SAFE DRINKING WATER
AND THE NEW ARSENIC STANDARD

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On January 22, 2001 the EPA revised the maximum contaminant level (MCL) for arsenic in drinking water from 50 parts per billion (0.05 mg/L) down to 10 parts per billion (0.010 mg/L).

In spring of 2001 EPA delays the effective date of the rule for 9 months to February 22, 2002.
Why the Delay?

- EPA had concerns about the adequacy of the science used in determining the new standard.

- EPA also questioned the compliance cost estimates associated with public water systems having to meet the new standard.
Activities During the Delay

- EPA seeks outside independent review and additional public comment during the delay

- The National Academy of Sciences, National Research Council (NRC) reviews studies and risk assessments used in establishing the new MCL of 10 ppb and The National Drinking Water Advisory Council (NDWAC) performs reviews of cost estimates
Conclusions

- NRC concludes that chronic exposure to arsenic is associated with an increased incidence of bladder and lung cancer at arsenic concentrations in drinking water that are below the current standard of 50 ppb.

- NDWAC concludes the EPA produced a credible estimate of the cost of arsenic compliance given the present constraints of rulemaking, data gathering, and cost models.
EPA Finalizes Arsenic Rule as Proposed

- EPA lifts the delay on the arsenic rule effective date
- Arsenic rule is officially final
- Effective date of the new standard is January 23, 2006
The arsenic rule is final… Now what?

- The debate over the rule/standard is over

- This is now public health issue that needs to be addressed (as confirmed twice by the Nation’s leading scientific body, National Academy of Sciences)
ADEQ initiates extensive outreach activities and develops the Arsenic Master Plan, Point of Use Treatment and Compliance Determination documents.
ADEQ Outreach

- ADEQ began outreach for the arsenic rule in 2001.
- ADEQ has conducted an averaged at least one outreach event per month since 2001 where arsenic was the topic.
- These outreach events have reached over 5,000 persons/water systems.
- ADEQ continues these arsenic rule outreach efforts.
Arsenic Master Plan

- Finalized in 2003
  (www.azdeq.gov/environ/water/dw/arsenic.html)

- Overall Goal: Help public water systems comply with the new arsenic standard
What the Arsenic Master Plan Means for Water Systems

- The Arsenic Master Plan guides Arizona water systems through the compliance process by:
  - Simplifying the requirements of rule
  - Allowing systems to select the compliance option that is right and appropriate for them
  - Allowing systems to understand the funding options and processes available to them
  - Allowing them to identify the means to improve the technical, managerial and financial capacity of the system and to identify sources of assistance
Point of Use (POU) Compliance Program Guidance Document/Policy

- POU guidance document/policy finalized in 2005
  (www.azdeq.gov/environ/water/download/pointofuse.pdf)

- Outlines requirements for using POU treatment devices
Arizona Compliance Policy


- In short, outlines how ADEQ will determine compliance with the new standard (e.g. monitoring time frames, use of grandfathered analytical data, etc.)
Additional Fact Sheets

- Arsenic Fact Sheet for Water Systems
  (www.azdeq.gov/download/factwater.pdf)

- Arsenic Fact for Consumers
  (www.azdeq.gov/download/factcons.pdf)
Impact of Arsenic Rule in Arizona

- Approximately 35%, or 330 of Arizona public water systems have one or more sources which do not meet the arsenic MCL of 10 ppb.

- These water systems provide approximately 4.1 million Arizonans with drinking water.
Number of Systems With at Least One Source Over the New Standard
How Does Arsenic Get Into Drinking Water in Arizona

- The arsenic found in Arizona drinking water supplies is naturally occurring
- Groundwater: Arsenic dissolves from rocks in which the aquifers are located
- Surface Water: Arsenic is also found at levels above 10 ppb in the Verde River
Effect of the Arsenic MCL on Arizona Drinking Water Systems

- The arsenic MCL will affect small water systems much more than large water systems (roughly 280 out of the 330 systems impacted by the new standard serve < 3,300 persons)

- Many large systems use wells to supplement surface water supplies during times of drought, peaking and canal dry up/maintenance so they will be impacted as well
Arsenic Will Have the Biggest Effect on Small Systems

- Profile of a small Arizona drinking water system:
  - Rural location
  - Few sources
  - Groundwater
  - Untreated
  - Limited storage
  - Operator has more than one job
  - Limited rate base
Impact to Regulatory Agencies

- Systems are slow to come forward with arsenic projects
- This may result in a high number of projects coming forward close to the compliance deadline(s)
- Validating and processing plans for treatment plants will be challenging
- Increased need for technical assistance
Time Extensions to Compliance Deadline

- Systems may request an “Exemption” from the January 2006 compliance date
- Systems must be actively on the path towards compliance to be eligible for a time frame extension
- Many systems are not at this point yet
Questions ???