FLORIDA PUBLIC SERVICE COMMISSION

Distribution System Improvement Charges for the Florida Water and Wastewater Industry

Prepared by

Division of Policy Analysis and Intergovernmental Liaison

October 2001

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I. INTRODUCTION

The need to replace aging infrastructure is a serious and costly problem being faced by many water and wastewater utilities throughout the United States. Many of the drinking water systems in the United States were built at the turn of the century and need to be replaced or improved by cleaning and relining. Although many of Florida's systems are only 20 or 30 years old, they face similar problems with deteriorating infrastructures. Aged and deteriorated water mains can result in poor service for customers due to increased main breaks, frequent service interruptions, low pressure, discolored water, threatened water quality, inadequate fire protection, and greater unaccounted for water.

As with most things, the cost of infrastructure replacement has increased significantly over the years. For example, in 1900 the cost to install one foot of main was $1. The cost to replace one foot of main today is approximately $100. The cost to clean and reline one foot of main is approximately $61. In 1996, the U.S. Environmental Protection Agency (EPA) determined that the infrastructure investment needed nationwide over the next 20 years is $138.4 billion. Of that total, $77.2 billion is needed just for transmission and distribution systems. The magnitude of needed replacements is so great that traditional rate making methodologies are unlikely to enable infrastructure improvements on a large enough scale at a rate that is affordable for ratepayers, and sufficient federal funding is not available to fill the gap.

A few states, including Pennsylvania, Illinois, Indiana, and New York, have implemented mechanisms to address the growing need for utilities to replace aging infrastructure. While a majority of the discussion herein centers on distribution systems, the Distribution System Improvement Charge (DSIC) can also be readily used for collection system improvements which are often more costly than water distribution improvements. This report briefly describes the mechanisms each of these states has in place as well as those that have been discussed in Connecticut and Florida.

II. PENNSYLVANIA

Pennsylvania determined that $2.9 billion of transmission and distribution remediation was needed over the next 20 years. In order to address this need, the Pennsylvania Public Utility Commission (PPUC) developed the Distribution System Improvement Charge (DSIC). Pennsylvania was the first state to implement this type of surcharge to enable remediation of the water distribution system infrastructure.

History of Pennsylvania's DSIC

Section 1307 of Pennsylvania's Statutes authorizes the PPUC to prescribe a mandatory system for automatic adjustment of a utility's rates, by means of a sliding scale of rates or other method. Although Section 1307 was typically used as authority for automatic rate adjustments for fuel costs of electric and gas utilities, it had also been used on occasion for certain state taxes and PENNVEST repayment. (PENNVEST is the Pennsylvania Infrastructure Investment Authority, which is an independent agency that offers an innovative approach to financing local clean water infrastructure projects. PENNVEST provides low-interest loans and grants to fund local water, wastewater, and stormwater projects.)

In 1996, under the provisions of Section 1307, two utilities petitioned the PPUC for approval to file an automatic adjustment charge tariff to establish a DSIC. A formal complaint was filed by the Office of Consumer Advocate, the Pennsylvania equivalent of Florida's Office of Public Counsel. The PPUC approved the petition on August 22, 1996, and the Office of Consumer Advocate subsequently filed an appeal.

While the appeal was pending in Commonwealth Court, an amendment was introduced in the Pennsylvania Legislature to add a provision to Section 1307 of the Public Utility Code. The amendment specifically provided for the allowance of an automatic adjustment charge for infrastructure remediation. The Legislature approved the bill, and Governor Tom Ridge signed the bill into law on December 18, 1996. The revised statute was implemented in 1997. Section 1307(g) of the Pennsylvania Statutes states:

> **Recovery of costs related to distribution system improvement projects designed to enhance water quality, fire protection reliability and long-term system viability.**--Water utilities may file tariffs establishing a sliding scale of rates or other method for the automatic adjustment of the rates of the water utility as shall provide for recovery of the fixed costs (depreciation and pretax return) of certain distribution system improvement projects, as approved by the commission, that are completed and placed in service between base rate proceedings. The commission, by regulation or order, shall prescribe the specific procedures to be followed in establishing the sliding scale or other automatic adjustment method.

For clarification, the phrase "base rate proceedings" in the Pennsylvania Statute is what is referred to in Florida as a rate case or full rate proceeding. Pennsylvania was the first state to enact a law that enables water utilities to recover costs that are related to water utility improvement projects. The PPUC subsequently approved a DSIC for four utilities, which will be discussed in more detail later.

Definition & Purpose of Pennsylvania's DSIC

The DSIC blends the concepts of a surcharge and an automatic adjustment charge. A surcharge establishes a mechanism for cost recovery outside of the utility's basic revenue

requirement. In other words, a surcharge will allow recovery of a cost that was not previously included in the utility's rates. Also, surcharges often are defined for a specific purpose and time frame. The DSIC is a surcharge that allows the recovery of costs related specifically to distribution system improvement projects designed to enhance water quality, fire protection reliability and long-term system viability. The projects are typically ongoing, but short-term in nature.

An automatic adjustment charge enables a utility to recover costs between rate cases. Otherwise, utilities are unable to earn a return on infrastructure replacement projects until their next rate case, but they will continue to incur depreciation expense. The automatic adjustment charge helps to mitigate the impact of regulatory lag on the utilities' recovery of those costs.

The PPUC has stated that the purpose of the DSIC is to: (1) recover the fixed costs (depreciation and pretax return) of certain nonrevenue producing, non expense reducing distribution system improvement projects completed and placed in service between rate cases; (2) provide the utility with the resources to accelerate the replacement of aging, water distribution infrastructure in order to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act (SDWA); and (3) develop and implement solutions to regional water supply problems. Although the mechanisms employed by other states may go by a different name, they are all defined similarly and serve the same purpose.

Benefits of Pennsylvania's DSIC

The PPUC believes the benefits of the DSIC are that it:

- enables utilities to accelerate infrastructure remediation;
- enables utilities to recover infrastructure remediation costs on a quarterly basis rather than waiting until the next rate case; and
- makes projects more affordable for both utilities and ratepayers.

For example, if a utility has 5,600 miles of mains that it is currently able to rehabilitate at a rate of 25 to 30 miles each year, it would require between 185 and 225 years to make all of the needed improvements to the existing facilities. Under traditional rate making, an attempt to accelerate the remediation rate from 200 years down to 75 years would triple customers' rates. However, allowing for recovery of the DSIC project costs in small increments without the necessity for a full rate proceeding enables the utility to make the replacements at a faster pace and at a lower cost to the customers.

Simply stated, the bottom-line benefit of the DSIC is that it enables utilities to provide improved service to customers sooner. The direct customer benefits resulting from accelerated system remediation include improved water quality, improved fire protection, increased pressure, fewer service interruptions, and more time between rate cases, leading to greater rate stability and lower rate case expense.

Implementation of Pennsylvania's DSIC

Under Section 1307 of the Pennsylvania Statutes, a utility may request approval of the DSIC through a tariff filing. The new tariff filing must provide for a notice period of at least 60 days to allow sufficient time for staff review of the proposed tariff. Once the DSIC becomes effective, subsequent quarterly updates may be filed on 10 days notice.

The following property is eligible for the DSIC:

- services, meters, and hydrants installed as in-kind replacement for customers;
- mains and valves installed as replacements for existing facilities that have worn out, are in deteriorated condition, or mandated upgrades;
- main extensions installed to eliminate dead ends and to implement solutions to regional water supply problems that have been documented as presenting a significant health and safety concern for customers currently receiving service from the utility or the acquired utility;
- main cleaning and relining projects; and
- un reimbursed funds related to capital projects to relocate utility facilities due to highway relocations.

The DSIC-eligible property items are recorded in the appropriate accounts under that Commission's prescribed accounting system, such as the National Association of Regulatory Utility Commissioners (NARUC) Uniform System of Accounts (USOA).

In essence, the DSIC is intended to be limited to revenue-neutral infrastructure projects, consisting principally of replacement investments in so-called "mass property" accounts. Items that are specifically excluded from DSIC-eligibility are the costs of extending facilities to serve new customers, and projects receiving PENNVEST funding.

The initial DSIC is calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the utility's rate base and will be placed into service within one month prior to the effective date of the initial DSIC. Thereafter, the DSIC is updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month periods ending one month prior to the effective date of each DSIC update. To illustrate, assume that the initial DSIC will become effective January 1, 2001. The initial DSIC will reflect the fixed costs of eligible plant additions occurring from the date the utility's rate base was last established through November 30, 2000 (i.e., one month prior to the initial DSIC effective date of January 1, 2001).

The subsequent DSIC updates would occur as follows:

Effective Date Of Change	Date to which DSIC-Eligible Plant Additions Reflected
April 1, 2001	February 28, 2001
July 1, 2001	May 30, 2001
October 1, 2001	August 31, 2001
January 1, 2002	November 30, 2001

The utility would continue to follow this schedule until its next rate proceeding or when it meets one of the criteria that requires cancellation of the DSIC. Those criteria will be discussed in more detail later.

The fixed costs of DSIC projects consist of depreciation and pretax return. The PPUC has specified that the depreciation expense will be calculated by applying to the original cost of DSIC-eligible property the annual accrual rates employed in the utility's last rate case for the plant accounts in which each retirement unit of DSIC-eligible property is recorded.

Additionally, the PPUC has specified that the pretax return will be calculated using the state and federal income tax rate, the utility's actual capital structure and actual cost rates for long-term debt and preferred stock as of the last day of the three-month period ending one month prior to the effective date of the DSIC and subsequent updates. The cost of equity will be the equity return rate approved in the utility's last fully-litigated rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years have elapsed between the entry of the final order and the effective date of the DSIC, the equity return rate used in the calculation will be the equity return rate calculated by the PPUC staff in the latest Quarterly Report on the Earnings of Jurisdictional Utilities released by the PPUC.

The PPUC developed sample tariff language to be used for DSICs. The sample tariff language was designed to fully explain the DSIC computation, including a listing of DSIC eligible property and related account numbers, so that in future years the purpose and intent of the DSIC surcharge will be apparent from reading only the tariff supplement. Much of the information discussed above is on the sample tariff, which is shown as Attachment A of this report.

The DSIC surcharge is expressed as a percentage carried to two decimal places and is applied to the total amount billed to each customer under the utility's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge. The formula used to calculate the DSIC is shown on page 3 of Attachment A.

Monitoring Pennsylvania's DSIC

Many of the objections to the DSIC involve customer protection. In order to protect ratepayers, the PPUC has established several safeguards. First, as discussed above, utilities may request approval of a DSIC as a tariff filing. The tariff filing procedures allow protest of the tariff filing from affected parties. That is the first level of customer protection. Second, in order to protect the ratepayers after a DSIC is implemented, the PPUC has established safeguards such as a noticing requirement, a limit on eligible plant, a used and useful requirement, a cap on the surcharge, an annual audit, and customer refunds in the event of over earnings. Also, the surcharge is reset to zero in the utility's next rate case or if the utility over earns.

Regarding customer noticing, the PPUC requires that an explanatory bill insert be included with the first billing of the DSIC. Thereafter, the utility must notify customers of changes in the DSIC (e.g., quarterly update of DSIC) by including appropriate information on the first bill that they receive following any change.

Some opponents of the DSIC believe it provides utilities with a way to circumvent the detailed review that the rate base would receive in a full rate proceeding. The PPUC has addressed that concern in several ways, the first of which is to limit the type of property that is eligible to be recovered through the DSIC as previously discussed. Further, in order to avoid any potential violation of the "used and useful" rule, each surcharge period is limited to reflect only those costs of eligible plant additions that are actually placed in service during the three-month period ending one month prior to the effective date of the DSIC upgrade. Finally, the PPUC imposed a 5% cap on the surcharge. The maximum amount allowed for any DSIC is 5% of billed revenues. The PPUC believes the price cap will ensure that the utility cannot avoid a full rate review indefinitely. In other words, the DSIC will provide the utility with needed resources to accelerate infrastructure remediation, but will not provide a sufficient increase in revenues to permanently avoid a full rate case.

As an additional safeguard, an audit will be conducted on an annual basis for reconciliation of the difference between revenues and costs. If revenues exceed eligible costs, over collections will be refunded to the customers with interest. Under collections will be billed in future rates without interest recovery. Further, the rate will be reset to zero under several circumstances. When the utility has its next rate case, the plant items covered by the DSIC will be placed in the utility's rate base. This results in those costs being recovered through the normal service rates on a going-forward basis. In order to prevent double recovery of those costs, they must be removed from the DSIC. Consequently, the DSIC will be reset to zero at that time. Additionally, if the utility's earned rate of return exceeds its allowable rate of return as determined in its last rate case, the charge will be reset to zero.

Effectiveness of Pennsylvania's DSIC

In the 1998 National Association of Water Companies Pennsylvania Forum, Commissioner Norma Mead Brownell of the Pennsylvania Public Utility Commission stated that the DSIC provoked little consumer reaction and resulted in infrastructure investment that otherwise would not have occurred. In Pennsylvania, four utilities have implemented a DSIC thus far. As previously discussed, rehabilitating a utility's distribution system at a rate of 20 to 30 miles per year may take more than 200 years to replace all the facilities. Pennsylvania has experienced the following changes in the remediation rate since implementation of the DSIC:

Utility #1:
- Before DSIC: 1995 - 14 miles completed; entire system would require 246 years
- After DSIC: Since 1997 - 23 miles completed annually; entire system can be completed in 150 years

Utility #2:
- Before DSIC: 1995 - DSIC-type projects - $1.2 million
- After DSIC: 1998 - DSIC investment - $1.7 million
- Projected 2000 - DSIC investment - $2.5 million
- Projected 2001 - DSIC investment - $2.7 million; 117 years to complete entire system at this rate

Utility #3:
- Before DSIC: 27 miles completed annually; entire system would require 225 years
- First Year of DSIC: 42 miles completed; entire system would require 178 years at this rate
- Second Year of DSIC: 46.6 miles completed; entire system would require 163 years at this rate

Utility #4:
- After DSIC: Five-fold increase in main projects

It should be noted that these four utilities vary greatly in size. For example, the plant-in-service ranges from $95 million to $1.4 million. However, it is clear that in each instance the rate of system remediation improved after implementation of the DSIC. The PPUC believes the DSIC is an ideal mechanism to accelerate infrastructure remediation.

Overall, the DSIC makes water distribution improvement projects more affordable for water customers at a substantially faster pace. The average monthly residential DSIC rates in Pennsylvania ranged from $.03 to $1.42. The PPUC believes this is a low charge with a high value. Finally, the PPUC believes the DSIC is a cost-effective way to facilitate infrastructure replacement, and is in the public interest.

III. ILLINOIS

In response to legislation, the Illinois Commerce Commission (ICC) is in the process of developing a surcharge mechanism called the Qualifying Infrastructure Plant Surcharge (QIP) which closely resembles the Pennsylvania DSIC.

History

Illinois' QIP was lobbied through the legislature in 1999 by Consumers Illinois Water Company (CIWC), which is a subsidiary of Philadelphia Suburban Corporation (PSC), the nation's second largest investor-owned water utility, serving approximately 150,000 residents in Illinois. PSC operates water utilities in Pennsylvania, Ohio, New Jersey and Maine. CIWC claimed that similar legislation passed in Pennsylvania enabled the company to reduce the replacement of its aging water mains from a 500-year replacement cycle to a 100-year time frame. The ICC did not take a position regarding the proposed legislation. The Illinois legislature enacted Section 9-220.2 of the Statutes that allowed the ICC to authorize a surcharge to encourage regulated water or sewer utilities to accelerate replacement of qualifying infrastructure plant. The ICC is currently in the process of developing rules to implement the QIP. In March, 2001, the ICC concluded a workshop on its proposed rule to implement the QIP. Information contained within this report is from a draft rule and therefore subject to modification.

Benefits of Illinois' QIP

The cosponsor of the bill stated the hope that the ICC, "will quickly develop regulation that will give incentives to water utilities to replace aging infrastructure at a more aggressive pace." He further stated, "the model legislation has worked well in other states and after careful consideration by the Illinois legislature, we believe it will be good for jobs, good for firefighters and good for the customers."

Implementation of Illinois' QIP

The QIP is a surcharge which is applied to the bills of water and wastewater customers in the rate zone in which improvements are made. Customers are grouped into various rate zones, served under different rates, dependent upon their location. Therefore, the surcharge is applicable only to customers in areas in which improvements are made, and not spread over the utility's entire service area.

Like Pennsylvania, the purpose of the QIP is to recover the fixed costs of certain nonrevenue producing, non expense reducing eligible plant additions. The fixed costs recovered through the QIP are the pretax return on the net additions and the net depreciation expense applicable to the additions.

To be classified as QIP, plant additions must meet the following criteria:

- Such in-kind replacements are installed to replace facilities that are worn out or in deteriorated condition.
- Such in-kind replacements are installed after the conclusion of the test year in the utility's latest rate case.
- Such in-kind replacements were not included in the rate base in the utility's last rate case.
- The plant additions must be in-kind replacements of existing plant items from the accounts listed for water utilities and sewer utilities.
- Such in-kind replacements are nonrevenue producing and non expense reducing.

For water utilities, the plant additions may include items from the following accounts:

- Services;
- Meters and Meter Installations;
- Hydrants; and
- Transmission and Distribution Mains

For wastewater utilities, the plant additions may include items from the following accounts:

- Collecting Sewers - Force;
- Collecting Sewers - Gravity; and
- Services to Customers.

In addition to in-kind replacements, qualifying mains also include main extensions to eliminate dead ends. Additionally, the un reimbursed costs associated with relocations of mains, services, and hydrants occasioned by street or highway construction can be included in the appropriate accounts.

Monitoring Illinois' QIP

In order to protect ratepayers, the ICC has proposed several safeguards to limit the level of the surcharge and adjust the surcharge based upon either over earnings or inclusion of improvements included within the QIP in rate base in subsequent rate proceedings.

Cap: The QIP is capped at 5% of the base rates billed to customers.

New Base Rates: The charge is reset at zero on the effective date of new base rates that provide for the recovery of the annual costs that had previously been recovered under the QIP.

Earning Reports: The QIP will be adjusted if data filed with the ICC in the utility's most recent quarterly earnings report shows that the utility, during the preceding twelve months, earned a rate of return that exceeded the authorized rate of return on the rate base approved by the ICC in

the utility's last rate case. If the utility's rate of return for the preceding twelve months, from the earnings report that excludes revenues resulting from the QIP, exceeds that authorized rate of return on the rate base approved by the ICC in the utility's last rate case, the QIP will be reset at zero. If the utility's rate of return for the preceding twelve months, from the earnings report that includes revenues resulting from the QIP, exceeds the authorized rate of return on the rate base approved by the ICC in the utility's last rate case, the utility will adjust the QIP so that the earnings of the next quarter, based upon revenues including the QIP, will not exceed the authorized rate of return on rate base approved by the ICC in the utility's last rate case.

Customer Notice: The Illinois Public Utility Act requires that a utility provide notice to customers for each change in rates. Therefore, an explanatory bill insert will be included with the initial billing of a QIP. The proposed rule requires the QIP to be shown as a separate line item on customer bills and the resulting revenue to be recorded in a separate revenue sub account.

The proposed rule also requires that a utility makes an initial filing. The percentage of the initial QIP must be filed on an information sheet. The QIP must be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month periods ending one month prior to the effective date of each QIP update. The changes in the QIP rate will occur as follows:

Effective Date Of Change	Date to Which QIP Eligible Plant Additions Reflected
April 1	February 28/29
July 1	May 31
October 1	August 31
January 1	November 30

The information sheet and supporting data for each quarterly update should be filed with the ICC no later than the 20th day of the month preceding the effective date of the change. An information sheet and supporting data filed after that date, but prior to the effective date, will be accepted only if it corrects an error or errors from a timely filed report for the same effective date. Any other information sheet and supporting data will be accepted only if submitted as a special permission request to become effective on less than 45 days notice.

Based upon the proposed rule, the utility would file the following information with the ICC for the initial filing and each quarterly filing:

- A calculation of the QIP, pretax return, and gross revenue conversion factor;
- A detailed schedule showing the QIP eligible projects closed to utility plant. This schedule will provide the plant account number and title, category of project, project name, project description, work order number, dollar amount in the month of closing, and the month and year of closing for each QIP eligible project;
- A detailed schedule showing the calculation of depreciation expense; and
- The utility's most recent quarterly earnings report for the rate zone showing the utility's earnings for the preceding twelve months as well as a calculation of the rates of return for the preceding twelve-month period.

Costs recoverable through the QIP include the pretax return on the QIP and the net depreciation expense applicable to the QIP. The pretax return is calculated using the weighted cost(s) of equity determined in the utility's last rate case. The weighted cost(s) of equity is multiplied by the gross revenue conversion factor (GRCF). The product(s) is then added to the weighted cost(s) of debt to obtain the pretax return. The pretax return is calculated using the formula shown on **Attachment B.**

Effectiveness of Illinois' QIP

The QIP is not in effect pending final rule approval.

IV. INDIANA

The Indiana Utility Regulatory Commission (IURC) has implemented a Distribution System Improvement Charge (DSIC) model that is similar to the one Pennsylvania developed to enable remediation of the water distribution system infrastructure.

History of Indiana's DSIC

On July 1, 2000, Indiana enacted legislation to establish the DSIC mechanism in Indiana. The legislation is similar to that previously enacted in Pennsylvania.

Benefits of Indiana's DSIC

Indiana's DSIC is designed for the replacement of aged infrastructure without the necessity of filing for general rate increases that would substantially increase costs to customers and delay such undertakings. The DSIC enables utilities to accelerate infrastructure remediation and recover remediation cost annually rather than waiting until the next rate case. This will make projects more affordable for both utilities and ratepayers. It will improve water quality, enhance fire protection and public safety as well by the replacement of pipelines.

Implementation of Indiana's DSIC

Pursuant to the Indiana Code, a public utility providing water service may file with the Commission rate schedules establishing a DSIC that will allow the automatic adjustment of the public utility's basic rates and charges to provide for recovery of DSIC costs. However, the public utility may not file a petition under this section in the same calendar year in which it has filed a request for a general increase in basic rates and charges. In addition to the Commission, the utility is required to serve the Office of the Utility Consumer Counselor (OUCC) a copy of its filing. Publication of notice of the filing is not required. When a petition is filed, the Commission must conduct a hearing and issue its order within 60 days. The OUCC may examine the utility's information to confirm that the system improvements are in accordance with the statute, to confirm proper calculation of the proposed change, and to submit a report to the Commission not later than thirty days after the petition is filed.

Monitoring Indiana's DSIC

Pursuant to the Code, at the end of each twelve-month period the DSIC charge is in effect, the public utility is required to reconcile the difference between DSIC revenues and DSIC costs during that period and recover or refund the difference, as appropriate, through adjustment of the charge by using procedures approved by the Commission.

Effectiveness of Indiana's DSIC

At this time, two of Indiana's largest companies are prevented from seeking recovery through a DSIC, due to rate settlements. Another company, AquaSource, Inc., applied for recovery through the DSIC, but later withdrew its request. At this time, no company in Indiana is using the DSIC recovery mechanism. Therefore, it is impossible to determine its effectiveness in speeding up replacement of aging water utility infrastructure.

Of interest is AquaSource's apparent reason for withdrawing its application. Although AquaSource would not divulge its reasons for withdrawal, it appears, based on a letter to the Florida Commission staff, that it may have been partially due to a difference in its interpretation of a phrase in the statute. The controversial phrase reads:

> The commission may not approve a DSIC to the extent it would produce total DSIC revenues exceeding five percent (5%) of the public utility's base revenue level approved by the commission in the public utility's most recent general rate proceeding.

AquaSource interprets the phrase "base revenue level approved by the commission in the public utility's most recent general rate proceeding," to mean the rates approved in the last general rate case as applied to current billing determinants or current base revenue levels. The OUCC interprets the phrase to mean the actual base revenue level approved in the last rate case proceeding. Thus, the Indiana OUCC believed AquaSource was requesting considerably more than the statute entitled them. In its letter, AquaSource stated that because the proceeding was shaping up to be adversarial, it would not be concluded without considerable time and cost. AquaSource further pointed out that,

> ...any legislation or rules should be clear how the DSIC should be applied. Otherwise, the intent of the legislation for an increase in low cost/abbreviated proceedings and small incremental rate impacts may be lost and the exact opposite may occur, i.e. an increase in costly/extended general rate proceedings resulting in higher rate impacts.

V. NEW YORK

The New York Public Service Commission (NYPSC) approved recovery of United Water New Rochelle's requested Long Term Main Renewal Project (LTMRP) through a surcharge similar to that approved by the states previously discussed.

United Water New Rochelle is a wholly owned subsidiary of United Water Works Inc., which, in turn, is wholly owned by United Water Resources Inc. The operating company is almost 110 years old and operates in 11 municipalities in Westchester, serving slightly more than 30,000 customers. The company's customer base is 91% residential, 8% commercial and apartments, and 1% industrial and public authorities. There is little customer growth.

The distribution system includes 440 miles of mains sized between 3/4" and 42". Almost 70% of all company mains are 6"-8" in diameter, most of the mains are cast iron, and more than 50% are unlined pit-cast iron pipes with an average age of more than 90 years.

History of New York's Surcharge

On September 15, 1999, United Water New Rochelle filed for an increase in rates and revenue requirement. The case was subsequently suspended and set for hearing. Prior to a final decision by the NYPSC, the parties entered into settlement negotiations. On August 21, 2000, the NYPSC entered its final order approving a modified settlement agreement. As part of the agreement, the NYPSC approved, with modification, the utility's requested LTMRP.

For some time, United Water New Rochelle had been evaluating how to renew or extend the lives of many of its older mains, primarily by relining them, at a lower cost than replacing all of them. The company suggested this project would take approximately 27 years and would cost approximately $6 million per year or a total of approximately $160 million.

New York commonly uses surcharges as a cost recovery tool for such items as purchased water expense and the Delaware Interconnection Project. The costs associated with the LTMRP will likewise be recovered through a surcharge. Approval of this surcharge is done administratively in this case and is utility-specific. New York has no legislation or rules regarding this specific charge. The LTMRP will initially run three years consistent with the phase-in of the approved service rates.

Definition & Purpose of New York's Surcharge

The purpose of the program is to provide main renewal to ensure adequate delivery capacity, reduce leaks, enhance overall service quality, and limit the annual investment to be made in the project, minimizing the effect on customer bills. Approval of the LTMRP in association with the surcharge provides a means to prioritize projects subject to Commission review.

Benefits of New York's Surcharge

Through the surcharge, a main renewal program can be initiated which will reduce leaks and help ensure delivery reliability. Additionally, limiting annual expenditures should serve to prioritize projects.

Implementation of New York's Surcharge

United Water New Rochelle is authorized to spend up to $1 million on this project in the first rate year and $2 million in each of the following two years. The company is also authorized to recover a return on, and depreciation of, capital cost by quarterly surcharges that would increase revenues by an estimated 0.59%, 1.16%, and 1.13% in the respective rate years.

The company also has the right to petition to increase the dollar amounts to be invested in this project during the term of the agreement and to continue this program beyond the three rate years. Even if the LTMRP were not extended beyond three years, any surcharges in place in the third year would continue until new rates are set.

The company will propose specific mains to be renewed in each year and will negotiate with staff or seek dispute resolution if they cannot agree on the projects to be funded each year.

Once costs start to be incurred on the identified projects, the company may begin to surcharge customers quarterly based on costs it reasonably incurred in the preceding quarter. The surcharge is designed to recover only the pretax rate of return and depreciation on the amounts invested. Staff verifies the amounts incurred in a quarter during a 30-day period before they may be collected via a surcharge.

Following each rate year, amounts collected for main renewal through surcharges over the 12 months are reconciled with what should have been collected, and the differences surcharged or sur credited through the next quarterly surcharge. In the second review process, staff and the company negotiate which specific mains will be renewed in each year, or the matter is submitted for dispute resolution. This is the mechanism by which it will be determined whether costs were incurred as a result of the LTMRP and, thus, are eligible to be surcharged.

The surcharge, which applies to renewed pipe, including mains installed as replacements, cleaning and lining of mains and valves and services installed as a result of the LTMRP, is calculated as a percentage of rate year base revenues net of revenue taxes as shown below:

$$\frac{\text{(Total LTMRP Capital Expenditures - Accumulated Depreciation) x 10.59\% + Depreciation}}{\text{Projected Annual Base Revenue}}$$

Monitoring New York's Surcharge

At present, a surcharge for main renewal has been specifically approved for only one utility. As ordered, the company proposes specific mains to be renewed in each year and negotiates with staff or seeks dispute resolution if they cannot agree on the projects to be funded each year. In this way projects may be prioritized within the annual spending caps. Following each rate year, amounts collected for main renewal through surcharges over the 12 months will be reconciled with what should have been collected, and the differences surcharged or sur credited through the next quarterly surcharge.

Effectiveness of New York's Surcharge

New York's LTMRP was implemented in August 2000. The effectiveness of the initial year of the program won't be known until the first annual true up in 2001. However, since extensive main renewal is needed in the system, it can be reasonably assumed that the utility will spend up to its capped amount in each of the initial three years of the program.

VI. CONNECTICUT

Before it could institute a DSIC-like charge, the Connecticut Department of Public Utility Control (DPUC) determined that it needed authorization from the Legislature. In Docket No. 99-01-02, the DPUC held that the Legislature must find that infrastructure replacement is an immediate problem requiring immediate action. The DPUC then encouraged water utilities to aid the Legislature in such a determination by preparing a comprehensive inventory of the age, condition and environment of these mains and a prediction of their remaining service lives.

VII. FLORIDA

The Florida Public Service Commission (FPSC) has also explored similar rate adjustments outside the scope of a rate case. Florida has been at the forefront of establishing innovative rate making procedures in the water and wastewater industry. Florida was one of the first states to establish a price index rate adjustment, and to allow pass-through rate adjustments for increases in purchased water/wastewater, electric, ad-valorem taxes, regulatory assessment fees, Department of Environmental Protection testing and the National Pollutant Discharge Elimination System (NPDES) permitting fees.

Innovative regulatory mechanisms along the lines of the Pennsylvania DSIC have been considered by the FPSC and staff in the past. In 1988, the Commission considered expanding the pass-through mechanism to allow automatic recovery of any government-ordered expense that a utility incurred. After consideration, the FPSC decided to not pursue that proposal with the Legislature because it was too open-ended. There was concern that local governments could direct a utility to expend funds for things not directly related to providing water and wastewater service,

such as elaborate landscaping around a treatment plant. Under the proposed mechanism, the FPSC would be required to pass these types of costs through to utility customers.

During a highly contested rate case in 1999, State Representative Heather Fiorentino asked to meet with FPSC staff to discuss the current regulatory process, and to consider a rate making mechanism that would encourage water and wastewater utilities to establish reserves for future capital improvements. Her goal was to help offset the rate shock that occurs when a new plant comes on line, or when there is major infrastructure replacement. Representative Fiorentino proposed allowing a small increase over time to be accumulated. She asked FPSC staff to draft proposed statutory language and to advise her as to the pros and cons of such a proposal. After FPSC staff drafted proposed language at her request, Representative Fiorentino decided not to propose the legislation at that time. The proposed language drafted by the FPSC staff follows:

> 367.081(4): The commission may, upon request or on its own motion, fix rates for estimated costs of future water and wastewater system remediation. System remediation is defined as improvements designed to improve water quality and distribution, wastewater collection, treatment and disposal, and achieve long-term system viability. All or a portion of future remediation costs shall be recovered over a period to be determined by the commission. Rates established for future system remediation shall be reviewed annually and may then be adjusted as the commission deems necessary. Rates collected pursuant to this subsection shall be deposited in an interest-bearing account and funds may be withdrawn only with commission approval and, unless otherwise ordered by the commission, used solely for system remediation. The commission may by rule establish standards and procedures whereby rates may be set under this subsection.

The above proposal is different from the DSIC model used in the other states in that it would collect and accumulate a pool of funds that would be available when major system improvements are needed. This would help offset the "rate shock" that occurs when these improvements are made.

VIII. CONCLUSION

All states included within this study have styled their cost recovery mechanism to some extent after Pennsylvania, which was the initial state to implement the surcharge. While the purpose of the charge is the same, each state's model has some similarities and differences to the Pennsylvania model. The below chart details the mechanics of the various states' models.

STATE	AUTHORITY	APPLICABLE	UPDATED	CAP	CUSTOMER PROTECTION
PA	Legislature	Water	Quarterly	5% of billed revenues[1]	Noticing; limit on eligible plant; annual audit; annual true-up; and surcharge set to zero in next rate case or in case of over earnings.
IL	Legislature	Water and Wastewater	Quarterly	5% of base rates[2]	Noticing; limit on eligible plant; utilities file quarterly earnings reports; if they exceed allowed rate of return the surcharge is reset; charge is reset to zero in next rate case.
IN	Legislature	Water	Annually	5% of base revenues[3]	Implemented subject to hearing; no noticing; limit on eligible plant; annual true-up.
NY	Case by case	Water	Quarterly	Annual spending caps	Implemented in individual rate cases; staff has up-front approval of eligible projects; and annual dollar spending caps are stated and trued-up on annual basis subject to refund.

[1] Applied to the total amount billed to each customer under the utility's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge.

[2] Applied to the total amount billed under base rates, excluding any add-on taxes and purchased water or sewage treatment surcharges.

[3] Revenues cannot exceed five percent (5%) of the public utility's base revenue level approved by the commission in the public utility's most recent general rate proceeding.

For Pennsylvania the charge has proven to be effective in accelerating infrastructure remediation with minimal customer reaction. The preceding table shows that the DSIC concept is versatile and compatible with each state's existing regulatory structure. All states which have been summarized have implemented a DSIC type charge to provide an incentive and a means for utilities to increase the pace of making remedial improvements to aging or deteriorated distribution and/or collection infrastructure. For water, the primary customer benefits are improved water quality, improved fire protection, increased pressure, fewer service interruptions, and more time between rate cases, leading to greater rate stability and lower rate case expense. Implementing such a surcharge enables utilities to accelerate infrastructure remediation and to recover infrastructure remediation costs on a quarterly or annual basis rather than waiting until the next rate case. This process makes projects more affordable for both utilities and ratepayers.

To date, the charges have been implemented only in Northern states which have large investor-owned utilities, many of which have facilities more than 80 years old. Based upon the size and age of these utilities, there exists an urgent need for substantial upgrades. A DSIC provides a method to address this problem on a continuing basis while mitigating the impact of large rate increases through rate cases.

The obvious question is whether a DSIC is an appropriate regulatory tool for Florida's investor-owned utilities. While Florida does not have large systems installed in the early 1900's, there are utilities that due to age or other reasons are plagued with deteriorating infrastructures. Florida is unique when compared to most Northern states due to the saltwater environment which accelerates infrastructure deterioration. At issue is whether to wait until infrastructure deterioration worsens and reaches emergency status, or act now to have a mechanism in place to incent utilities to establish refurbishing programs. Regardless of the size of the utility, the cost of relining or replacing distribution or collection systems is substantial, and remedial action will be in the public interest by correcting problems to the benefit of the utility's customers. Whether through a surcharge or a major rate proceeding, the benefitting customers will ultimately pay for the improvements. Through the DSIC, regulatory lag as well as rate case expense is eliminated, which will provide an incentive for utilities to initiate and accelerate replacement programs. Implementing a DSIC-type charge would be a valuable regulatory tool to enable utilities to continue providing safe and reliable services.

Aging utilities face the need to replace existing infrastructure. However, as the utility incurs additional capital costs to replace existing infrastructure, it is unable to offset this additional investment through additional contributions-in-aid-of-construction (CIAC) when there is little or no customer growth. Traditionally, CIAC is collected on a one time basis from customers or developers when service is initially provided to a property. CIAC provides zero cost funding for a portion of the property and facilities used to provide service. Its purpose is twofold. First, it serves to keep monthly recurring rates affordable. Second, CIAC charges are designed to ensure that the utility owner maintains sufficient investment in the utility so as not to lose interest in properly operating and maintaining the system. When an aging utility reaches the point where major infrastructure improvements become mandatory, and there is little growth to offset the costs through additional CIAC collections, significant rate shock will result. While a DSIC-type charge would

also fund improvements without generating additional CIAC, it would significantly lessen the rate impact, because the improvements are made over time in smaller increments than would be necessary later.

While a DSIC serves to lessen the rate impact of large improvement projects, utility customers are skeptical, and rightly so, of additional charges appearing on their bills. Therefore, it is important that care be taken in establishing the parameters and mechanics of any charge and to ensure customers are informed of the purpose of the charge and made aware that consumer safeguards are in place. At present, it does not appear that the Commission has the authority to implement a DSIC-type surcharge. If the Commission receives legislative approval for the charge, the nuts and bolts of the plan would be developed in rule making. However, as an overview, a Florida DSIC could include the following criteria:

- The purpose and benefits of the charge should be defined.
- Eligible projects to be recovered through the charge should be clearly defined and the Commission should have authority to approve the need for the projects.
- The charge would recover only the depreciation and pretax return of eligible projects placed into service between rate cases.
- A cap should be placed on the charge. The cap would provide sufficient revenue, but not enable the utility to permanently avoid a rate case.
- Customer noticing should be required at the initiation and subsequent modifications of the surcharge. An explanatory bill insert should be provided detailing the level of the surcharge and the improvements it covers. The notice should state that the charge is subject to annual review.
- The surcharge should be subject to annual review with appropriate refunds or true ups in the subsequent surcharge period.
- The surcharge should be reset to zero in subsequent rate cases as the DSIC eligible property is included in rate base.
- The surcharge should be reduced or set to zero if it is determined that the utility's achieved rate of return, absent revenue from the surcharge, places the utility above its authorized rate of return.

As previously noted, Florida was a leader in implementing pass-through and index provisions to provide cost recovery for inflation and certain known and verifiable cost increases. The intent of these provisions is to provide the utility cost recovery without a major rate case, and mitigate rate shock to customers by providing for gradual rate increases. We believe, with proper consumer education and safeguards, that the DSIC is in many ways an extension of this philosophy with the added benefit of providing customers better and more reliable service on an accelerated basis. The Commission may wish to consider scheduling a workshop to explore the extent of infrastructure remediation needs in Florida and whether a DSIC type surcharge mechanism is the appropriate regulatory tool for addressing those needs.

IX. ATTACHMENTS

Attachment A: DSIC Sample Tariff Language

Attachment B: Illinois Pretax Return Calculation

Sample Tariff Language

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

I. General Description

Purpose: To recover the fixed costs (depreciation and pre-tax return) of certain non-revenue producing, non-expense reducing distribution system improvement projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases and to provide the Company with the resources to accelerate the replacement of aging water distribution infrastructure, to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act and to develop and implement solutions to regional water supply problems. The costs of extending facilities to serve new customers are not recoverable through the DSIC. Also, Company projects receiving PENNVEST funding are not DSIC-eligible property.

Eligible Property: The DSIC-eligible property will consist of the following:

- services (account 323), meters (account 324) and hydrants (account 325) installed as in-kind replacements for customers;

- mains and valves (account 322) installed as replacements for existing facilities that have worn out, are in deteriorated condition, or upgraded to meet Chapter 65 regulations of Title 52;

- main extensions (account 322) installed to eliminate dead ends and to implement solutions to regional water supply problems that have been documented as presenting a significant health and safety concern for customers currently receiving service from the Company or the acquired Company;

- main cleaning and relining (account 322) projects; and

- unreimbursed funds related to capital projects to relocate Company facilities due to highway relocations.

Effective Date: The DSIC will become effective for bills rendered on and after January 1,1997.

II. Computation of the DSIC

Calculation: The initial charge, effective January 1, 1997, shall be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the Company's rate base and will have been placed in service between September 1, 1996, and November 30,1996. Thereafter, the DSIC will be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month periods ending one month prior to the effective date of each DSIC update. Thus, changes in the DSIC rate will occur as follows:

Effective Date of Change	Date To Which DSIC-Eligible Plant Addition Reflected
April 1	February 28
July 1	May 30
October 1	August 31
January 1	November 30

The fixed costs of eligible distribution system improvement projects will consist of depreciation and pre-tax return, calculated as follows:.

Depreciation: The depreciation expense will be calculated by applying to the original cost of DSIC-eligible property the annual accrual rates employed in the Company's last base rate case for the plant accounts in which each retirement unit of DSIC-eligible property is recorded.

Pre-tax return: The pre-tax return will be calculated using the state and federal income tax rates, the Company's actual capital structure and actual cost rates for long-term debt and preferred stock as of the last day of the three-month period ending one month prior to the effective date of the DSIC and subsequent updates. The cost of equity will be the equity return rate approved in the Company's last fully-litigated base rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years shall have elapsed between the entry of such a final order and the effective date of the DSIC, then the equity return rate used in the calculation will be the equity return rate calculated by the Commission Staff in the latest Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission.

DISC Surcharge Amount: The charge will be expressed as a percentage carried to two decimal places and will be applied to the total amount billed to each customer under the Company's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge (STAS). To calculate the DSIC, one-fourth of the annual fixed costs associated with all property eligible for cost recovery under the DSIC will be divided by the Company's projected revenue for sales of water for the quarterly period during which the charge will be collected, exclusive of revenues from public fire protection service and the STAS.

Formula: The formula for calculation of the DISC surcharge is as follows:

$$DSIC = \frac{(DSI \times PTRR) + Dep + e}{PQR}$$

Where:

DSI = the original cost of eligible distribution system improvement projects.

PTRR = the pre-tax return rate applicable to eligible distribution system improvement projects.

Dep = Depreciation expense related to eligible distribution system improvement projects.

e = the amount calculated under the annual reconciliation feature as described below.

PQR = Projected quarterly revenue including any revenue from acquired companies that are now being charged the rates of the acquiring company.

Quarterly updates: Supporting data for each quarterly update will be filed with the Commission and served upon the Office of Trial Staff, the Office of Consumer Advocate and the Office of Small Business Advocate at least ten (10) days prior to the effective date of the update.

III. Safeguards

Cap: The DSIC will be capped at 5% of the amount billed to customers under otherwise applicable rates and charges.

Audit/Reconciliation: The DSIC will be subject to audit at intervals determined by the Commission. It will also be subject to annual reconciliation based on a reconciliation period consisting of the 12 months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Company's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such overcollections will be refunded with interest. Interest on the overcollections will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P. S. sec.101, et seq.) and will be refunded in the same manner as an overcollection.

New Base Rates: The charge will be reset at zero as of the effective date of new base rates that provide for prospective recovery of the annual costs that had theretofore been recovered under the DSIC.. Thereafter, only the fixed costs of new eligible plant additions, that have not previously been reflected in the Company's rate base, would be reflected in the quarterly updates of the DSIC.

Earning Reports: The charge will also be reset at zero if, in any quarter, data filed with the Commission in the Company's then most recent Annual or Quarterly Earnings reports show that the Company will earn a rate of return that would exceed the allowable rate of return used to calculate its fixed costs under the DSIC as described in the Pre-tax return section.

Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

ATTACHMENT B

ILLINOIS

THE PRE-TAX RETURN CALCULATION

$$GRCF = \frac{1}{(1\text{-}PPRT)(1\text{-}SIT)(1\text{-}FIT)}$$

$$PTR = ((WCCE + WCPE) \times GRCF) = WCLTD + WCSTD$$

Where:

GRCF = Gross Revenue Conversion Factor

PPRT = Illinois Personal Property Replacement Tax rate in effect at the time of the initial or quarterly filing.

SIT = Illinois State Income Tax rate in effect at the time of the initial or quarterly filing.

FIT = Federal Income Tax rate in effect at the time of the initial or quarterly filing.

PTR = Pre-tax return.

WCCE = Weighted cost of common equity from the utility's last rate case.

WCPE = Weighted cost of preferred equity from the utility's last rate case.

WCLTD = Weighted cost of long-term debt from the utility's last rate case.

WCSTD = Weighted cost of short-term debt from the utility's last rate case.