



## Money Saving Services Provided by NDRWSA

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## Providing Water and Sewer Service

- Water and sewer service is a fundamental building block of the physical infrastructure of a community.
- Providing these services today are more complex than ever.
- Of the approximate 54,000 community water systems, about 50,000 of those serve a population under 10,000.

## Challenges

- New Federal Rules and Regulations
- Limited Funding
- Operator Turn-over
- Aging Infrastructure
- **Insert your own problems here!**

## New Federal Regulations

- Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBP)
- Long Term 2 Enhanced Surface Water Treatment Rule (LT2)
- Ground Water Rule (Future Rule)

## Stage 2 DBP

- Rule applies to community and nontransient noncommunity water systems that add and/or deliver water that is treated with a primary or residual disinfectant other than ultraviolet light.
- Builds off of Stage 1 DBP

## Stage 2 DBP

- Intended to reduce potential cancer and reproductive and developmental health risks from disinfection byproducts (DBPs) in drinking water, which form when disinfectants are used to control microbial pathogens.
- Over 260 million individuals are exposed to DBPs.

## Benefits/Costs

- EPA has projected that the rule will prevent approximately 280 bladder cancer cases per year.
- Of these cases, 26% are estimated to be fatal.
- The average cost of the rule is \$79 million annually.

## LT2

- Applies to all public water systems (systems) that use surface water or ground water under the direct influence of surface water.
- The purpose is to reduce illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water.

## LT2

- Includes about 14,000 systems serving approximately 180 million people.
- Monitoring starting dates are staggered by system size. The largest systems (serving at least 100,000 people) will begin monitoring in October 2006 and the smallest systems (serving fewer than 10,000 people) will not begin monitoring until October 2008.

## LT2

- Testing for Crypto is expensive and there is a limited number of Labs that will even do the testing.

## Benefits/Costs

- Gastrointestinal illness' caused by ingestion of *Cryptosporidium* will be reduced by 89,000 cases.
- Associated reduction of 20 to 314 premature deaths.
- Average costs of the LT2ESWTR are estimated to range from \$92 to \$133 million.

## Ground Water Rule

- The GWR will apply to public water systems that serve ground water.
- The purpose of the rule is to establish a multiple-barrier approach to protect against waterborne pathogens in drinking water from ground water sources.

## Ground Water Rule

- Periodic Sanitary Surveys
- Hydrogeologic Sensitivity Assessments
- Source Water Monitoring
- Corrective Action
- Compliance Monitoring

## Benefits/Costs

- Reduces waterborne viral illness by just over 96,000.
- Also reduces deaths by 9 each year
- Annual costs are estimated to range from \$177 to 188.4 million.
- Effective date of this rule is still being anticipated

## Limited Funding

- In the 70's and 80's the federal government gave grants to water systems to help upgrade to meet new regulations.
- Grants were replaced in 1987 with the State Revolving Fund.
- The Grant Game is getting harder to play each year.
- Systems are being asked to carry more of the burden.

## Operator's Role

- It will take dependable operators to help overcome these challenges.
- Retirement and Turn-Over has taken its toll on many systems.
- Responsibility vs. Pay is a big factor

## Aging Infrastructure

- American Society of Civil Engineers issued the nation's drinking water infrastructure a "D" grade.
- Drinking water infrastructure falls short about \$11 billion each year.
- As high as \$23 billion a year by 2020!

## Aging Infrastructure

- What is the current condition of your infrastructure?
- Do you have a plan to combat all of these challenges?
- What is your system going to do?
- Who can they turn to?

## NDRWSA Provides Money Saving Services!

- Provides FREE, on-site technical assistance to rural and small water systems throughout North Dakota, with populations of less than 10,000.
- Background
- 1-800-349-6951
- A one stop shop

## NDRWSA

- Circuit Riders (East and West)
- Wastewater
- Ground Water Protection
- Source Water Protection
- Operator Certification
- Water Conservation
- Technical Assistance Training

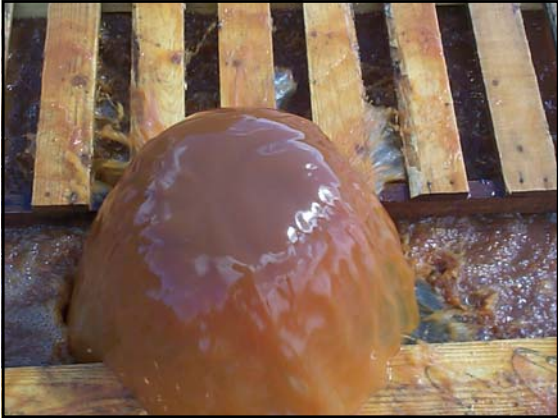
## NDRWSA

- In 2005 our programs traveled 154,345 miles, spent 829 days on the road, visited 1694 systems and provided 2614 hours of on-site assistance.

## Services Provided

- Leak Detection Surveys
- Water Audits
- Service Line Identification
- Curb Stop Locates
- Meter Testing
- Poly-Pigging

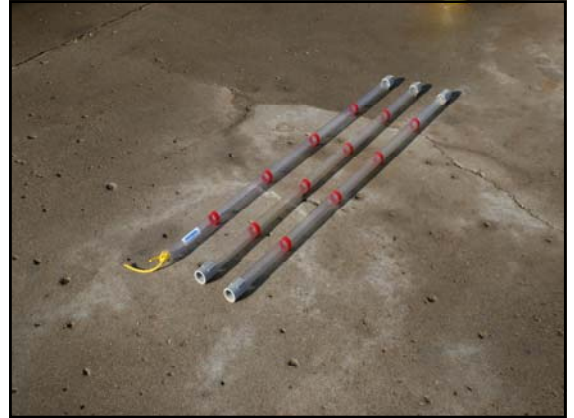






## Services Provided

- Lagoon Troubleshooting
- Sludge Testing
- Smoke Testing



## Services Provided

- Ground Water Protection
- Source Water Protection
- Operator Certification
- Water Conservation

## Services Provided

- Free Regional Training
- Electronic Newsletter
- Website, [www.ndrw.org](http://www.ndrw.org)
- Water Systems Expo – February
- Operator Expo - September
- Rate Analysis, Rate Structuring, and Rate Development

## System Rates

- Most funding for water comes from the revenue generated by prices
- Pricing water to accurately reflect the true costs (**Full Cost Pricing**) of providing water service is needed
- The increasing scarcity of water needs to be reflected in price
- A well-conceived rate structure is the foundation of a well-run water system

## Developing Water Rates

1. Determine the full cost of doing business by calculating your costs
2. Determine Your Current Revenue
3. Set Aside Reserves, Asset Repair and Replacement
4. Determine Actual Revenue Required from Your Customers
5. Design a Rate to Cover Your Costs

## Considerations for Choosing a Rate Structure

- Rate Stability
- Rate Predictability
- Number of Customers
- Customer Classes
- Water Use
- Customer Needs

## Common Rate Structures

- Flat Rate or Fixed Fee
- Uniform Rate or Single Block Rate
- Decreasing Block Rate
- Increasing Block Rate
- Seasonal Rates
- Lifeline Rates
- Surcharges

## Developing Water Rates

6. Implementing the Rate
  1. Educating the Public
  2. Building Public Support
7. Reviewing the Rate
  1. Remember that water rates have a short life span. Rates should be examined annually to determine if adjustments need to be made.
  2. Contact NDRWSA for Assistance!!!!!!!!!!!!!!

## Other Considerations

- Affordability
  - Based on Household Median Income (HMI) of the community or service area
  - EPA states that water service is affordable if the average connection pays between 1.5% and 2.5% of the HMI
  - An Average US Household uses 90,000 gallons per year

## Affordability

- HMI = \$30,000
- $\$30,000 \times 2.5\% = \$750$

## Affordability

- The shift for affordability is moving towards 1%
- HUD recommends 0.8%
- American Households spend, on average, only \$474 per year on water and wastewater service.
- That same household spends \$707 per year on refreshment beverages.

## Affordability

- US vs. the rest of the World's developed countries
- Lowest burden for water/wastewater services

## Rate Odds and Ends

- Prices signal value to consumers and help determine whether consumers use water efficiently.
- Where are we now? Where do we want to be? How do we get there? How will we measure our progress?
- A Family of three in Washington DC had a water bill of \$21.24, Las Vegas \$14.60 and Los Angeles at \$16.93.

## Rate Odds and Ends

- There is a tendency to set rates based more on politics than on the costs of operations and planned capital improvements.
- Does Your System have a 1970's Rate?
- Turning on the Tap: Is Water the Next Oil? Water is a \$400 billion global industry.

## Rate Odds and Ends

- Run Your System Like a Good Business!
- Raising Revenues Without Raising Rates
- Ten Ways to Save Money

## In Conclusion

- NDRWSA is a one stop shop for all your water and wastewater needs.
- NDRWSA helps water and wastewater systems save money by providing these valuable services!

•1-800-349-6951