
  - February 2, 2011
    - EPA releases plan to regulate perchlorate and carcinogenic VOCs
      - 4-4.5 years away before final rule (perchlorate may be sooner)
  - December 8, 2009
    - EPA releases new Enforcement Response Policy



# Rule updates

- Revised TCR
  - Proposed 8/16/10
  - Final expected 10/12
- LCR Long-term Revisions
  - Proposal expected 4/12
  - Final late 2013/early 2014?



# Revised TCR

- 8 core elements
  - Investigation of sanitary defects
  - TT replaces MCL for TC
  - E. coli provisions unchanged
  - Reduced monitoring requirements more prescriptive
  - Increased monitoring for high-risk small gw systems



# Revised TCR

- 8 core elements (cont.)
  - Changes to routine monitoring requirements for systems < 4,100
  - Established criteria for “seasonal systems”
  - Current monitoring frequencies for systems < 1,000 could continue at state’s discretion



# LCR Long-term Revisions

- Evaluating changes to all aspects of the current rule
  - Partial Lead Service Line Replacement
  - Sample Site Selection
  - Tap Sampling Issues
  - Water quality parameters
  - Lead in schools and day care facilities



# Administrator Jackson's vision

- EPA Admn. Lisa Jackson outlined a “New Vision” for DW regulations in 2010
  - Address contaminants in groups
  - Foster new treatment technologies
  - Use other statutes (i.e., FIFRA, TSCA), too
  - Partner with states to share data
- Involved drinking water community
  - Meetings, workshops, consultations, etc



## End Result

- Administrator wants to do something
- Suggestions for contaminant grouping include VOCs, nitrosamines, chlorination DBPs
- VOCs will be the first



# EPA Regulatory Status

- **Final**
  - Carbon Sequestration Rule
- **Proposed**
  - Total Coliform Rule Revisions
  - 6-Year Review candidates for revision
- **Under development**
  - Lead and Copper Rule Long Term Revisions
  - IRIS risk assessments
  - UCMR 3
  - CCL 3 Regulatory determinations



# 6-Year Review of NPDWRs

- EPA workgroup discussed each contaminant with an existing NPDWR
  - Any changes in risk assessments?
  - Any changes in treatment?
  - Any changes in occurrence?
- 71 regulated contaminants reconsidered
  - 32 getting new risk assessments
  - 8 still look good as they are
  - 24 would provide too little benefit vs. hassle
  - 3 with major data gaps
  - 4 to go forward for possible revision



## 6-Year Review Status

- Candidates for revision proposed on March 29, 2010
- Acrylamide and epichlorohydrin
  - Treatment technique approach
- Trichloroethylene and tetrachloroethylene
  - Lower PQLs allow lower MCLs
- Arsenic, fluoride, nitrate/nitrite, chromium remain problematical



# Next Steps on Revisions

- These will be part of the DW Strategy
- Expect workgroup startup for acrylamide and epichlorohydrin in 2011
  - Basically have enough data in hand
- Expect workgroup startup for trichlorethylene and tetrachloroethylene in 2012
  - Need risk assessments finalized to go further



# Fluoride News

- EPA released new health and exposure document Jan 7<sup>th</sup>
  - New RfD at 0.08 mg/kg/d for severe dental fluorosis
  - Began reviewing fluoride MCL with respect to this (off cycle from 6-year Review)
- CDC revised it's recommended exposure level to 0.7 mg/L
  - Continues to support fluoridation for all
  - No harm seen < 2 mg/L



# Chromium

- OEHHA offered a revised PHG at 0.02 ug/L for hexavalent chromium
- EPA has its risk assessment out for review
  - Number is about the same as OEHHA's
- EWG has thrown some gas on the fire
  - 31 of 35 cities have hexavalent chromium in their DW



# EPA Reactions to EWG

- EPA Administrator told Senators we will help utilities
- PR and guidance released 1/11/11
  - Monitor source, entry and distribution
  - Use Method 218.6 with DL at 0.02 ug/L
  - Hold onto data
- Looking to NSF for POU/POE help
  - But nothing tested that low



# UCMR 2 Results

- UCMR 2 data coming in
- NDMA detected at ~25% of PWSs
  - Some other nitrosamines rarely found
- Very few pesticide hits
- No flame retardant hits
  
- Data are influencing CCL3 cut-down



## CCL3 Possibilities for Decisions

- Some may go forward for regulations
  - Nitrosamines, individually or grouped
- Some may be dropped as not a DW problem
  - 1,3 Dinitrobenzene
  - Dimethoate
  - RDX
  - Terbufos & Terbufos sulfone
- Others may need more information

# N-Nitroso dimethylamine

- NDMA is a known carcinogen
  - $10^{-6}$  risk @ 0.7 ng/L
  - Many other nitrosamines have similar risks
- Formed from chlorination or chloramination of wastewater
- UCMR 2 shows 25% of wells affected
  - But, major human exposures (98%+) are beer, infant formula, hot dogs, cured meat
- Hot prospect, singly or as a group



# Methyl Tertiary Butyl Ether

- USEPA health risk assessment still pending
  - Not that toxic, but taste an issue
  - Can't make determination without it
- UCMR I data show very few hits
  - 17 detections in 3469 systems
- May not be worth regulating



# Perchlorate: Health Concerns

- Health concerns are for damaged thyroid and brain development in fetuses and infants
  - Perchlorate interferes with iodide uptake
  - ~20% of women are deficient in iodide
- National Academy of Sciences reviewed and revised upwards EPA's risk assessment
  - Substantial changes in approach and results
  - Controversial, to say the least



# Perchlorate Occurrence

- Colorado River is source water for many millions
  - Munitions plants outside Las Vegas source of perchlorate to Lake Mead
  - Clean-ups have decreased CR levels from  $>5$  ug/L to  $<2$  ug/L
- Unregulated Contaminant Monitoring Rule I included perchlorate
  - 583 detections ( $>4$  ug/L) from 29,263 analyses
  - 145 of 3,405 systems had positives
- Because of CA perchlorate MCL (6 ug/L), many contaminated wells no longer in use
- Unclear just how many people are exposed to perchlorate in their drinking water, and at what levels



## CCL3 Pharmaceuticals

- One antibiotic (erythromycin) and nine estrogens were added to the CCL3
- Currently lack occurrence data
- Lack health effects information for exposures at environmental levels
- EPA's current take is that there is no evidence that pharmaceuticals and personal care products in the environment cause human health effects
  - Environmental levels typically  $< 1/1,000,000$  of therapeutic dose



## Estrogens in DW

- Recent report showed that natural estrogens are far more prevalent than synthetic pharmaceutical estrogens
  - Wise, O'Brien and Woodruff (2011) ES&T 45:51-60
- Pregnant women > women > men > synth
- Cows and pigs >> people



# UCMR 3

- UCMR 3 list being finalized
  - Mostly based around what can be detected with methods, as well as CCL needs
  - Won't help current CCL determinations, but will be useful later.
- Will pretty much follow format of UCMR2
- Expect proposal early 2011