Connecticut Department of Public Health

Proposed Revision to Maximum Contaminate Level for TCE

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Presentation

- DPH Drinking Water Section & Environmental Epidemiology & Occupational Heath Unit Overview
- Proposed Revision to TCE MCL
- Process & Scientific review
- Next steps

CT DPH Drinking Water Section Responsibilities

- Responsible for Adequacy and Purity of Public Drinking Water Statewide
- Regulate over 2,500 Public Water Systems with 3,400 sources
- 2.8 million CT residents served – 3.5 million total population
- 96 systems serve over 1,000 people
- 460 systems serve under 1,000 people - small community systems; 332 not owned by larger water companies
- 2,000 non-community systems

Drinking Water Section

- Primacy of Safe Drinking Water Act - EPA
  - system engineering surveys
  - treatment/source review & approval
  - Drinking Water State Revolving Loan Fund
  - drinking water quality – oversight of monitoring and reporting
  - ground water rule
  - revised total coliform rule
- State Statutes
  - purity and adequacy of public drinking water
  - water company land regulation
  - recreation permitting, sale of excess water, certified operators, enforcement, source water protection
  - water supply planning and regional planning (WUCC)

Proposed Revision to TCE MCL

- Letter sent to Public Water Systems, Local Health Directors, CWWA and CT Section AWWA 2/13/15
- Top priority for Department of Public Health to ensure the safety of public health
- Improve the conditions that make people healthy "*Healthy People in Healthy CT Communities*"
- One of the top priorities of DPH – protection of the public health through the protection and monitoring of the state's drinking water supply

Proposed Revision to TCE MCL

- Maximum Contaminate Levels (MCL) – established per Connecticut General Statute 25-32(h) & Regulation Section 19-13-B102

- Majority of contaminate MCLs DPH adopts EPAs standards established per the Safe Drinking Water Act

- DPH toxicologists review and consider the latest scientific research for drinking water standards & may identify the need to modify MCLs to remain in step with underlying science and keep up to date

DPH Environmental & Occupational Health Unit

- Toxicologists/Epis address chemical risks
  - Remediation of waste sites w/DEEP and ATSDR
  - Setting fish advisories
  - Testing of artificial turf fields
  - Promoting healthy schools - IAQ
  - Setting of drinking water Action Levels
- Consistent Risk Assessment Methodology
- Participation on National Panels
  - USEPA SAB
  - NRC/NAS

MCL Revision Protocol (2/13/15 letter)

1. Literature search and evaluation
2. Highlight recent tox evaluations by other states and USEPA
3. Is there an elevated health risk at current MCL?
4. Is there strong scientific support for changing the MCL?
5. Would a change be feasible: detection and treatment
6. What costs and how do they compare to the benefits
7. External peer review
8. Draft the updated regulatory standard
9. Address any regulatory or stakeholder comments
10. Adopt the revised regulatory standard
11. Evaluate new & existing contaminants on an ongoing basis

Why TCE?

- TCE MCL 5 ug/L,1980s – based on PQL
  - MCLGoal = 0 ug/L
- Heavily studied contaminant
  - USEPA/IRIS 2011 - 1200 pgs
- Since 1980s evidence stronger for
  - Cancer – animals and humans
  - Developmental toxicity
    - Cardiac defects and immune disorders
  - Immune alterations – Autoimmunity
  - Other targets: nerves, liver, kidney

Why TCE?

- USEPA 2010 (6 Yr Review/2)
  - 67 of 71 analytes no need for updating
  - TCE one of only 4 contaminants ID'ed as candidate for regulatory revision

January 2011 USEPA statement:

"TCE and PCE are volatile organic compounds used in industrial and/or textile processing. In March, 2010, EPA determined that scientific advances allow for stricter regulations for these carcinogenic compounds and announced that the agency would initiate rulemaking efforts to revise the standards using the strategy's framework."

TCE Cancer Effects

- Carcinogen in all 6 animal studies
- Carcinogen in numerous occupational studies (15 for kidney)
- Carcinogen in several community studies
  - drinking water in NJ and leukemia
- USEPA 2011 – TCE is a Human Carcinogen
- TCE a mutagen for the kidney
- USEPA est cancer risk from current MCL – 10x de minimis
  - That doesn't consider inhalation

Maximum Contaminant Level Determination for

Trichloroethylene

December 2014
Connecticut DPH
Environmental and Occupational Health

DPH December 2014 Determination

- Reviewed USEPA 2011 IRIS
- Updated literature search
- Review of other states
- Determination – the current MCL is not health protective
  - Cancer, birth defects
    - Oral ingestion + inhalation in shower, washing dishes, etc.
    - Children's exposure and risk

DPH December 2014 Determination

- Candidate MCLs 0.2 to 1 ug/L
- Propose **1 ug/L** as revised MCL
  - Practical and feasible based upon experience in NJ
    - MCL of 1 ug/L since 1989
- Other States
  - Minnesota 2013 – Guidance of 0.4 ug/L
  - California 2009 – PHG of 1.7 ug/L
  - Florida 1980s – MCL of 3 ug/L

Scientific Peer Review of MCL Determination

- Panel of toxicologists from ME, MA, MN, NJ and CA
- Reviewed draft document
- Met via conference call
- Submitted written comments
  - Strong scientific evidence for ↓ing MCL
  - 1 ug/L or lower can be supported
- DPH report revised to accommodate peer review comments

Cost Benefit Analysis

- Review impact to public water systems
- Very small percentage of public water systems impacted based upon DPH review
- Cost impacts small compared to health benefits
- DWS staff to work with effected public water systems

Next Steps

- DPH to move forward with TCE MCL update
- Propose to update RCSA Section 19-13-B102
- Propose to move regulation revision forward following the draft Revised Total Coliform Rule

Thank You

- Any questions please contact:

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