DIRECT TESTIMONY

of

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WATER DEPARTMENT

FINANCIAL ANALYSIS DIVISION

ILLINOIS COMMERCE COMMISSION

CONSUMERS ILLINOIS WATER COMPANY

DOCKET NO. 00-0337/00-0338/00-0339 Consolidated

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Raymond E. Pilapil. My business address is 527 East Capitol Avenue, Springfield, Illinois 62701.

Q. What is your present position and its responsibilities?

A. I am presently employed as an Economic Analyst in the Water Department, Financial Analysis Division of the Illinois Commerce Commission (Commission). My responsibilities include reviewing and analyzing tariff filings related to rules and regulations, conducting comprehensive compliance inspections, evaluating and performing cost of service studies (COSS) and rate design, and presenting expert witness testimony at Commission hearings for investor owned water and sewer utilities.

Q. Please describe your professional experience in the regulatory field.

A. I have been employed by the Commission since March 1, 2000. Prior to this time I worked at the Illinois Environmental Protection Agency (Illinois EPA) for ten years as a Public Service Administrator (PSA), Leadworker, and Environmental Protection Engineer I, II, and III. My responsibilities as a PSA included managing a unit of ten engineers in the review and

issuance of Emission Reduction Market System applications and Clean Air Act permits under Title V of the 1990 Amendments to the Clean Air Act.

Q. Are you a member of any professional organizations?

A. I am a member of the American Water Works Association.

Q. What is your educational background?

A. I received a Bachelor of Science Degree in Ceramic Engineering from the University of Illinois in Urbana-Champaign, Illinois in December of 1989.

Q. Have you previously provided expert testimony in regulatory matters?

A. I have been an expert witness in different types of hearings at the Illinois EPA including a permit appeal hearing, Prevention of Significant Deterioration hearing, Federally Enforceable State Operating Permit hearing, Clean Air Act Permit hearing, and several controversial public hearings.

Q. What is the purpose of this proceeding?

A. Consumers Illinois Water Company (CIWC or Company) has filed revised tariff sheets seeking a general rate increase in water rates for the Kankakee Water Division, Vermilion County Water Division (Vermilion) and the Woodhaven Water Division (Woodhaven).

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to submit my analysis of the Company's proposed tariffs as they relate to cost of service and rate design for Vermilion and Woodhaven. My analysis is not intended to determine whether the total annual revenues being sought by the Company are appropriate.

Q. Please explain how your testimony is organized.

A. My testimony labeled Staff Exhibit 5.00 is organized as follows:

I. Introduction

II. Total Revenues and Sales

III. Embedded Cost of Service and Revenue Sheet

IV. Rate Design

V. Miscellaneous Issues

Appendix A - Narrative Description of ECOSS Methodology

Schedule 5.01 - Staff Computation of Revenues - Vermilion

Schedule 5.01A - Cost of Service Study - Vermilion

Schedule 5.01B - Bill Comparison - Vermilion

Schedule 5.02 - Staff Computation of Proforma Present Revenues - Woodhaven

Schedule 5.02A - Staff Computation of Proforma Proposed Revenues and Revenue Requirement - Woodhaven

Schedule 5.02B - Bill Comparison - Woodhaven

II. TOTAL REVENUES AND SALES

Q. What test year is the Company proposing to use for cost of service purposes?

A. The Company is proposing to use a future test year ending December 31, 2001 for Vermilion and Woodhaven.

Q. Do you agree with the usage levels proposed by the Company for Vermilion and Woodhaven?

A. Yes, I have examined the Company's proposed usage levels and they appear reasonable.

Vermilion

Q. Have you analyzed the Company's proforma present and proposed revenue for Vermilion?

A. Yes, I have. Staff Exhibit 5.00, Schedule 5.01 details Staff's estimation of proforma present and proposed revenues with a resulting adjustment reflecting the difference between the Company's and Staff's proforma present and proposed revenues.

Q. What adjustment are you proposing for proforma present and proposed total revenues?

A. I am proposing a $24,308 adjustment for proforma present revenues and a $24,895 adjustment for proforma proposed revenues.

Q. What is the cause of these adjustments?

A. The bulk of these adjustments result from concerns regarding the Company's Other Revenues. The Company's Data Request (DR) response WH/ALL-010 includes a detailed breakdown of Other Revenues which is higher than the values included in CIWC Exhibit 12, Schedule E-5, Page 2. Therefore, the values from the DR response were used with an estimation of proforma proposed revenues, resulting in the

adjustments of Other Revenues. The balance of the adjustments result from rounding differences.

Woodhaven

Q. Have you analyzed the Company's proforma present and proposed revenue for Woodhaven?

A. Yes, I have. Staff Exhibit 5.00, Schedule 5.02 and 5.02A details Staff's estimation of proforma present and proposed revenues with a resulting adjustment reflecting the difference between the Company's and Staff's proforma present and proposed revenues.

Q. What adjustment are you proposing for proforma present and proposed total revenues?

A. I am proposing a $42,179 adjustment for proforma present revenues and a $45,888 adjustment for proforma proposed revenues.

Q. What is the cause of these adjustments?

A. The bulk of these adjustments result from concerns regarding the Company's Other Revenues. The Company's DR response WH/ALL-010 includes a detailed breakdown of Other Revenues which is much higher than the values included in the CIWC Exhibit 13, Schedule E-5.

Therefore, the values from the DR response were used with an estimation of proforma proposed revenues resulting in the adjustments of Other Revenues. The rest of the adjustments result from the Company's errors in using an incorrect rate when calculating the Customer Charges.

III. EMBEDDED COST OF SERVICE STUDY AND REVENUE SHEET

Vermilion

Q. Please describe the purpose of a COSS in determining rates for utility service.

A. A COSS is performed to allocate costs among all customer classes to determine each customer class' respective cost responsibility for the costs imposed on the utility by that specific customer class.

Q. What methodology did you use in preparing your COSS for Vermilion.

A. The COSS uses the Base-Extra Capacity method of cost allocation to distribute costs to customer classes. The Base-Extra Capacity method is the same methodology employed in the Company's last rate case (Docket No. 97-0351), which was approved by the Commission. A more detailed

explanation of embedded cost studies is outlined in Staff Exhibit 5.00, Appendix A.

Q. Did the Company submit a COSS for Vermilion?

A. No, they did not.

Q. Did you prepare a COSS for Vermilion?

A. Yes, I prepared a COSS for Vermilion which is identified as Staff Exhibit 5.00 Schedule 5.01A.

Q. Please provide a brief explanation of your COSS for Vermilion.

A. The COSS is based on the Company's proposed revenue requirement and details the Company's total revenues at proforma present and proposed rates. Plant cost and operation and maintenance expenses were allocated between metered customers to determine the total revenues needed from each class of customers.

The COSS I prepared, identified as Staff Exhibit 5.00, Schedule 5.01A, consists of the following:

Pages 1 and 2	Revenue at Company's Present and Proposed Rates and Staff's Proposed rates
Page 3	Demand Factors
Page 4	Allocation to Cost Functions
Page 5 and 6	Plant in Service Allocation
Page 7 thru 10	Revenue Requirement Allocation
Page 11	Customer Group Allocation Factors
Page 12	Percent and Revenue Allocation to Customer Groups
Page 13	Fire Protection Allocation and Rates
Page 14	Public Fire Protection Surcharge
Page 15	Equivalent Meters and Services
Page 16	Depreciation Expense Allocation
Page 17	Explanation of Allocation Codes

The calculation and summary of total revenues at the Company's present and proposed rates, as well as my recommended rates for each customer class, are set forth on Pages 1 and 2.

The class relative cost-of-service figures, excluding Fire Protection, appear in the row "Percent Cost of Service" under "PER STAFF" on Page 2, for each customer class. For example, these figures show that the

Vermilion Residential class will provide revenues equal to 104.2 percent of its calculated cost-of-service.

The Demand Factors for Maximum Day ("Max Day") and Maximum Hour ("Max Hour"), for customer classes and Fire Protection, and the million gallons per day ("MGD") pumpage and consumption numbers are listed on Page 3. These factors represent the Max Day and Max Hour water usage relative to the average usage. The Demand Factors allocate costs to the customer classes and to Fire Protection. The allocation amounts are on Pages 11 and 12. The water usage and pumpage amounts in MGD are used to allocate plant in service and operation and maintenance ("O&M") expenses to the plant's Base, Max Day and Max Hour functions.

Page 4 contains a numerical listing, in percentages, of cost allocation codes for the embedded cost of service study (ECOSS). For example, an account assigned an allocation Code 3 would be allocated 59.12 percent to Base Cost and 40.88 percent to Max Hour Cost.

Allocation of Net Plant in Service to the Base Cost, Max Day, Max Hour, Billing, Meters, Services, and Fire Protection categories is shown on Page 5 and 6. Page 6 also shows the percentage allocations for the Net Plant

in Service categories. These percentages are then used to allocate Utility Operating Income, Other Taxes, and Income Taxes to the various plant functions on Page 9.

The allocation of Total Revenue Requirement, i.e., total Operations and Maintenance (O&M), Depreciation, Other Taxes, Income Taxes and Utility Operating Income to the Base Cost, Extra Capacity, Customer Costs, and Fire Protection functions is shown on Pages 7-10. The total revenue requirement is located at the bottom of Page 9 on the line entitled "DIRECT CUSTOMER REVENUES". The "TOTAL REVENUES ALLOCATED TO SMALL MAINS", is on Page 10. The Direct Customer Revenues and Total Revenues Allocated to Small Mains are used to calculate the Cost of Service at the bottom of Page 2.

The cost-of-service allocation percentages for the customer classes and fire protection are summarized on Page 11. The allocation percentages are derived from annual consumption, the demand factors, listed on Page 3, the number of monthly bills, and the number of monthly equivalent meters and services. For example, on Page 11 Residential usage is calculated to be 2.672 MGD. That amount is 40.15 percent of total system usage. Therefore, 40.15 percent of total Base Cost is assigned to

the Residential class. Multiplying the Residential's Max Day factor of 2.25 MGD (from Staff Exhibit 5.00, Schedule 5.01A, Page 3) by the Average Day of 2.672 MGD produces the Residential's Max Day usage of 6.013 MGD. The difference between the Max Day and Average Day is the Excess of 3.341 MGD for the residential class. The Residential Excess of 3.341 MGD is 53.41 percent of the total Excess usage over Average Day usage, and is used to allocate the Residential's share of total Max Day costs.

The percent allocation of costs to the primary customer classes and Fire Protection, the total cost-of-service, and the cost-of-service according to each customer class are on Page 12. The calculation of Public Fire Protection and Private Fire Protection cost-of-service is on Page 13. Public Fire Protection Rates are on Page 14.

The number of equivalent meters and service lines and their capacity ratios are on Page 15. Distribution of customer costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as size of service pipe, materials used, locations of meters, and other local characteristics for various sized meters as compared to 5/8" meters and services. The number of

equivalent meters and services (i.e. based on meter ratios) assists in allocating costs assigned for recovery in the customer charges. This is necessary to adjust the units of service for each customer class as indexed against the smallest meter size. Therefore, customers are allocated a charge that reflects the costs associated with their particular meter size. Equivalent Meters and Services ratios are taken from the AWWA Water Meters-Selection, Installation, Testing, and Maintenance Manual (M6), 1972 Pages 32-33.

The allocation of depreciation expense according to plant account is set forth on Page 16 of the COSS.

A brief explanation of COSS allocation codes appears on Page 17 of Schedule 1.

Q. Did the Company provide you with a proforma proposed breakdown of operation and expense expenses for use in the COSS?

A. No, they did not. The company provided me a breakdown of actual 1999 operation and maintenance expense in DR response REP 1.07 and subsequent faxes received August 11, 2000 and August 21,2000.

Q. How did you calculate the proforma proposed operation and maintenance expense expenses for use in the COSS?

A. I used the following formula to calculate each proforma proposed operation and maintenance expense account:

$$OM_p = OM_a \times OM_{T1} / OM_{T2}$$

where:

OM_p = Proforma proposed operation and maintenance expense per account.

OM_a = Actual 1999 operation and maintenance expense per account.

OM_{T1} = Total proforma proposed operation and maintenance expense from CIWC Exhibit 12, Schedule C-1.

OM_{T2} = Total actual 1999 operation and maintenance expense from DR response REP 1.07.

<u>Woodhaven</u>

Q. Did the Company submit a COSS for Woodhaven?

A. No, they did not.

Q. Did you prepare a COSS for Woodhaven?

A. No, I did not.

Q. Why not?

A. Woodhaven has only residential and small commercial customers of which 99.4% of the customers are unmetered campsites paying the same single rate. The bulk of the remaining customers are support companies for the campsites. Since most of the costs can easily be allocated to one customer class (unmetered campsites) and the remaining customers are support companies for these campsites, I determined that a COSS was not necessary and that an across the board increase to meet the revenue requirement is sufficient to determine cost responsibility for each customer class.

IV. RATE DESIGN

Vermilion

Q. Please describe the current rate structure for Vermilion.

A. The rate structure in Vermilion consists of customer charges based on meter size, declining block usage charges, and public and private fire protection for metered customers.

Q. Is the Company proposing to change this rate structure?

A. No, they are not.

Q. Do you agree that this current rate structure is appropriate?

A. Yes, I do.

Q. What changes in rates are the Company proposing for Vermilion?

A. The Company is proposing an overall 21.75% increase in rates (CIWC Exhibit 2, Page 5).

Q. What are your recommendations with respect to the proposed increase in customer charges, usage rates, and public and private fire protection rates for Vermilion?

A. I recommend that the monthly customer charges and usage rates be increased as shown in the column labeled Staff Rates on the COSS (Staff Exhibit 5.00, Schedule 5.01A, Page 1). These recommended customer charges and usage rates are less than those proposed by the Company. My recommendation for private fire protection rates is shown in the row labeled Staff under Private Fire Protection Rates on the COSS (Staff Exhibit 5.00, Schedule 5.01A, Page 2). My recommendation for public fire protection rates is shown in the columns labeled Monthly Rates on the

COSS (Staff Exhibit 5.00, Schedule 5.01A, Page 14). These recommended increases were based on the results of the COSS which allocated capital costs and operation and maintenance expenses incurred by the Company to provide water service to the customers.

If the Commission adopts a revenue requirement which differs from Staff's proposed revenue requirement, and the change in revenue requirement request is relatively minor, 5% or less, I recommend that the usage rates for all customer classes except for Large General Service be changed by a uniform percentage to generate the desired revenue. If the change is larger, I recommend that the customer charges and usage charges for all customer classes except for Large General Service be adjusted to reflect cost of service.

Q. What has the Company proposed for their Large General Service customer, Devro-Teepak (Teepak), in Vermilion?

A. The Company is proposing a 2.5% increase for Teepak (CIWC Exhibit 12, Schedule E-3, Page 5).

Q. Has Teepak provided evidence that they are capable of constructing an alternative water supply source at a cost that would require a lower rate to avoid Teepak from discontinuing water purchases from Consumers?

A. Teepak has submitted testimony and updated Exhibit 1A and 3A previously presented in Docket No 97-0351, based on current cost and inflation estimates which reasonably demonstrates that they have investigated the feasibility of constructing an alternative water supply (DR Response REP 1.12). Furthermore, Teepak has stated that "if the Large Service Rate approved by the Commission, increases by more than 2.5%, Devro-Teepak would begin detailed engineering to proceed with construction of its own water system. If Devro-Teepak is given a 0% to 2.5% increase in the Large General Service Rate filed, Devro-Teepak would stay on the system." (DR Response REP 1.12, Exhibit 2, Page 5-6).

Q. What are you proposing for Large General Service?

A. Teepak purchases approximately 15% of the water sold in the Vermilion service area, consuming 420 million gallons (DR Response REP 1.12, Exhibit 2, Page 5-6). In addition, they have already demonstrated in the last two rate cases (Docket Nos. 97-0351 and 94-0270), as well as this rate case, for Vermilion that they are ready and able to construct an

alternative water supply and cease purchasing water from Consumers. Therefore, since the proposed rate will exceed out of pocket cost by a very considerable margin, I agree with Consumers proposed increased rate of 2.5% for Large General Service, to relieve the remaining ratepayers from seeing a significant rate increase if Teepak were to cease purchasing water from Consumers. Simply stated, the remaining rate payers benefit from Teepak remaining on the system at a less than full cost of service rate since Teepak will still make a significant contribution to fixed cost.

Q. Please identify Staff Exhibit 5.00, Schedule 5.01B.

A. Staff Exhibit 5.00, Schedule 5.01B is a bill comparison for a typical customer being served by Vermilion through a 5/8 meter. Specifically, this schedule compares the current monthly bill, Company's proposed monthly bill, and Staff's proposed monthly bill showing the dollar increase and percent increase.

Woodhaven

Q. Please describe the current rate structure for Woodhaven.

A. The rate structure in Woodhaven consists of a single charge for unmetered campsites. For residential and commercial customers the rate

structure consists of a customer charge and a single block usage charge for all metered customers.

Q. Is the Company proposing to change this rate structure?

A. No, they are not.

Q. Do you agree that the current rate structure is appropriate?

A. Yes, I do.

Q. What changes in rates are the Company proposing for Woodhaven?

A. The Company is proposing an overall 57.7% increase in rates (CIWC Exhibit 4, Page 4 and 9) and an increase in the Non Sufficient Funds check charge (CIWC Exhibit 5.00, Schedule E-3).

Q. What are your recommendations with respect to the proposed increase in customer charges and usage rate for Woodhaven?

A. My recommended customer charges and usage rates are shown in the column labeled Rate under Revenue Requirement on Staff Exhibit 5.00, Schedule 5.02A. I have recommended the customer charges and usage rates be increased less than the Company proposed.

If the Commission adopts a revenue requirement which differs from Staff's proposed revenue requirement, I recommend that the customer charge and usage charges for all customer classes be changed by a uniform percentage to generate the desired revenue.

Q. Please identify Staff Exhibit 5.00, Schedule 5.02B.

A. Staff Exhibit 5.00, Schedule 5.02B is a bill comparison for a typical customer being served by Woodhaven. Specifically, this schedule compares the current monthly bill, Company's proposed monthly bill, and Staff's proposed monthly bill showing the dollar increase and percent increase.

IV. MISCELLANEOUS ISSUES

Vermilion

Q. Please describe the Company's proposal concerning the Non Sufficient Funds check charge for Vermilion.

A. The Company's current tariffs provide for a $15.00 charge (ILL.C.C. No. 32, Original Sheet No. 14) for checks returned to the Company for non sufficient funds (NSF). The Company proposes the same $15.00 charge

to be listed on a different sheet (Proposed ILL.C.C. No. 32, First Revised Sheet No. 2) on the Schedule of Rates for Water Service.

Q. What are your recommendations with respect to the NSF check charge in Vermilion?

A. The Company did not request a change in the amount of the NSF check charge, but only requests an additional listing of the same charge in the Schedule of Rates for Water Service. I support listing the NSF check charge of $15.00 in the new location, but in order to avoid duplication and confusion in future rate cases, I recommend that the Company be required by the Commission to revise ILL.C.C. No.32, Original Sheet No. 14 to remove the NSF check charge.

Q. Please describe the Company's proposal concerning the reconnection service fee for Vermilion.

A. The Company's current tariffs provide for a $25.00 charge (ILL.C.C. No. 32, Original Sheet No. 14) for reconnection of service. The Company proposes the same $25.00 charge with revised language to be listed on a different sheet (Proposed ILL.C.C. No. 32, First Revised Sheet No. 2) on the Schedule of Rates for Water Service. The revised language includes the following statement "A $25.00 service fee or actual costs…".

Q. What are your recommendations with respect to the reconnection service fee in Vermilion?

A. The Company did not request a change in the amount of the reconnection service fee, but only requests an additional listing of the same charge in the Schedule of Rates for Water Service along with revised language. I support listing the reconnection service fee of $25.00 in the new location, but in order to avoid duplication and confusion in future rate cases, I recommend that the Company be required by the Commission to revise ILL.C.C. No.32, Original Sheet No. 14 to remove the reconnection service fee. I disagree with including the statement "or actual costs" on the tariff sheet for the reconnection service fee. Inclusion of this language would allow the Company to adjust the reconnection service fee at their discretion without ever having to come in for Commission approval to raise this fee again. Therefore, I recommend that the statement "or actual costs" be removed from proposed ILL.C.C. No. 32, First Revised Sheet No. 2.

Q. Have you analyzed the proposed Infrastructure System Improvement Service Charge (ISIC) charge for Vermilion in CIWC Exhibit 12, Schedule E-2?

A. No, I have not. The proposed Infrastructure System Improvement Service Charge has been analyzed by Staff Witness Thomas R. Stack in Staff Exhibit 4.00.

Woodhaven

Q. Please describe the Company's proposal for increasing the Non Sufficient Funds check charge for Woodhaven.

A. The Company's current tariffs provide for a $5.00 charge for checks returned to the Company for non sufficient funds. The Company proposes to increase the NSF charge to $15.00 to reflect actual cost to the Company associated with processing a returned check and to ensure that these costs are assigned to the responsible customers.

Q. What are your recommendations with respect to the NSF check charge in Woodhaven?

A. The Company has provided a breakdown of cost associated with processing a returned check (CIWC Exhibit 5.00, Page 10) which supports a charge of $15.00. In addition, the company has requested consistency with the $15.00 NSF charge approved for other Divisions of the Company in Docket Nos. 95-0342 and 95-0307 (consolidated), Docket No. 97-0351, and Docket No. 98-0632. After reviewing the breakdown of

cost and considering the Company's request for consistency, I support the proposal to increase the NSF check charge to $15.00 for Woodhaven.

Q. Does this conclude your direct testimony?

A. Yes, it does.

APPENDIX A

NARRATIVE DESCRIPTION OF ECOSS METHODOLOGY

SUMMARY

In general, the objectives of an embedded cost of service study (ECOSS) are to functionalize a utility's revenue requirement into basic categories and allocate those costs across rate classes to determine each class' cost of service. Rates can then be designed to recover the cost to serve each customer class. In the water industry, ECOSS is utilized as the main guide to designing rates which are unique to each utility.

The development of water rates, in general, involves the following procedures, described in the American Water Works Association ("AWWA") Manual M1, "Water Rates," p. vii (Fourth Edition):

- Determination of the total annual revenue requirements for the period for which the rates are to be effective.
- Allocation of the total annual revenue requirements to the basic functional cost components.
- Distribution of the component costs to the various customer classes in accordance with their requirements for service.

- Design of water rates that will, recover from each class of customer, within practical limits, the cost to serve that class of customer.

The following report describes the procedures employed in performing the ECOSS for the Company.

ECOSS METHODOLOGY

Staff's ECOSS uses the Base-Extra Capacity method described in detail in AWWA's *Water Rates*, Manual M1, (Fourth Edition) Pages 11-16, 1991. This procedure is a generally accepted and often used method of determining the cost to serve water customers and thus provides the basis of designing rates for a water utility.

The basic breakdown of cost is the functionalization into operational components. For a water utility the three basic types of costs are 1) operation and maintenance ("O&M") expense 2) depreciation expense and 3) return on capital investment. This information is normally readily available from the utility's accounting records.

After the costs are functionalized, they are allocated to four main components 1) base costs 2) extra capacity costs 3) customer costs and 4) direct fire protection costs.

- Base costs are those costs that tend to vary with the total quantity of water used. These costs also include O&M expenses and capital costs associated with serving customers under average load conditions.
- Extra capacity costs, and their associated O&M and capital costs, are costs correlated with meeting usage in excess of average usage. These costs can be further subdivided into costs associated with maximum-day extra usage and maximum-hour extra usage.
- Customer costs encompass those expenditures related to serving a customer regardless of that customer's water usage or rate of usage. These contain costs associated with meters, services and other customer related costs.
- Direct fire protection costs are directly applicable to the fire protection function.

After costs are properly allocated between cost components, the cost of service for each meter size is determined. The fixed customer cost of service per meter has three basic components:

- Equivalent meter costs include those customer costs associated with meters.

- Equivalent service costs include those customer costs associated with services.
- Other customer costs are those costs attributed directly to customers, divided by the number of bills to obtain a customer charge per bill. Other customer costs are non-meter size sensitive with each meter size being allocated the same per unit charge, regardless of class (i.e. residential, commercial, industrial etc.).

Equivalent meters and services is a method of assigning costs based on the size of the meter. Distribution of customer costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as size of service pipe, materials used, locations of meters, and other local characteristics for various sized meters as compared to 5/8" meters and services. The number of equivalent meters and services (i.e. which is based on meter ratios) assists in allocating costs assigned for recovery in the customer charges. This is necessary to adjust the units of service for each customer class as indexed against the smallest meter size. Therefore, customers are allocated a charge that reflects the costs associated with their particular meter size. Actual cost differentials are taken from the AWWA Water Meters-Selection, Installation, Testing, and Maintenance Manual (M6), 1972 Page 32-33.