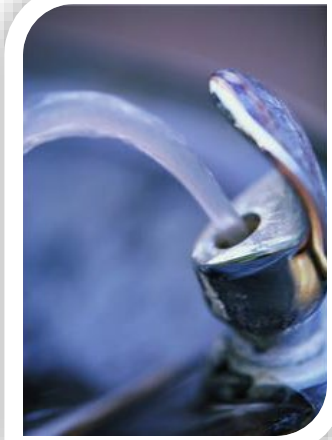
Regulatory & Related Updates

National Drinking Water Advisory Council

December 6, 2018



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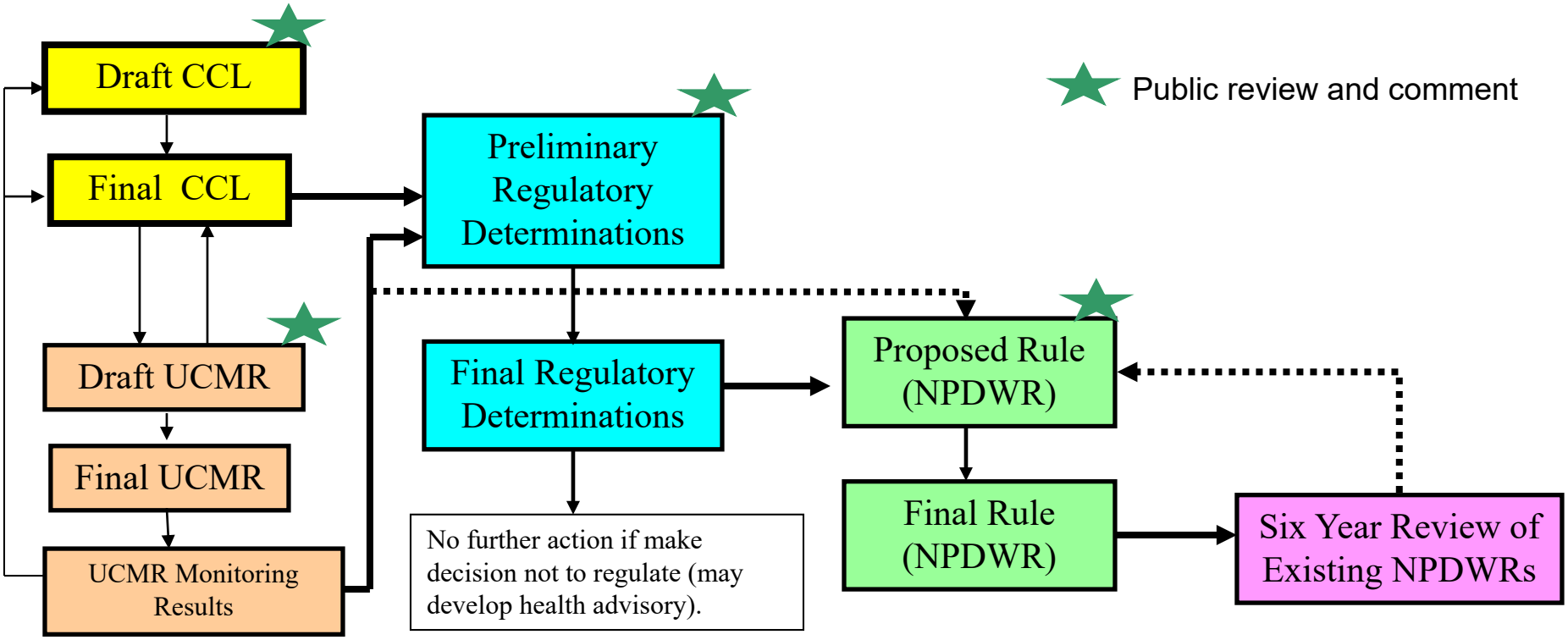
Regulatory Analysis, Rule Development, and Stakeholder Support

- **Regulatory Analysis**
  - Contaminant Candidate List (CCL)
  - Unregulated Contaminant Monitoring (UCMR)
  - Regulatory Determinations (Reg Det)
  - Six Year Review of Regulations
- **Rule Development/Revision**
  - Perchlorate
  - Reduction of Lead in Pipes and Fittings
  - Lead and Copper Rule Revisions
- **Stakeholder Support/Guidance (non-regulatory)**
  - PFAS
  - Cyanotoxins

General Flow of SDWA Regulatory Processes



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

Contaminant Candidate List (CCL)

- **Published Final Fourth CCL (CCL 4) – November 2016**
  - Lists 97chemicals or chemical groups and 12 microbial contaminants
  - CCL 4 info at- http://www2.epa.gov/cct/draft-contaminant-candidate-list-4-ccl-4
- **Development of Fifth CCL (CCL 5)**
  - Published federal register notice requesting public nominations for contaminants for the EPA to consider including on CCL 5
  - Comment period closed December 4, 2018
  - Final CCL publication in 2021

Unregulated Contaminant Monitoring Rule (UCMR 4)

- The final UCMR 4 rule was published December 2016.
- UCMR 4 identifies 30 contaminants (including 10 cyanotoxins and cyanotoxin groups, 3 DBP groups, 9 pesticides, 2 metals, 3 alcohols, and 3 SOCs) to be monitored by large water systems and a representative group of small systems over the period of 2018-2020. See also appendix.
- ~1/3 of the participating systems will monitor in a given year.
- Information about UCMR 4 can be found at: https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule
- EPA is partnering with states in the federal direct-implementation program.

Unregulated Contaminant Monitoring Rule (UCMR 4)

- EPA is engaging with public water systems and laboratories, to collect and report the UCMR data
- EPA published health-based "reference concentrations" for the contaminants where health effects values have been issued in May 2018
- Reference concentrations are non enforceable values that provide context to regarding the measurement UCMR 4 contaminants
- Data are posted to the web ~quarterly; the first data set was posted in October 2018 (https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule)

Regulatory Determinations (Reg Det 4)

- Every five years, the Administrator shall, after notice of the preliminary determination and opportunity for public comment, for not fewer than five contaminants included on the CCL, make determinations on whether or not to regulate such contaminants.
- OGWDW is currently evaluating contaminants on the CCL4 for the fourth regulatory determination cycle.
  - The CCL4 federal register notice lists data availability for each of the contaminants on the CCL at the time of publication. It is available in Exhibit 2 at: https://www.federalregister.gov/documents/2016/11/17/2016-27667/drinking-water-contaminant-candidate-list-4-final
  - As part of Reg Det 4, EPA continues to consider whether there is a meaningful opportunity for health risk reduction by regulating strontium in drinking water.
- EPA is planning to issue final regulatory determinations for CCL4 contaminants by January 2021.

Six-Year Review

- Published the 3rd Six-Year Review – January 2017
  - First review to address microbial and disinfection byproduct regulations.
  - Detailed review of 76 NPDWRs
  - Determined 8 NPDWRS are candidates for regulatory revision
    - Stage 1 and the Stage 2 Disinfectants and Disinfection Byproducts Rules, the Surface Water Treatment Rule, the Interim Enhanced Surface Water Treatment Rule and the Long Term 1 Enhanced Surface Water Treatment Rule.
- EPA must review existing National Primary Drinking Water Regulations (NPDWRs) every six years and, if appropriate, revise.
  - EPA has begun work on the 4th Six-Year Review (SYR4) by proposing an information collection request (ICR) to support the action.
  - The SYR4 ICR is available at https://www.epa.gov/dwsixyearreview/six-year-review-4-drinking-water-standards-information-collection-request
- Next Six-Year Review is required to be published January 2023

Perchlorate

- Perchlorate can interfere with the thyroid, and impaired thyroid function has been linked to delayed development and decreased learning capability in infants and children.

- In accordance with SDWA, EPA requested comment from the Science Advisory Board (SAB) prior to proposing a Maximum Contaminant Level Goal (MCLG) and National Primary Drinking Water Regulation (NPDWR) for perchlorate.

  - In 2013, the SAB recommended that EPA "derive a perchlorate MCLG that addresses sensitive life stages through physiologically-based pharmacokinetic/pharmacodynamic modeling" (PBPK/PD).

- The Agency collaborated with U.S. Food and Drug Administration to address SAB recommendations regarding data collection and the review and development of PBPK/PD models to relate perchlorate exposure to biological effects "downstream" from the inhibition of iodide uptake.

Perchlorate

- In January 2018, EPA completed a two-step expert peer review of a highly innovative state-of-the-science set of quantitative tools to evaluate neurodevelopmental effects that could arise from drinking water exposure to perchlorate.
- EPA is evaluating occurrence, treatment technologies, analytical methods and cost and benefits of regulation.
- EPA is preparing a proposed National Primary Drinking Water Regulation for perchlorate for public review and comment.
- EPA is seeking a 6 month extension to the October 31, 2018 deadline to propose the perchlorate regulation.
- The Consent Decree date for a final rule is December 19, 2019.

Proposed rule "Use of Lead Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water"

- The Proposed Rule "Use of Lead Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water" (or "Lead Free") was published in the *FR* January 17, 2017, followed by a public comment period, which closed on May 17, 2017.
- The proposed rule sought to make conforming changes to existing drinking water regulations based on the Reduction of Lead in Drinking Water Act
- The proposed rule included new requirements to assure that individuals purchasing, installing or inspecting potable water systems can identify lead free plumbing materials.
- Developing final rule based on public comment – anticipate publishing Final Rule in 2019

Revisions to the Lead and Copper Rule

- EPA sought and received extensive input on potential revisions to the LCR from the NDWAC, states, tribes and local governments.
  - NDWAC provided recommendations in December 2015 https://www.epa.gov/dwstandardsregulations/ndwac-recommendations-administrator-long-term-revisions-lead-and-copper-rule
  - Federalism and Tribal consultations completed in March 2018 https://www.epa.gov/dwstandardsregulations/lcr-federalism-consultation
- EPA expects to publish proposed LCR revisions for public review and comment in 2019.

Revisions to the Lead and Copper Rule

EPA is considering revisions to:

- Lead Service Line Replacement (LSLR):
  - Require materials/LSL inventories, limiting partial LSLRs to emergency/infrastructure projects, requiring pitcher filters post LSLR.
- Corrosion Control Treatment:
  - Target systems that must install CCT differently; require any system with LSLs to install CCT, change how optimized CCT is defined; require find and fix for tap samples >action level.
- Transparency & Public Education:
  - Require systems to make publicly available information about LSLs, tap sampling and WQP results, update mandatory language for CCR and PE materials, codify WIIN Act 24 hour notice of lead action level exceedance.
- Tap Sampling:
  - Require sampling at customer request, require sampling at schools and child care facilities, increase number of samples, modify the sampling protocol.

Per- and Polyfluoroalkyl Substances (PFAS)

- EPA PFAS National Leadership Summit (May 2018)
  - Included representatives from over 40 states, tribes, and territories; 13 federal agencies; congressional staff; associations; industry groups; and non-governmental organizations.
- Community Engagement and Outreach
  - Community Engagements: Portsmouth, NH; Horsham, PA; Colorado Springs, CO; Fayetteville, NC; Leavenworth, KS
  - Tribal Engagements: Spokane, WA; Mount Pleasant, MI
  - Site Visits and Roundtables: Ann Arbor and Pinckney, MI; Parchment and Kalamazoo, MI
  - Over 118,000 comments submitted to the public docket
- EPA is developing a PFAS Management Plan using information gained from the Summit, community engagements, and public docket

PFAS (cont.)

- From 2013 to 2015, EPA collected nationally representative data on the occurrence of six PFAS in public water systems (including PFOA and PFOS)
- In 2016 EPA issued Health Advisories for PFOA and PFOS
- In November 2018, EPA released draft toxicity assessments for public comment for GenX chemicals and PFBS
- EPA has released additional tools for PFAS
  - Updated Method 537.1 to measure an additional 4 PFAS in drinking water
  - EPA has evaluated the effectiveness of several drinking water treatment technologies to remove a variety of PFAS.
- Website - https://www.epa.gov/pfas

Cyanotoxins

- Provided technical assistance to stakeholders, including states and utilities, during events where elevated concentrations of cyanotoxins were found in finished drinking water.
  - Supported HAB regional workshops and table top activities (2015 – 2018)
- Promoted availability of tools that can be used to support local and regional actions, including:
  - Drinking Water Risk Communication Toolbox Webpage (2017) (ENG & SPAN versions)
  - Developed and published improved analytical methods for algal toxins - EPA Methods 544, 545, and 546 (2015, 2016)
  - Water Treatment Optimization for Cyanotoxins (2016)
  - Harmful Algal Blooms and Drinking Water Fact Sheets (2016)
- Website - https://www.epa.gov/ground-water-and-drinking-water/managing-cyanotoxins-public-drinking-water-systems

Appendix

CCL 4 Contaminants

97 Chemicals and 12 Microbes

1,1,1,2-Tetrachloroethane
1,1-Dichloroethane
1,2,3-Trichloropropane
1,3-Butadiene
1,4-Dioxane
17 alpha-Estradiol
1-Butanol
2-Methoxyethanol
2-Propen-1-ol
3-Hydroxycarbofuran
4,4'-Methylenedianiline
Acephate
Acetaldehyde
Acetamide
Acetochlor
Acetochlor ethanesulfonic acid (ESA)
Acetochlor oxanilic acid (OA)
Acrolein
Alachlor ethanesulfonic acid (ESA)
Alachlor oxanilic acid (OA)
alpha-Hexachlorocyclohexane
Aniline
Bensulide
Benzyl chloride
Butylated hydroxyanisole
Captan
Chlorate
Chloromethane (Methyl chloride)
Clethodim
Cobalt
Cumene hydroperoxide
Cyanotoxins (3)
Dicrotophos
Dimethipin
Diuron
Equilenin
Equilin
Erythromycin
Estradiol (17-beta)
Estriol
Estrone
Ethinyl Estradiol (17-alpha)
Ethoprop
Ethylene glycol
Ethylene oxide
Ethylene thiourea
Formaldehyde
Germanium
Halon 1011 (Bromochloromethane)
HCFC-22
Hexane
Hydrazine
Manganese
Mestranol
Methanol
Methamidophos
Methyl bromide (Bromomethane)
Methyl tert-butyl ether
Metolachlor
Metolachlor ethanesulfonic acid (ESA)
Metolachlor oxanilic acid (OA)

CCL 4 Contaminants
97 Chemicals and 12 Microbes

Molybdenum
Nitrobenzene
Nitroglycerin
N-Methyl-2-pyrrolidone
N-Nitrosodiethylamine (NDEA)
N-nitrosodimethylamine (NDMA)
N-Nitroso-di-n-propylamine (NDPA)
N-Nitrosodiphenylamine
N-Nitrosopyrrolidine (NPYR)
Nonylphenol
Norethindrone (19-Norethisterone)
n-Propylbenzene
o-Toluidine
Oxirane, methyl-
Oxydemeton-methyl
Oxyfluorfen
Perfluorooctane sulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)
Permethrin
Profenofos
Quinoline
RDX
sec-Butylbenzene
Tebuconazole
Tebufenozide
Tellurium
Thiodicarb
Thiophanate-methyl
Toluene diisocyanate
Tribufos
Triethylamine
Triphenyltin hydroxide (TPTH)
Urethane
Vanadium
Vinclozolin
Ziram
Adenovirus
Caliciviruses
Campylobacter jejuni
Enterovirus
Escherichia coli (0157)
Helicobacter pylori
Hepatitis A virus
Legionella pneumophila
Mycobacterium avium
Naegleria fowleri
Salmonella enterica
Shigella sonnei

UCMR 4 – 30 Contaminants

- ***10 Cyanotoxins/Groups***
  - "total microcystins" by ELISA
  - 6 microcystin congeners (MC-LA, MC-LF, MC-LR, MC-LY, MC-RR, MC-YR) and nodularin by EPA Method 544
  - anatoxin-a and cylindrospermopsin by EPA Method 545
- ***2 Metals*** *(EPA Method 200.8 or equivalent SM, ASTM method)*
  - germanium
  - manganese
- ***3 Brominated HAA groups*** *(EPA Method 552.3 or 557)*
  - HAA5
  - HAA6-Br
  - HAA9
- ***9 pesticides*** *(EPA Method 525.3)*
  - alpha-hexachlorocyclohexane
  - chlorpyrifos
  - dimethipin
  - ethoprop
  - oxyfluorfen
  - profenofos
  - tebuconazole
  - total permethrin (cis- & trans-)
  - tribufos
- ***3 Alcohols*** *(EPA Method 541)*
  - 1-butanol
  - 2-methoxyethanol
  - 2-propen-1-ol
- ***3 Semivolatile Organic Chemicals*** *(EPA Method 530)*
  - butylated hydroxyanisole
  - o-toluidine
  - quinolone