

## **Unregulated Contaminants Monitoring Rule 3**

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## **Unregulated Contaminants Monitoring Rule ?**

- **Basically, an EPA-required and waterworks-funded research project**
- **EPA develops a list of contaminants for which occurrence data is missing or not fully developed, or for which analytical methodology is not fully established**
- **Waterworks conduct monitoring**

## **Types of UCMR Monitoring**

- **List 1: Assessment Monitoring** – analytical methodologies are established, monitoring is to fill in gaps in national occurrence data
- **List 2: Screening Survey** – analytical methodology recently developed, monitoring hopefully will settle questions about methodology and provide baseline occurrence
- **List 3: Pre-Screen Testing** – contaminant recently emerged, still working on analytical methodology

## **UCMR 1**

- **Published in Federal Register 17 Sept 1999**
- **Monitoring occurred 2001 – 2003 (some few selected systems monitored 2001 – 2005) – water-producing community and NTNC waterworks**
- **List 1: 13 chemicals**
- **List 2: 13 chemicals**
- **List 3: *Aeromonas***

## **UCMR 1 – Who/what**

- **List 1: All large waterworks (>10,000 population), 800 small waterworks (≤ 10,000)**
- **List 2: 300 EPA-selected waterworks: 120 large, 180 small**
- **List 3: 300 EPA-selected waterworks: 120 large, 180 different small**

## **What Happened?**

- **Results from UCMR 1 were used in making decisions about contaminants on the Contaminant Candidate List 2**
- **On 30 July 2008, EPA decided NOT to regulate 11 contaminants**

## **UCMR 2**

- **Published in Federal Register on 4 Jan 2007**
- **Monitoring was conducted Jan 2008 – Dec 2010 – final data was posted to EPA’s website in Feb 2012**
- **Covered 25 contaminants (nitrosamines, explosives, flame retardants, insecticides, pesticides, and degradates) (10 were on List 1, 15 on List 2)**
- **13 of 25 were not detected at all**

## **UCMR 2 “Hits”**

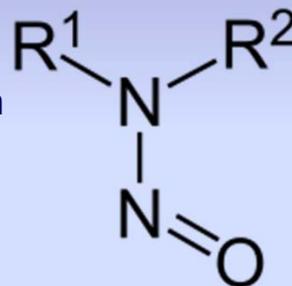
- **Detections above method reporting levels:**
  - **5 of 6 nitrosamines (predominantly NDMA)**
  - **6 of 11 insecticides, pesticides, or degradates**
  - **1 of 3 explosives**
- **Results will feed into upcoming Contaminant Candidate List and regulatory decisions**

## Nitrosamines

- In Sept 2010, EPA identified Nitrosamines as candidate for regulation “as a group” (per “new” EPA strategy announced by Administrator Jackson in March 2010)
- Now on the “short list” for the Regulatory Determination 3 (RD3) – expected mid-2012

## What Are Nitrosamines

- Compounds used in manufacturing
- Also show up in various foods – produced by reaction of nitrates with amines (proteins): beer, meats, cheeses, some fish
- Also show up in drinking water



## **Nitrosamines in Drinking Water**

- **Byproduct of reaction of nitrates with chloramines**
- **Have been found to leach from certain IX resins**
- **Breakdown product of certain treatment chemicals (polymers)?**

## **Why the Concern?**

- **All nitrosamines are classified as carcinogens (not really much debate)**
- **100 million people served by water systems with at least one detection of a nitrosamine (> 10 million people in systems with NDMA and at least one other nitrosamine)**
- **Controlling nitrosamines may be a way to reduce exposure to other DBPs**
- **Issue: how much exposure from drinking water, how much from food?**

## UCMR 3

- Final Rule published in Federal Register on 2 May 2012
- This is an EPA “direct-implement” rule – very limited role for VDH
- Monitoring to occur 2013 – 2015 – includes both water-producing and consecutive systems (community and NTNC)

## List 1: Assessment Monitoring

- 21 chemicals (metals, VOCs, dioxane, perfluorinated compounds)
- Requires waterworks > 10,000 to monitor
  - 73 VA waterworks (71 SW or SWP, 2 GW) – these waterworks have to pay for monitoring
- A national “representative sample” of waterworks ≤ 10,000 will be required to monitor
  - 15 VA waterworks (8 SW & 7 GW) – EPA will pay for the monitoring

## **List 2: Screening Survey**

- **7 hormones (estradiol, testosterone, estriol, etc.)**
- **Requires waterworks > 100,000 to monitor – these waterworks will pay for monitoring**
- **A national “representative sample” of 800 waterworks ≤ 100,000 will be required to monitor – EPA will pay for the monitoring**
  - **VDH hasn't seen the list of these waterworks**

## **List 3: Pre-Screen Testing**

- **2 viruses (norovirus and enterovirus)**
- **800 EPA-selected waterworks**
  - **Serve < 1,000 persons**
  - **Undisinfected groundwater as source**
  - **Community, NTNC, or TNC**
- **EPA (or contractor) will do the sampling**
- **One waterworks in VA selected**

## **What's happening so far (large waterworks)?**

- **Large waterworks should have received one or more letters from EPA (Apr or May 2012)**
- **Need to register ASAP for the data system!  
Your password expires in 90 days from date of letter**
- **Deadline for data entry is 1 Oct 2012 (contact info, info for sampling locations, etc.)**
- **Need to select your lab fairly quickly**

## **What about small waterworks?**

- **Waterworks will receive an introductory letter from EPA (date not clear)**
- **EPA will provide instructions on what samples are required and when to sample**
- **EPA will provide sample kits & instructions, plus shipping kits/labels**

## Hexavalent Chromium

- **AKA Hex-Chromium, or Chromium-6**
- **EPA's current PMCL (0.1 mg/L) is for Total chromium – includes both +3 and +6 states – chromium can change back & forth between states due to water chemistry**

## Why the Concern?

- **+6 appears to be more toxic than +3**
- **In September 2010, EPA proposed to classify +6 as “likely to be carcinogenic” to humans when ingested**
- **Very few waterworks speciate chromium, so no large data pool about occurrence (exposure)**
- **December 2010: Environmental Working Group releases report**

## Current Status

- In Jan 2011, EPA encouraged waterworks to voluntarily monitor for hex-chromium, as a way to increase data on occurrence (unfortunately, EPA provided no guidance on how to interpret the data)
- July 2011 – CA set a final Public Health Goal of 0.02 µg/L – CA also looking at a new State MCL
- Hex-chromium is part of UCMR 3, so the occurrence database will be significantly strengthened

## Lots of Issues

- Lack of understanding of chemistry (Cr+3 to Cr+6 and back, at plant and in distribution system)
- Limited understanding of specific species removal
- Residuals management
- Many concerns about the analytical method (it's part of List 1, but maybe should be List 2)

