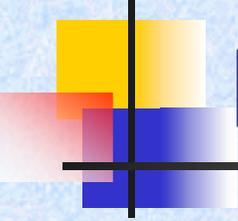


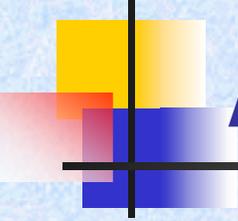
Arsenic Rule

State of New Mexico
Implementation Strategy



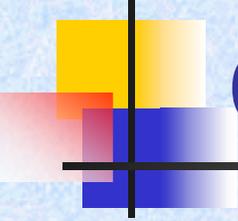
Regulatory Background

- Arsenic one of the original contaminants regulated as part of the 1974 Safe Drinking Water Act @ 50 parts per billion (ppb).
- New Arsenic Rule Promulgated in January 2001.
- Standard Implementation Date is January 23, 2006.
- The new Arsenic Rule lowers the Arsenic MCL from 50 ppb to 10 ppb.



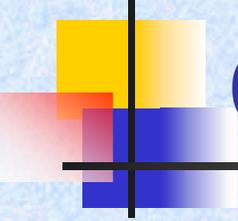
Arsenic Health Effects

- Arsenic is a chronic contaminant.
- Arsenic can cause lung, skin, or bladder cancer after prolonged exposure.
- Arsenic has multiple forms, including As^{3+} , As^{5+} , and can be found in food in an organic form as well.
- NMDOH is currently studying effects of arsenic in New Mexico.



Critical Issues for New Mexico

- Currently 90 of 806 affected public water systems in New Mexico have arsenic levels in exceedence of the new standard.
- Treatment technologies which are approved have several problems:
 - High Cost
 - Difficult to Operate
 - Inefficient or wasteful of water
 - Potential Waste Disposal
 - NPDES, Discharge Plan, Landfill (Solid Waste)

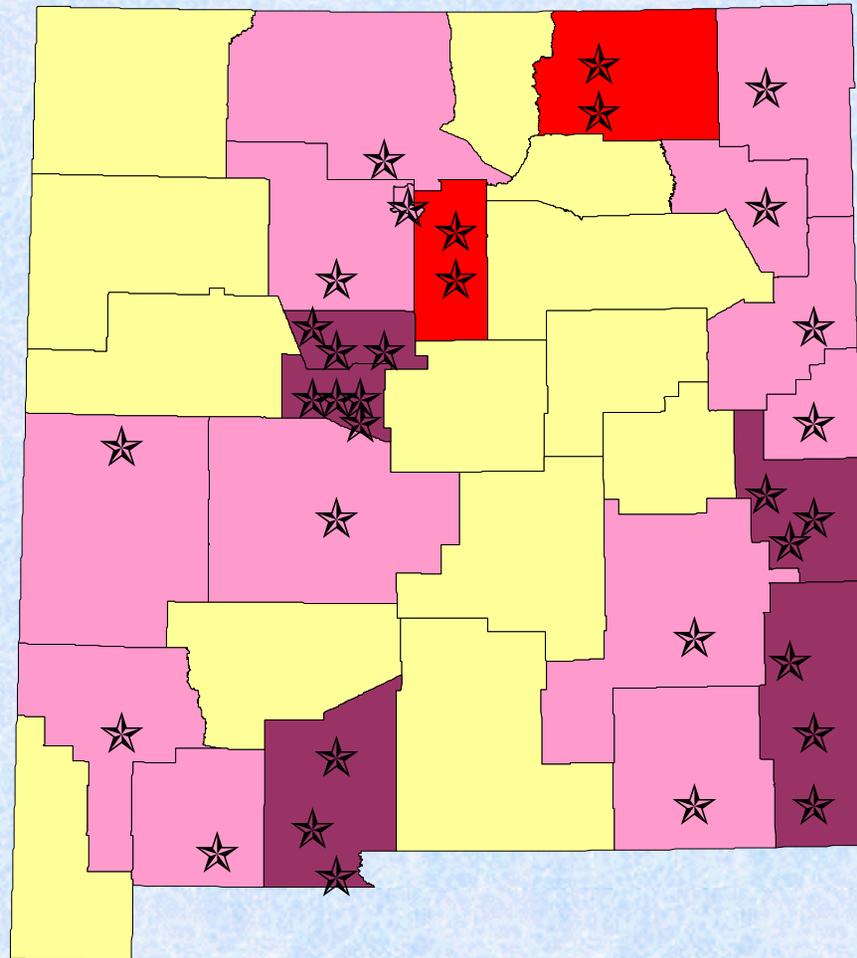


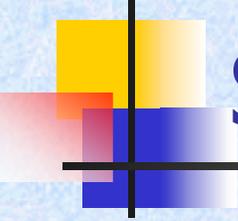
Critical Issues for New Mexico

- Waste Disposal
 - Waste Type (Liquid/Solid)
 - Waste Classification
 - Non-Hazardous
 - Hazardous
 - Radioactive
 - Other Statutes (NMED Bureau)
 - RCRA (HWB & SWB), CWA (SWQB), WQCC (GWB)

Distribution of Affected Systems

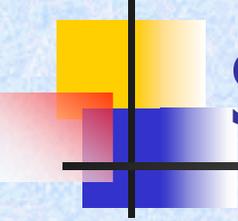
Locations of
NM Municipalities
with
Arsenic ≥ 10 ppb





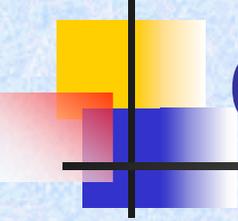
System Compliance Issues

- To avoid receiving a violation of the NMDWR, Public Water Systems must either:
 - Comply with the 10 ppb arsenic standard by the 2005–2007 compliance period or;
 - Apply for and receive either a variance or exemption from the Arsenic Rule.



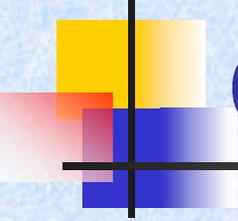
System Compliance Strategies

- Blend existing high arsenic waters with low arsenic waters before providing water to the public.
- Develop/Obtain a new water source with low arsenic.
- Install treatment on existing water sources to lower arsenic levels.



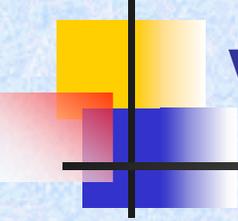
Compliance Development Issues

- Determination of Blending Criteria
 - Alternate Sampling Schedules
 - Entry Point (EPTDS) Sampling
 - Source Sampling
 - Other Distribution System Sampling
 - State will not allow distribution system sampling.
 - Frequency of Sampling
 - State will only cover costs equivalent to routine sampling (quarterly).
 - Compliance Sample Determination
 - Average Results by Quarter



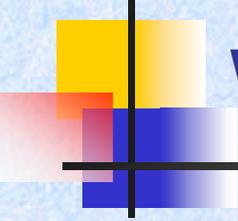
Compliance Development Issues

- Determination of Blending Criteria
 - Additional Reporting Requirements
 - Configuration of Distribution System
 - Pressure Zones
 - EPTDS's per Zone
 - Quantity of water provided per EPTDS.
 - Timeframe of usage of each EPTDS.



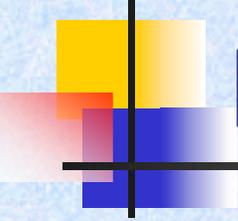
Variations and Exemptions

- A Primacy State can Issue Variations or Exemptions to Public Water Systems
- A Variance or Exemption requires:
 - Substantial Documentation of Need
 - Public Hearing
- Only Provides Extension of Time.
- Must be Completed Prior to Implementation Date.
- Any Variance or Exemption can be Reviewed and Overturned by EPA.



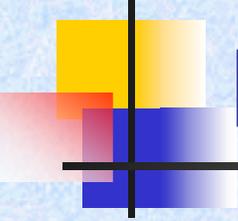
What is an Exemption?

- An Exemption allows a public water system additional time to comply with the national primary drinking water standard. A system must have compelling circumstances, such as financial hardship, to qualify for an exemption. Timeframe limited to 3 years for most systems.



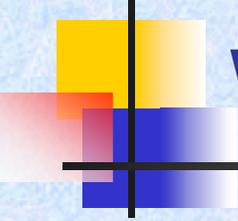
Example of an Exemption

- The Albuquerque Water System is planning to install a Surface Water Treatment Plant to comply with the standard, but construction will not be complete until May of 2008. The system can comply with existing standard (50 ppb) until May of 2008.



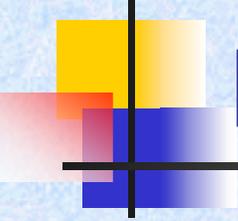
Requirements of an Exemption

- The system must be in operation at time standard goes into effect.
- Must show that management or restructuring changes cannot reasonably be made to achieve compliance.
- Must show that compelling factors (economic, other) prevent the water system from developing a new water source or complying with the MCL by implementation date.
- Must show that the extension requested will not pose unreasonable risk to health.



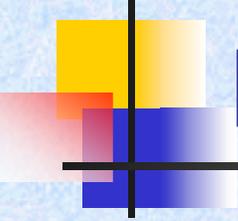
What is a Variance?

- A Variance allows a public water system to comply with an alternate drinking water standard. Variances are granted to systems which have installed a Best Available Technology, but, due to source water quality, will still be unable to comply with the national primary drinking water standard. Compliance timeframe is variable.



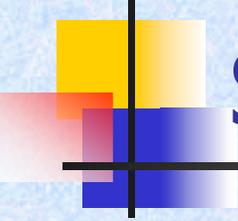
Example of a Variance

- A system may install Reverse Osmosis, but due to source water quality issues, can only treat the water to 15 ppb. If approved, a variance would be granted to allow the system to use 15 ppb as the MCL instead of 10 ppb.



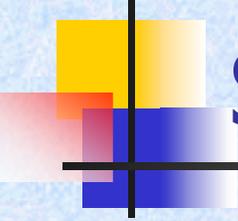
Requirements of a Variance

- Must show that an alternate water source is not reasonably available.
- Must install an EPA approved Best Available Technology (BAT).
- System must demonstrate inability to achieve compliance with MCL using the BAT.
 - Engineering Assessments
 - Pilot Plant Studies
- Must show that alternate MCL does not pose an unreasonable risk to health.



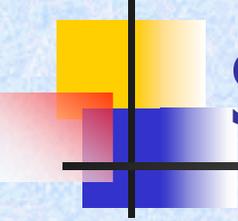
State Compliance Priorities

- Tier One: Low Cost/Complexity Options:
 - Restructuring, Blending, Consolidation
- Tier Two: High Cost/Complexity Options:
 - New Source, Treatment
- Tier Three: Exemptions
 - Fixed Timeframe; Easier to Qualify
- Tier Four: Variances
 - Not Recommended; Data Requirements extensive for New Mexico Systems



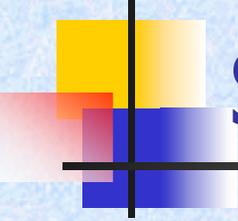
State Compliance Strategy

- STEP 1: Identify Systems with Arsenic > 10 ppb.
- STEP 2: Complete Arsenic Strategy
 - Obtain Stakeholder Input
- STEP 3: Send Letter to Impacted Systems.
 - Compliance Information & V/E Requirements
 - System Must Request V/E in writing
- STEP 4: Schedule Statewide Meetings on Compliance and Variance/Exemption Process
 - Meetings with Technical Assistance Providers
 - Meetings with Funding Agencies
- STEP 5: Process Compliance Reviews
- STEP 6: Process Requests for V/E's.



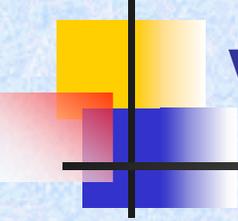
State Compliance Strategy

- Upon Receipt of Compliance Strategy:
 - Have System Oversight Staff Review
 - Coordinate with DWB Engineers as needed
- Upon Receipt of an V/E Request:
 - Have DWB Engineers Review
 - Obtain Additional Information
 - Coordinate with Other Agencies (TAP, Funding Agencies)
 - Determine if Request Constitutes an “Eligible V/E”
 - *90 Day Regulatory Deadline to Act on Request*
 - 90 Day Timeframe Begins Upon Receipt of Complete Application



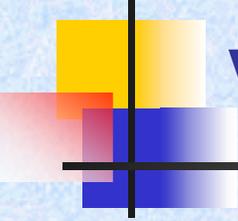
State Compliance Strategy

- Upon Determination of an Eligible V/E:
 - Develop V/E Package with System
 - Compliance Requirements
 - Obtain Dept. Secretary Approval
 - Schedule Public Hearing
 - Review V/E Package
 - Request Comment on Compliance Schedule
 - Address Any Issues from Public Hearing
 - Follow Up on Public Hearing Comments
 - Issue Final Exemption or Variance



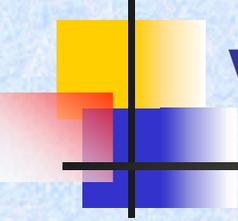
Variance/Exemption Submittals

- V/E Request/Submittal Concerns
 - Systems Must Provide Adequate Documentation
 - Internal Staff Resources
 - Technical Assistance Providers
 - Consulting Engineers
 - Significant Timeframe for Development
 - Minimal Assistance Provided by NMED for Development
 - Explanation of Forms
 - Records in File



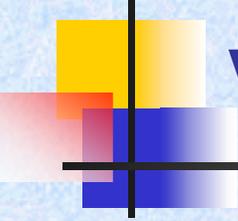
Variance/Exemption Submittals

- General V/E Submittal Requirements
 - Documentation of Inability to Comply by Mandated Implementation Date
 - Proposed Strategy for Compliance
 - Supporting Documentation
 - Proposed Timeframe for Compliance
 - Supporting Documentation



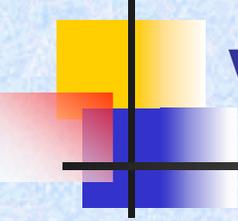
Variance/Exemption Submittals

- General V/E Submittal Requirements
 - Current Financial & Management Structure
 - Current Water Rates
 - Current Median Household Income
 - Certified Operator Documentation
 - Funding Considerations
 - Available internal funding (existing/future)
 - Available external funding (existing/future)
 - Feasibility of rate increases



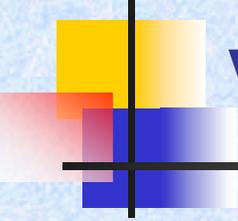
Variance/Exemption Submittals

- General V/E Submittal Requirements
 - Document Availability of Alternative Source of Water
 - New Water Source
 - Modified or Re-structured Water Source
 - Consolidation with Another System



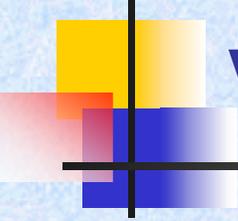
Variance/Exemption Submittals

- Exemption Submittal Requirements
 - Feasibility of Internal Restructuring
 - Management
 - Financial
 - Operational
 - Feasibility of External Restructuring
 - Joint operation with one or more PWSs



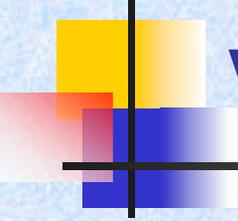
Variance/Exemption Submittals

- Exemption Submittal Requirements
 - Documentation of “Compelling Factors”
 - Financial Hardship
 - Project Timeframes
 - Funding
 - Design
 - Construction
 - Other (Water Rights Acquisition)



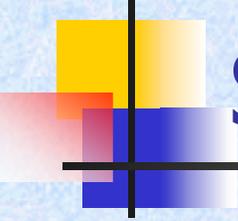
Variance/Exemption Submittals

- Variance Submittal Requirements
 - Documentation of Installation of BAT
 - Existing or Future (pre-1/23/2006)
 - Document Limitations or Restrictions for use of BAT
 - Documentation of Effectiveness of BAT
 - Identify Best MCL Standard Achievable
 - Supporting Engineering Assessments and Pilot Studies



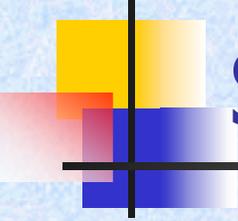
Variance/Exemption Submittals

- Variance Submittal Requirements
 - Documentation of Compliance Schedule
 - Schedule to comply with Alternate MCL
 - **Schedule to comply with 10 ppb MCL**
 - Documentation of Risk to Human Health
 - During Time until compliance with 10 ppb is achieved.
 - Epidemiology Studies or Other Information
 - Alternate water supplies or other strategies



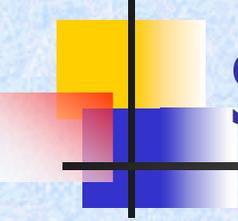
Strategy Implementation Issues

- **Determination of Sampling Dates (2005-2007)**
- Arsenic Information on Systems
- Arsenic Letter to Systems
- **Financial Hardship Criteria**
- **Equivalent Risk to Health Criteria**
- **Alternate Water Source Criteria**
- Coordination with Funding Agencies
- **Coordination on Public Hearings**
- Exemption/Variance Guidelines & Forms



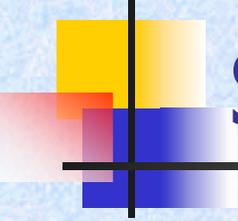
Strategy Development Issues

- Determination of Sampling Dates
 - New Arsenic Standard goes into effect 1/23/06.
 - Compliance Period runs from 2005 - 2007
 - Affected SW systems must sample by 12/31/06.
 - Affected GW systems must sample by 12/31/07.
- Flexibility in Sampling
 - Delaying sampling at affected systems “gains” up to two years to obtain compliance.
 - Sample Non-affected systems first. (2005-2007)
 - Sample affected systems in 2006 or 2007.



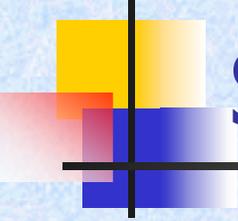
Strategy Development Issues

- Arsenic Information on All Systems
 - Database Query for Arsenic Data
 - Identify Systems in exceedance of 10 ppb standard
 - Database Query for Mail Merge information
 - Data obtained by IS Staff in Santa Fe
 - Complete by April 23, 2004



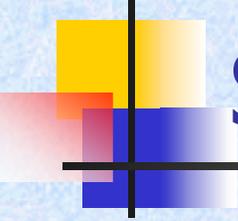
Strategy Development Issues

- Letter to All Affected Systems
 - Drafted by Arsenic Committee
 - Sent out to Systems by Central Office
 - Mail Out by July 9, 2004
 - General Information, to include:
 - Basic Rule Information
 - System Options for Compliance
 - V/E Details



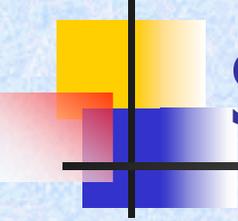
Strategy Development Issues

- Determination of Financial Hardship
 - Use Disadvantaged Status of Existing Capacity Development Program.
 - Systems with Affordability Ratio > 0.01 are considered to be eligible.
 - Cut-off date for systems to be eligible.
 - Systems must document initiating funding acquisition by September 2004.



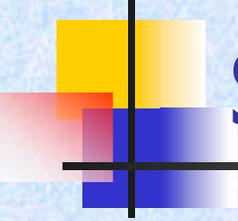
Strategy Development Issues

- Risk to Human Health Strategy \leq 3 Years
 - Based Upon EPA Cumulative Dosage Formula.
 - At 50 ppb from 2001 – 5 and 10 ppb from 2006 – 8, a person would be exposed to 280 ppb-years.
 - Evaluate system to see if existing arsenic level would result in a dosage $<$ 280 ppb-years I.e., At 35 ppb from 2001 – 2008, dosage = 280.
- Risk to Human Health Strategy $>$ 3 Years
 - Based Upon EPA Cumulative Dosage Formula.
 - Based Upon Other Information/Concepts:
 - NMDOH Epidemiology Studies



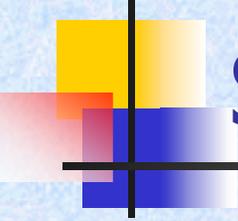
Strategy Development Issues

- Alternate Water Source Criteria
 - V/E will not be granted if an alternate water source is available, based upon:
 - System Serves < 3300 Population
 - Minimum Physical Separation of Systems.
 - Other Source Within One Mile.
 - Minimum Requirements of Other System.
 - Sufficient Water Quantity (meets combined demands)
 - Satisfactory Water Quality (meets standards)
 - Sound Infrastructure
 - Sanitary Surveys



Strategy Development Issues

- Coordination with Funding Agencies
 - Identify Eligible Funding Agencies
 - Identify Funding Timelines
 - Develop a Prioritization Strategy
 - Focus on systems with high arsenic levels
 - Tie with Capacity Development Program



Strategy Development Issues

- Coordination on Public Hearings
 - Legal Counsel & Dept. Hearing Officer
 - Develop Hearing Format
 - Subject Materials
 - Staff Involvement
 - Administration of Hearings
 - Locations
 - EPA allows Regional Hearings
 - Set Up (Newspaper Ads, Rooms, etc.)