



# Innovative Regulatory Tools

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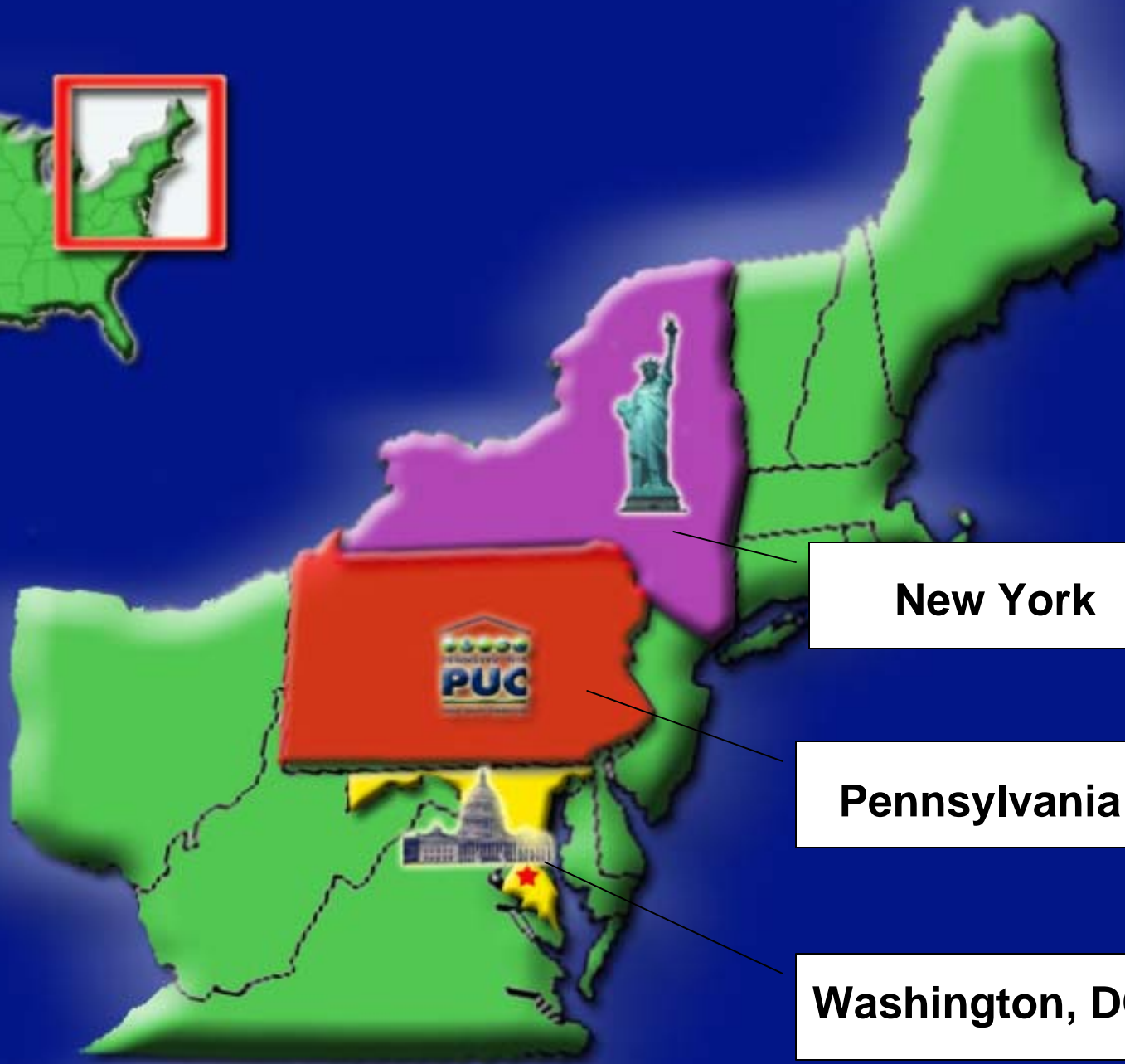
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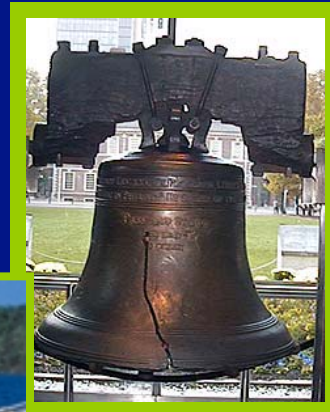




**New York**

**Pennsylvania**

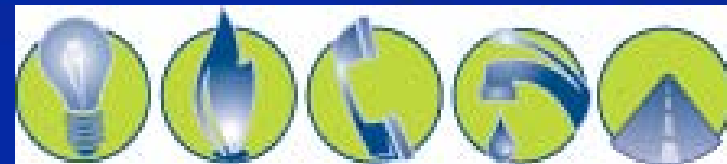
**Washington, DC**



# Utilities We Regulate



- Electricity



- Natural Gas

- Local Telephone Service

- Water/ Wastewater

- Transportation Services



# Changing Role of Regulation

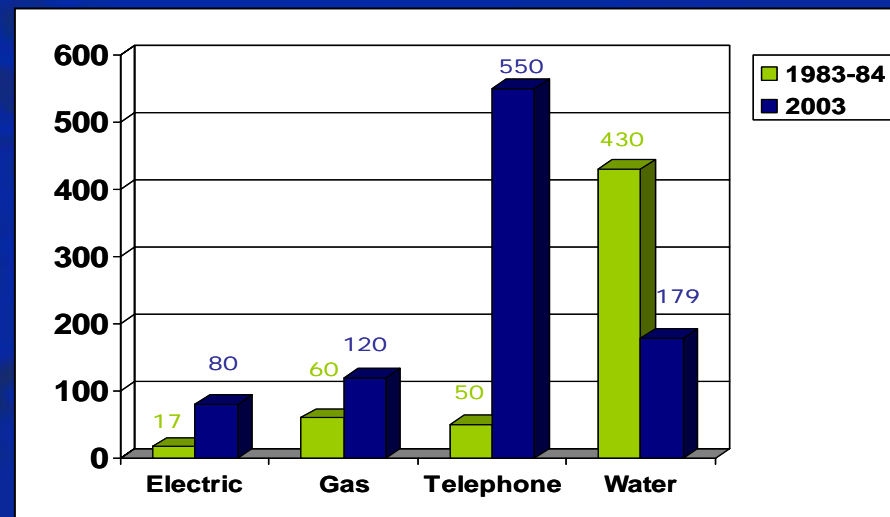


## 1983-84

- 17 electric utilities
- About 60 gas companies
- About 50 telephone companies
- About 430 water companies

## 2003

- About 80 electric companies
- 120 gas companies
- About 550 phone companies
- About 179 water companies



# PA PUC Jurisdictional Water Systems



<u>REVENUES</u>	<u>SYSTEMS</u>	<u>CUSTOMER RANGE**</u>
“A” - \$1 Million and Over	7	7,549-548,110
“B” - \$200,000 to \$999,999	17	43 - 2,935
“C” - Less than \$200,000	<u>+88</u>	5 -1,242
Total Investor Owned Companies	112	
Municipals Serving		
“Outside” Customers	<u>+ 30</u>	10 - 25,272
<b>TOTAL Jurisdictional Water Systems</b>	<b>142*</b>	

\*As of April 29, 2004

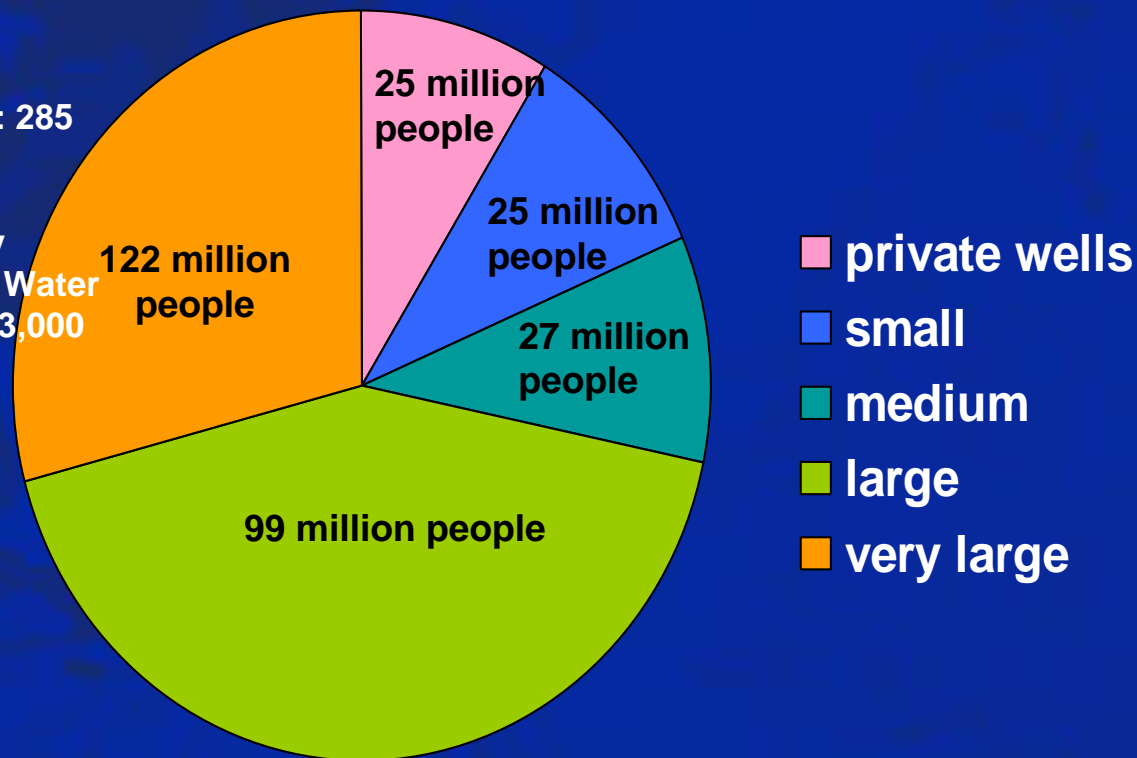
\*\*Based on best available data, may not represent 100% of jurisdictional systems

# U.S. Water Industry Demographics



Total U.S.  
Population: 285  
million  
Total U.S.  
Community  
Drinking Water  
Systems: 53,000

Source: U.S. EPA "Factoids"  
Drinking Water and Ground  
Water Statistics for 2003



- 44,000 small community drinking water system (CDWS) - serving < 3,300 people
- 4,700 medium CDWS – serving < 10,000 people
- 3,500 large CDWS – serving > 10,000 people
- 360 very large CDWS – serving > 50,000 people

# The Problem: Unprecedented Infrastructure Investments are Necessary Today



- Significant portion of nation's infrastructure is reaching the end of its useful life and will need to be replaced
- Total 20-year infrastructure need nationwide estimates range from \$150.9 billion - \$360 billion - \$1 trillion\*

\*Sources: EPA Infrastructure Needs Study, 1999; AWWA Infrastructure Needs Report, 1998; WIN Report, 2000





# The Problem: Unprecedented Infrastructure Investments are Necessary Today, cont.



- Nationwide transmission and distribution need over 20 years: \$83.2 Billion (of the \$150.9 Billion Total)
- Funding is limited

\*Sources: EPA Infrastructure Needs Study, 1999;  
AWWA Infrastructure Needs Report, 1998; WIN  
Report, 2000



**Are There Any  
Solutions?**



# Rate Making Innovations:



- Low-Income Rates
- Acquisition Incentives
- Distribution System Improvement Charge (“DSIC”)
- Single Tariff Pricing
- “Pass-Throughs”
- Small Utility Rate Filing Procedures
- Technical Assistance
- Operating Ratio
- Flexible Rate Tariffs
- Emergency Funds
- Mediation & Settlements





# **Rate Making Innovations: Low-Income Rates**

# Why?



- Duty to protect the public interest
- Increasing costs of compliance
- NARUC
- Increase in the number of payment-troubled customers
- Seniors and truly needy
- Win/win situation



# Focus on National Water Quality Standards



- Treatment costs & rates likely to increase as water quality standards evolve\*
- Increased rates should be addressed via:
  - A LIHEAP-equivalent or other federal program,
  - A customer assistance program or other tool
- Lowering water quality standards to suppress rates for low-income ratepayers should not be supported
- ***All Americans are entitled to identical National drinking water quality standards***



\*Other major factors causing rates to rise include infrastructure remediation, security and new source development

# Pending Solutions and Recommended Steps



- Proposed Federal Program: LIHEAP-Equivalent for Water Customers
  - Utilizing LIHEAP as a model for water customers is currently under consideration by several groups
- EPA workgroup discussing multiple solutions, including tapping state revolving loan funds
- Utilities and PUCs can review development of a CAP or other mechanisms



# What's Been Done?



- NARUC resolution to consider implementation of LIHEAP-Equivalent program
  - Water and Consumer Affairs Committees
- NRRI survey to ascertain needs
  - Has been sent to all PUCs
  - Next, survey to be sent to utilities & OCAs
- Pennsylvania experience
  - 140 regulated water utilities in PA
  - Four existing customer assistance programs



# Customer Assistance Program - Example: Pennsylvania-American Water



## “H2O-Help to Others”

- Utility Hardship Funds— Cash assistance is provided to eligible customers to assist with their water bill payments
  - Funded through company/shareholder match (up to \$60,000) of customer & employee donations (dollar check-off option on bill)
- Low Income Rate - PAWC, with Commission approval of a special tariff, provides a 50% discounted rate for eligible low income ratepayers (on service charge portion of bill)

# Pennsylvania-American Water: “H2O-Help to Others,” cont.



- Conservation component – consumption reduced through:
  - Conservation devices (installation assistance)
  - Minor plumbing repairs to stop leaks
- Administered by third parties
  - Dollar Energy Fund
  - Conservation consultants (water saving education & devices)
  - Coordination with community-based organizations for customer awareness

# Ratemaking Innovations: Acquisition Adjustments



- Theory: To provide an incentive for viable water companies to purchase smaller, non-viable companies
- Design: Allows the difference of purchase price and depreciated original cost to be included in rate base (v. traditional ratemaking, which precludes recognition of anything other than depreciated original costs)
- Term: Typically amortized over 10 years



**Rate Making  
Innovations:  
Distribution System  
Improvement Charge  
("DSIC")**

# The DSIC is . . .



## An Automatic Adjustment Charge

- Enables utilities to accelerate infrastructure remediation
- Infrastructure remediation costs can be recovered on a quarterly basis vs. the next rate increase
- Makes projects more affordable for both utilities and ratepayers
- Allows for a swifter rate of remediation



# Ratepayer Benefits



Accelerated Infrastructure Improvement Results in Overall Improved Viability on a Long-Term Basis

- Improved Water Quality
- Improved Fire Protection
- Improved Pressure
- Improved Service Reliability

DSIC Lengthens Time Between Base Rate Filings

- Greater Rate Stability Achieved
- Lowers Rate Case Filing Expense

# THE PROBLEM: Service Deterioration Likely Unless Significant Infrastructure Investment is Made



- Increased Main Breaks
- Frequent Service Interruptions
- Low Pressure
- Discolored Water
- Threatened Water Quality
- Inadequate Fire Protection
- Greater Unaccounted-for Water



# THE PROBLEM: Infrastructure Remediation Requires Significant Capital Expenditures



Original Cost of Distribution System has  
Increased Substantially

- Cost to Install 1 Foot of Main in 1900:  
Approximately \$1.00
- Cost to Replace 1 Foot of Main Today:  
Approximately \$100.00
- Cost to Clean and Reline 1 Foot of Main:  
Approximately \$61.00



(Source: Pa.-NAWC Companies)



# The Regulatory Problem:



## Traditional Ratemaking Designed for Growth-Oriented, Revenue-Producing Additions

- Main Replacement and/or Cleaning and Relining is:
  - Not Revenue Producing
  - Not Expense Reducing



# The Regulatory Problem:



- Traditional ratemaking practices:
  - Encourage annual rate increases
  - Act as an impediment to achieve scale of infrastructure remediation necessary today (due, in part, to long service lives and regulatory lag)



# The Right Tool



Automatic Rate Adjustments are Permitted under Pennsylvania Statute for Other Purposes:

- Fuel Cost Adjustments for Electric and Gas Utilities
- Certain State Taxes
- PENNVEST Repayment



# Revenue-Neutral Projects Allowed Under DSIC



- Main / Valve Replacement
- Main Cleaning and Relining
- Fire Hydrant Replacement
- Main Extensions to Eliminate Dead Ends
- Solutions to Regionalization Projects
- Meter Change Outs



# Ratepayer Protections



- Surcharge Limited to a Maximum of 5% of Total Bill
- Annual Reconciliation Audit
  - Over-collections will be Refunded with Interest;
  - Under-collections will be Billed into Future Rates without Interest Recovery
- Surcharge Reset to Zero at Time of New Base Rates



# Rate Making Innovations: Single Tariff Pricing



- **Design:** Spreads the costs of major capital improvement projects among multi divisions of a large, viable utility that serves numerous smaller, non-contiguous divisions throughout a region or State
- **Theory:** Helps prevent rate shock by smoothing localized rate spikes over a larger customer base



# Rate Making Innovations: “Pass-Throughs”



- Functions- Single issue rate case to enable increased costs of purchased energy or water to be “passed thru” to customers
- Benefit- Limits costs of a multi-issue rate case when increased costs are due to one cost driver( an electric utility rate increase for example
- Typically for small systems only



# Rate Making Innovations:



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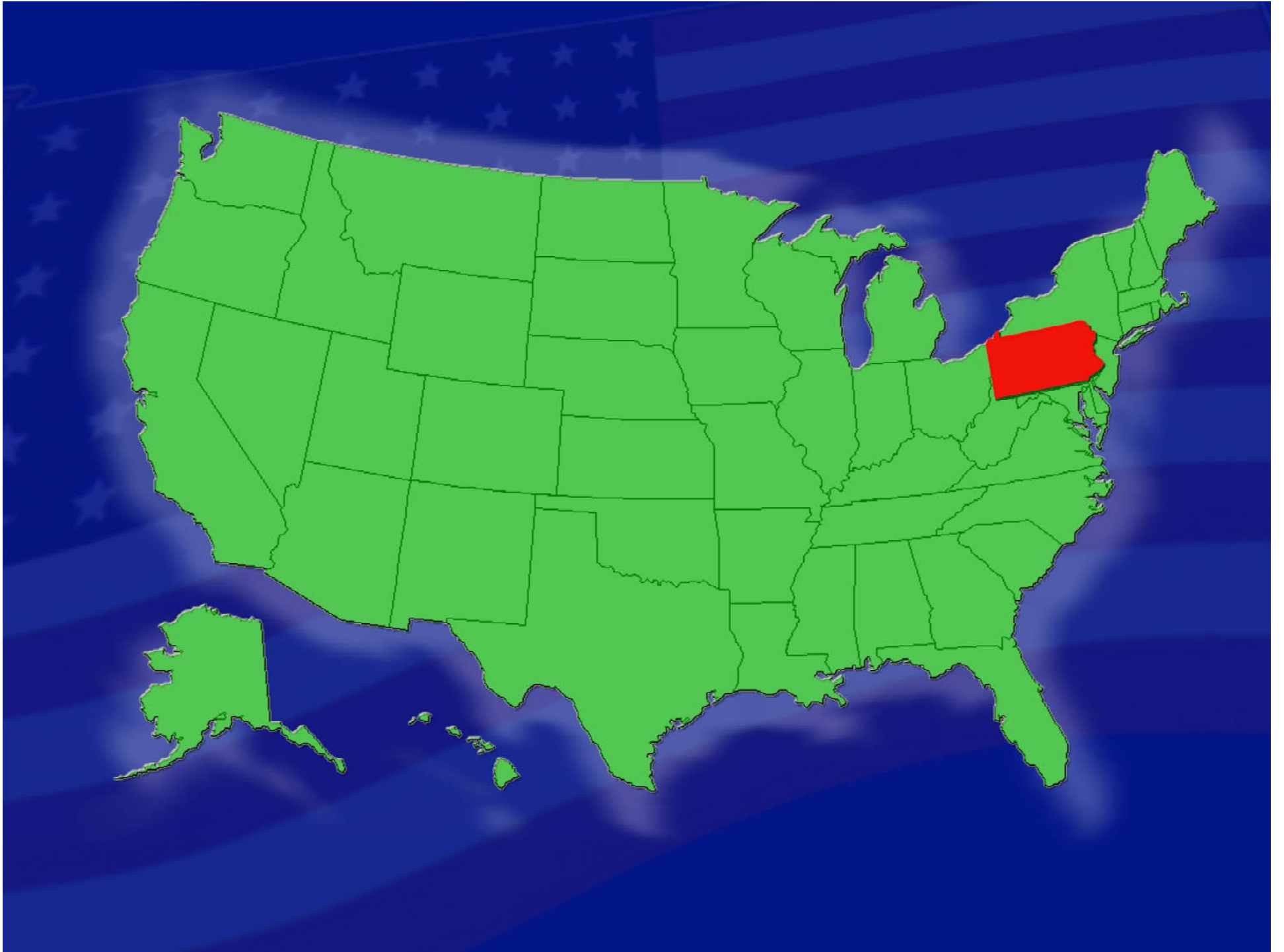


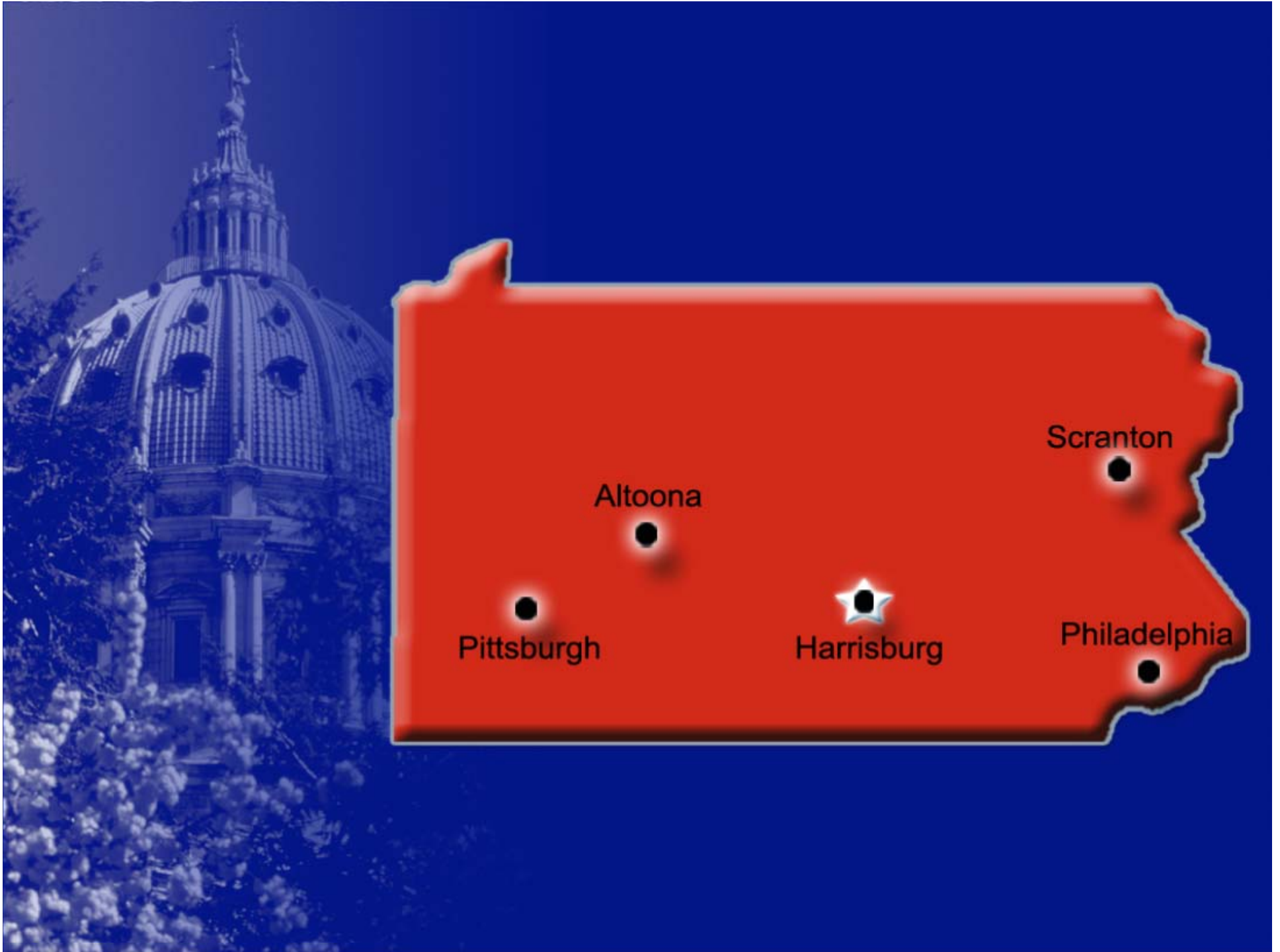
# Conclusion



There are so many innovative regulatory mechanisms available to Regulators while regulating the water industry







Scranton

Altoona

Pittsburgh

Harrisburg

Philadelphia

# The Commonwealth of Pennsylvania



- The 6th most populous state (12.4 million)
- The 32nd State by land size (44,817 sq. miles or 116,075 sq. km)
- Nickname - “The Keystone State”
- Capital – Harrisburg
- Major city – Philadelphia (1.5 million)



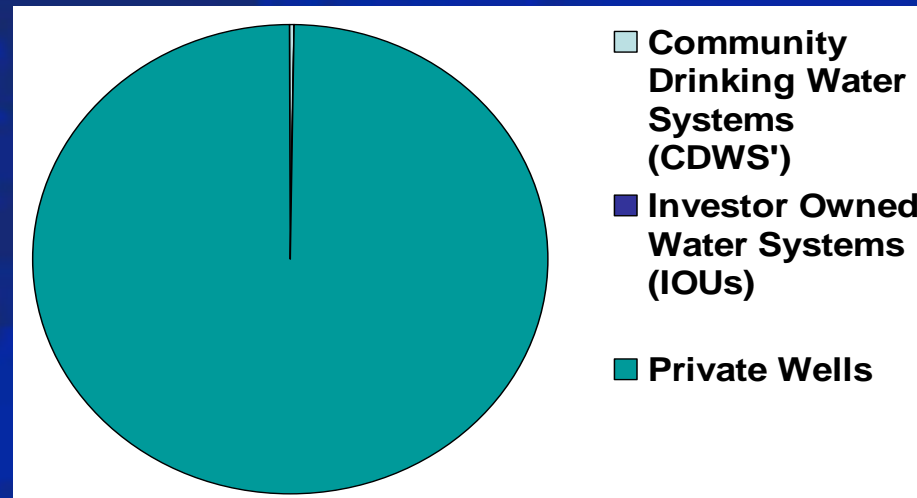
# PUC Mission Statement



The Pennsylvania Public Utility Commission ensures safe, reliable and reasonably priced electric, natural gas, water, telephone and transportation service for Pennsylvania consumers, by regulating public utilities and by serving as responsible stewards of competition.



# Pennsylvania Water Industry by Ownership



- CDWS' - All drinking water systems, including local-government owned systems, other publicly-owned systems, and IOUs
  - 2,200 CDWS'
  - The Pennsylvania Department of Environmental Protection regulates the water quality of all CDWS'
- IOUs – Of the 2,200 CDWS,' 100 are IOUs
  - The rates and service of IOUs are regulated by the Pennsylvania Public Utility Commission
- Private Wells - 1.2 million

# Regulatory Mechanisms Available



- Customer assistance programs (“CAPs”)
- Payment arrangements
- Regionalization – economies of scale
- Single tariff pricing
- Rate increase phase-ins



# Unprecedented Infrastructure Investments are Necessary Today



- Significant Portion of Nation's Infrastructure is Reaching the End of its Useful Life and Will Need to be Replaced
- **Total 20-Year Infrastructure Need Nationwide Estimates Range From \$150.9 Billion - \$360 Billion - \$1 Trillion\***
- Nationwide Transmission and Distribution Need over 20 Years: \$83.2 Billion (of the \$150.9 Billion Total)
- Funding is Limited

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# The Right Tool for the Job



An automatic adjustment charge enables recovery of costs between base rate cases

- Mitigates regulatory lag impact
- DSIC projects are ongoing, short in duration
- Otherwise, utilities cannot earn a return on infrastructure replacement projects until next rate case, and will continue to incur depreciation expense



# DSIC Impact



## Example

### *Pre-DSIC Rehabilitation Pace:*

- Requires 904 years
- 1995 - 14 Miles Completed; Entire System Would Require 246 years

### *Current Pace with DSIC :*

- Since 1997 - 23 Miles Completed Annually; Entire System Can be Completed in About 125 Years

# DSIC is the Solution



Ideal Mechanism to Accelerate Infrastructure Remediation

## For the Ratepayer:

- Low Charge, High Value
- Average Monthly Residential DSIC Rates Ranged from \$.03 to \$1.42

## For the Commission:

- Straightforward Mechanism for Staff
- Virtually No Customer Complaints
  - Ongoing Ratepayer Education Process Utilized by Water Utilities

# Ratepayer Protections



- Surcharge Limited to a Maximum of 5% of Total Bill
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