Pathway to an MCL:

Constituents of Emerging Concern in Drinking Water

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CA Division of Drinking Water

- Transferred to SWRCB July 1, 2014 from CDPH
- Maintain public health focus on drinking water constituents
- 2 Field Operations Branches
  - 24 District Offices and 30 County LPAs
  - Regulatory oversight of 7,500 public water systems
- Program Management Branch
  - Regulatory Development Unit
  - Quality Assurance Section

MCL Adoption Process

- Constituent of public health concern
  - Public health goal, USEPA MCL, WHO, other states
- Occurrence in CA drinking water
  - Title 22 monitoring, UCMR monitoring
- Evaluates technological and economical feasibility
- Public review
- Board Adoption and Office of Administrative Law approval

Constituents of Public Health Concern

- Maximum Contaminant Level (MCL)
  - Maximum permissible level in drinking water §116275(f) CHSC
  - Primary (health-based) and secondary (aesthetic)
- Set as close as feasible to Public Health Goal (PHG) placing primary emphasis on protection of public health
  - Technologically and economically feasible

Public Health Goals & Notification Levels

- PHGs are established by Office of Environmental Health Hazard Assessment (OEHHA)
  - Level that does not pose a significant risk to health
  - Considers relevant scientific information from USEPA, ATSDR, NIH
  - $1x10^{-6}$ Lifetime cancer risk
  - Health protective concentration for non-cancer risk
  - 91 Public Health Goals for drinking water

Public Health Goals & Notification Levels

- Notification Levels (NL) are established by SWRCB Division of Drinking Water
  - Public Health Goal or OEHHA recommendations
  - May respond to draft PHGs, EPA Health Advisory Levels
  - Perfluorinated chemicals (PFASs) – 2018
- Notification Levels are not enforceable; however state law…
  - Requires notification to governing body if NL exceeded
  - Recommends removal of source if 10 or 100 times NL

Public Health Goals & MCLs

- Division of Drinking Water will request OEHHA to develop a Public Health Goal prior to initiating a formal rulemaking on an MCL.
  - 1,4-dioxane
  - Trihalomethanes
- Development of a PHG takes 1-2 years

Occurrence Data

- How many sources/water systems have detections?
- What is population affected?
- Initial round of monitoring needed
  - UCMR (EPA), Title 22 or other
- PFASs monitoring orders
  - 640 sources statewide, high risk of contamination
    - UCMR detects
    - Landfills
    - Airports using firefighting foams

Technological and Economic Feasibility

- Analytical Methods
  - EPA approved drinking water method
  - 1,2,3-TCP needed CA approved method
- Treatment needed remove constituent from water
  - Best Available Technologies have not been identified
- Economic Impact of MCL
  - Hexavalent chromium will be re-evaluated

Review of Existing MCLs

- Health and Safety Code §116365
  - Review existing MCLs at least every 5 years
  - By March 1, notice each standard or MCL under review that year
- Consider changes in treatment technology
- New scientific evidence of a greater health risk
  - Public Health Goal
  - Greater occurrence in monitoring

1,2,3-TCP Maximum Contaminant Level
(1,2,3-Trichloropropane)

- **MCL 5 ng/L – Effective January 1, 2018**
- Public Health Goal (PHG) established 2009
  - 0.7 ng/L (parts per trillion)
- Synthetic organic chemical (SOC)
  - Industrial solvent, degreaser
  - Ingredient in soil fumigants widely used for many decades
- GAC is a best available technology
- Blending difficult with DLR = MCL

Perchlorate MCL Revision

- Revised Public Health Goal of 1 ug/L (2015).
- Current detection level for reporting (DLR) is 4 ug/L.
- July 2017 Decision to initiate two-step process for revising perchlorate MCL
  1. Amend Title 22 regulations to lower DLR
  2. Gather occurrence data below 4 ug/L for use in future MCL revision

Perfluorinated Chemicals

- Emerging constituents in drinking water from EPAs UCMR3 monitoring (2014-15)
- Man-made, does not breakdown easily
- Found in many consumer products, ex. cookware, food packaging, stain repellants, fire retardants
- EPA set initial Health Advisory Level (Oct 2016)
  - 70 ppt (PFOA + PFOS)
  - Lifetime exposure
  - Reproductive, developmental health effects

Perfluorinated Chemicals

- CA DDW Notification Level (July 13, 2018)

  PFOA: 14 ppt PFOS: 13 ppt

  – Confirmed detection in water delivered to public requires notification to the governing body(s) of the local agencies in the service area of the public water system
- Response level: 70 ppt (each or combined)
  – Recommends additional steps beyond notification to reduce exposure
  – Treatment or remove source from service

Other Emerging Constituents

- Lead DLR revision
- Microplastics
  - Definition and analytical method needed
- Cyanotoxins
  - Harmful algal blooms
  - UCMR 4 monitoring in surface water supplies
  - Optimization of surface water treatment plants
- Pharmaceuticals and Endocrine Disruptors (CECs)
  - Recycled Water, Potable Reuse

Contact Information

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Questions?

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