**ILLINOIS COMMERCE COMMISSION**

**DOCKET 08-0463**

**IAWC EXHIBIT NO. 3.0**

**DIRECT TESTIMONY**

**OF**

**PAUL R. HERBERT**

---

**ILLINOIS AMERICAN WATER COMPANY**

## TABLE OF CONTENTS

**Page**


I. WITNESS QUALIFICATIONS AND EXPERIENCE ..... 1

II. COST OF SERVICE ALLOCATION ..... 4

III. CUSTOMER RATE DESIGN ..... 11

## I. WITNESS QUALIFICATIONS AND EXPERIENCE

**Q1. Please state your name and address.**

**A.** My name is Paul R. Herbert. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

**Q2. By whom are you employed?**

**A.** I am employed by Gannett Fleming, Inc.

**Q3. Please describe your position with Gannett Fleming, Inc. and briefly state your general duties and responsibilities.**

**A.** I am President of the Valuation and Rate Division. My duties and responsibilities include the preparation of accounting and financial data for revenue requirement and cash working capital claims, the allocation of cost of service to customer classifications, and the design of customer rates in support of public utility rate filings.

**Q4. Have you presented testimony in rate proceedings before a regulatory agency?**

**A.** Yes. I have testified before the Pennsylvania Public Utility Commission, the New Jersey Board of Public Utilities, the Public Utilities Commission of Ohio, the Public Service Commission of West Virginia, the Kentucky Public Service Commission, the Iowa State Utilities Board, the Virginia State Corporation Commission, the Missouri Public Service Commission, the New Mexico Public Regulation Commission, the Public Utilities Commission of the State of California, the Illinois Commerce Commission, the Delaware Public Service Commission, the Arizona Corporation Commission and the Tennessee

Regulatory Authority, concerning revenue requirements, cost of service allocation, rate design and cash working capital claims. A list of cases that I have testified is attached to my testimony.

**Q5. What is your educational background?**

**A.** I have a Bachelor of Science Degree in Finance from the Pennsylvania State University, University Park, Pennsylvania.

**Q6. Would you please describe your professional affiliations?**

**A.** I am a member of the American Water Works Association and serve as a member of the Management Committee for the Pennsylvania Section. I am also a member of the Pennsylvania Municipal Authorities Association. In 1998, I became a member of the National Association of Water Companies as well as a member of its Rates and Revenue Committee.

**Q7. Briefly describe your work experience.**

**A.** I joined the Valuation Division of Gannett Fleming Corddry and Carpenter, Inc., predecessor to Gannett Fleming, Inc., in September 1977, as a Junior Rate Analyst. Since then, I advanced through several positions and was assigned the position of Manager of Rate Studies on July 1, 1990. On June 1, 1994, I was promoted to Vice President and Senior Vice President in November 2003. On July 1, 2007, I was promoted to my current position as President of the Valuation and Rate Division.

While attending Penn State, I was employed during the summers of 1972, 1973 and 1974 by the United Telephone System - Eastern Group in its accounting department. Upon graduation from college in 1975, I was employed

by Herbert Associates, Inc., Consulting Engineers (now Herbert Rowland and Grubic, Inc.), as a field office manager until September 1977.

**Q8. What is the purpose of your testimony in this proceeding?**

**A.** On July 30, 2008, the Illinois Commerce Commission ("Commission") entered an Initiating Order in Docket 08-0463 (the "Initiating Order"): (i) requiring IAWC to provide updated demand factors for each rate area in which a rate increase was proposed in Docket 07-0507 and to provide an updated cost of service study ("COSS"), and (ii) initiating an investigation into all aspects of the rate design of for all service areas of IAWC (water and sewer). Following the entry of the Initiating Order, the parties to Docket 08-0463 (the Company, the People of the State of Illinois, by Illinois Attorney General Lisa Madigan, the Illinois Industrial Water Consumers, the Cities of Champaign and Urbana and the Villages of St. Joseph and Savoy, and the Staff of the Illinois Commerce Commission (together, the "Parties")), on September 23, 2008, convened a workshop ("Workshop") to discuss the approach to the demand study and the COSS, and which I attended. At the Workshop, IAWC presented a proposed methodology for the COSS ("COSS Methodology"). The Parties filed a Joint Motion for Clarification ("Joint Motion") on October 3, 2008, requesting, among other things, that the Commission approve the COSS Methodology. The Commission, on October 15, 2008, issued a ruling approving the COSS Methodology described in the Joint Motion. The purpose of my testimony is to discuss the COSS, which I have prepared for each of IAWC's rate areas in accordance with the methodology approved by the Commission for application in this proceeding, and proposals for

rate design based on the results of the COSS. The COSS is attached hereto as IAWC Exhibit 3.1, and includes Schedules A through E for each rate area.

**Q9. Was IAWC Exhibit 3.1 prepared by you or under your direction and supervision?**

**A.** Yes.

## II. COST OF SERVICE ALLOCATION

**Q10. Briefly describe the purpose of your cost allocation studies.**

**A.** The cost of the service studies allocate the rate area specific cost of service, which is the total revenue requirement, for rate area water or wastewater operations as determined in Docket 07-0507, to the customer classifications in each rate area. The rate areas include Champaign, Chicago Metro Water, Lincoln, Pekin, SPSPSB (now referred to as Rate Zone 1), Sterling, and Chicago Metro Wastewater.

In the studies, the rate area specific costs were allocated to the residential, commercial (including large commercial), industrial (including large industrial and competitive industrial), other public authorities (including large public authorities), sales for resale (including large sales for resale), private fire protection and public fire protection classifications in accordance with generally accepted principles and procedures. The cost of service allocation studies results in indications of the relative cost responsibilities of each class of customers in each rate area. The allocated cost of service is one of several criteria appropriate for consideration in designing customer rates to produce the required revenues. The results of the allocation of the rate area specific cost of

service for the test year ended June 30, 2009, and customer rates which produce the allowable revenue requirements, are presented in the studies.

**Q11. Please describe the method of cost allocation that was used in your study.**

**A.** As noted above, the methodology is that approved by the Commission for use in this proceeding in its October 15, 2008 Order. That method is the base-extra capacity method, as described in 2000 and prior Water Rates Manuals published by the American Water Works Association (AWWA). Base-extra capacity is a recognized method for allocating the cost of providing water service to customer classifications in proportion to the classifications' use of the commodity, facilities, and services. It is generally accepted as a sound method for allocating the cost of water service and was used by the Company in previous cases.

**Q12. Please describe the procedure followed in each of the cost allocation studies.**

**A.** Each identified classification of cost in the rate area cost of service was allocated to the customer classifications through the use of appropriate factors. These allocations are presented in Schedule B of Exhibit 3.1 for each study. The items of cost, which include operation and maintenance expenses, depreciation expense, taxes and income available for return, are identified in column 1 of Schedule B. The cost of each item, shown in column 3, is allocated to the several customer classifications based on allocation factors referenced in column 2. The development of the allocation factors is presented in Schedule C of Exhibit 3.1. I will use some of the larger cost items to illustrate the principles and considerations used in the cost allocation methodology.

Purchased water, purchased electric power, treatment chemicals and waste disposal are examples of costs that tend to vary with the amount of water consumed and are thus considered base costs. They are allocated to the several customer classifications in direct proportion to the average daily consumption of those classifications through the use of Factor 1. The development of Factor 1 is shown in Schedule C.

Other source of supply, water treatment and transmission costs are associated with meeting usage requirements in excess of the average, generally to meet maximum day requirements. Costs of this nature were allocated to customer classifications partially as base costs, proportional to average daily consumption, partially as maximum day extra capacity costs, in proportion to maximum day extra capacity, and, in the case of certain pumping stations and transmission mains, partially as fire protection costs, through the use of Factors 2 and 3. The development of the allocation factors, referenced as Factors 2 and 3, is shown in Schedule C.

Costs associated with storage facilities and the capital costs of distribution mains were allocated partly on the basis of average consumption and partly on the basis of maximum hour extra demand, including the demand for fire protection service, because these facilities are designed to meet maximum hour and fire demand requirements. The development of the factors, referenced as Factors 4 and 5, used for these allocations is shown in Schedule C.

Fire demand costs were allocated to public and private fire protection service in proportion to the relative potential demands on the system by public fire hydrants and private service lines as presented in Schedule D of Exhibit 3.1.

Costs associated with pumping facilities and the operation and maintenance of mains were allocated on combined bases of maximum day and maximum hour extra capacity because these facilities serve both functions. For pumping facilities, the relative weightings of Factor 2 (maximum day), Factor 3 (maximum day and fire) and Factor 4 (maximum hour) were based on the horsepower of pumps serving maximum day, maximum day and fire and maximum hour functions. The development of this weighted factor is referenced as Factor 6.

For operation and maintenance of mains, the relative weightings of Factor 3 (maximum day and fire) and Factor 4 (maximum hour) were based on the inch feet of transmission and distribution mains. Generally for cost allocation purposes, mains larger than 10-inch were classified as serving a transmission function and mains 10-inch and smaller were classified as serving a distribution function. The development of this weighted factor is referenced as Factor 7.

Costs associated with meters were allocated to customer classifications in proportion to the meter equivalents of the sizes and quantities of meters serving each classification. The development of the factor for meters is referenced as Factor 9. Factor 10, Allocation of Services, was developed in a similar manner as Factor 9, except that the service equivalents were used in order to weight the

number of services by classification. Costs associated with public fire hydrants were assigned directly to the public fire protection class (Factor 8).

Costs for customer accounting, billing and collecting were allocated on the basis of the number of customers for each classification, and costs for meter reading were allocated on the basis of metered customers. The development of these factors is referenced as Factor 13 and Factor 14.

Administrative and general costs were allocated on the basis of allocated direct costs, excluding those costs such as purchased water, power, chemicals and waste disposal, which require little administrative and general expense. The development of the factor is referenced as Factor 15. Cash working capital, an item of rate base, was allocated on the basis of allocated direct costs, including purchased water, power, chemicals and waste disposal since these items would effect the calculation of cash working capital. The development of the factor is referenced as Factor 15A.

Annual depreciation accruals were allocated on the basis of the function of the facilities represented by the depreciation expense for each depreciable plant account. The original cost less depreciation of utility plant in service was similarly allocated for the purpose of developing factors, referenced as Factor 18, for allocating items such as income taxes and return. The development of Factor 18 is presented on the last three pages of Schedule C.

Factors 15, 15A and 18, as well as Factors 11, 12, 16, 17 and 19, are composite allocation factors. These factors are based on the result of allocating

other costs and are computed internally in the cost allocation program. Refer to Schedule C for a description of the bases for each composite allocation factor.

**Q13. What was the source of the total cost of service data set forth in column 3 of Schedule B of Exhibit 3.1?**

**A.** The cost of service data furnished by the Company is based on the revenue requirement for the rate areas as approved in Docket 07-0507. The study is prepared in a format that can, if desired, be updated to reflect a revised level of revenue requirements at the time of a future rate case.

**Q14. For Schedule C of Exhibit 3.1, explain the source of the system maximum day and maximum hour ratios used in the development of factors referenced as Factors 2, 3 and 4.**

**A.** The ratios were based on IAWC Exhibit 2.1, which is the demand factor study sponsored by Mr. McKinley of Black & Veatch.

**Q15. Please explain the allocation of small mains in certain rate areas.**

**A.** Factor 4, used to allocate distribution mains, was modified to exclude consumption for certain large customers connected primarily to large mains, commonly referred to as transmission mains, in Champaign, Chicago Metro Water, Pekin and Rate Zone 1. This was done to recognize that certain industrial customers, large other public authorities, and sales for resale customers are connected directly to the transmission system and do not benefit from the smaller distribution mains.

**Q16. How was this adjustment accomplished?**

**A.** In Champaign, the large other public authority and sales for resale customer classes test year consumption was excluded in calculating Factor 4. In addition, the test year consumption for the six of the largest customers in the industrial customer class, was excluded from the industrial class for the basis of developing Factor 4. These customers are served from mains 12 inches and larger.

In Chicago Metro Water, the sales for resale customer class test year consumption was excluded from the basis of developing Factor 4.

In Pekin, two of the largest industrial customers are connected to 12-inch mains. The test year consumption for these two customers was excluded from the industrial class for the basis of developing Factor 4.

In Rate Zone 1 (which includes the Southern Area, Streator Pontiac, South Beloit and, as proposed herein, Sterling), all large industrial, competitive industrial, large other public authority, sales for resale customers, and large sales for resale customers, are served from the transmission system and therefore, were excluded from Factor 4. For the industrial classification, an analysis of the customers was performed to determine the size main each customer is served from. The test year consumption of three of the industrial customers served from 12-inch main were excluded from Factor 4.

**Q17. Have you summarized the results of your cost allocation study?**

**A.** Yes. The results are summarized in columns 1, 2 and 3 of Schedule A of Exhibit 3.1 for each rate area. Column 2 sets forth the total allocated pro forma cost of service as of June 30, 2009, for each customer classification identified in column

1. Column 3 presents each customer classification's cost responsibility as a percent of the total cost.

**Q18. Have you compared these cost responsibilities with the proportionate revenue under existing rates for each customer classification?**

**A.** Yes. A comparison of the allocated cost responsibilities and the percentage revenue under existing rates for each district can be made by comparing columns 3 and 5 of Schedule A of Exhibit 3.1. A similar comparison of the percentage cost responsibilities (relative cost of service) and the percentage of allowable revenues (relative revenues) under proposed rates can be made by comparing columns 3 and 7 of Schedule A of Exhibit 3.1.

## III. CUSTOMER RATE DESIGN

**Q19. Please summarize the rate design considerations addressed in the Commission's Order.**

**A.** The rate design considerations included:

1. Movement of the SPSPSB District (now Rate Zone 1) and other rate areas towards STP.
2. Study of customer charges to assess the recovery of a greater portion of fixed costs for each rate area through the customer charge.
3. Design of alternative inclining-block rate structures for each rate area.
4. Analysis of potential rate structures for non-residential customers that would include the use of demand charges in addition to customer charges and volumetric charges.
5. Study of the cost to provide public fire service for each municipality or fire district based on the cost of service allocation studies within each rate area.
6. For the Chicago Metro District – Sewer - determination of the appropriate unit rate for collection and treatment customers and collection-only customers using less than 1,000 gallons per month.

**Q20. Please describe the alternative rate designs considered.**

**A.** I have considered four alternative rate designs: Alternative 1 (rates based on cost of service, with revised customer charges and declining block, shown on IAWC Exhibit 3.5), Alternative 1A (similar to Alternative 1 with single block structure for residential, shown on IAWC Exhibit 3.6), Alternative 2 (inclining block, shown on IAWC Exhibit 3.7) and Alternative 3 (similar to Alternative 1A, with inclusion of minimum system costs in fixed customer charge, shown on IAWC Exhibit 3.8).

**Q21. What is your recommendation with respect to the alternatives?**

**A.** I recommend adoption of Alternative 3 for water rates. Alternative 3 includes steps towards single tariff pricing ("STP") such as moving Sterling into Rate Zone 1 and implementing uniform customer charges, block structures and usage charges in Rate Zone 1. Alternative 3 also includes moving additional fixed costs into its customer charge for all rate areas through a two-step phase in (as shown on IAWC Exhibit 3.3) and adopting a one-block structure for the residential class, which would replace the present declining block structure for that class. I also recommend setting cost-based public fire charges (while retaining the uniform fire protection charge in Chicago Metro), and new sewer rates as shown in IAWC Exhibit 3.5 (Alt 1). The recommended Alternative 3 water rates are shown on IAWC Exhibit 3.8.

**Q22. Please describe Alternative 1.**

**A.** Alternative 1 rate design (shown on IAWC Exhibit 3.5) incorporates the result of the revised cost allocations using the demand factors discussed earlier and in Mr. McKinley's testimony. Alternative 1 rates incorporate revised customer

charges to reflect the customer charge analysis set forth in each cost allocation by district. The customer charge analysis is summarized in IAWC Exhibit 3.2. The exhibit shows the range of customer costs among districts from $11.88 per month for a 5/8-inch meter to $15.60 per month. The aggregated state-wide customer costs results in $14.15 per month for a 5/8-inch meter. Based on this analysis, I recommend a $14.00 per month charge for Rate Zone 1, Sterling and Pekin, a $12.00 per month charge for Champaign and Chicago Metro, and a $10.00 per month charge for Lincoln. The proposed rate for districts less than $14.00 considered the large increases that would have been required to move all the way to the $14.00 Rate Zone 1 rate at this time.

Consumption charges for Alternative 1 used the same basic declining block-rate design that exists for each district. Rates were adjusted to move revenues generally toward the indicated cost of service while maintaining the same level of revenue allowed in the last case.

**Q23. Did you consider the recovery of a greater portion of fixed costs in the customer charge?**

**A.** Yes. I will address that consideration in the discussion of the Alternative 3 rate design.

**Q24. Were further steps toward STP considered, such as moving Sterling to Rate Zone 1?**

**A.** Yes. The unit cost of service for Sterling is reasonably comparable to that of Rate Zone 1 as a whole. The average monthly bill in Rate Zone 1 ($30.86) differs only slightly from the Sterling average monthly bill ($31.49). Accordingly, I

recommend that Sterling move to Rate Zone 1. Rates were designed to produce the combined revenue requirement for Rate Zone 1 (including Sterling) as approved in Docket 07-0507.

**Q25. What is proposed for South Beloit?**

**A.** South Beloit was retained in Rate Zone 1 and all rates were consolidated, except that an adjustment was made to reflect the fact that South Beloit, unlike other Rate Zone 1 areas, utilizes a purchased water supply. The purchased water rates for South Beloit customers include a $0.83 monthly fixed charge for a 5/8-inch meter, and a $1.00 per ccf consumption charge. For South Beloit, these purchased water rates are deducted from the Rate Zone 1 usage rates to reflect application of the purchased water charge for these customers.

**Q26. Are the designed Rate Zone 1 rates revenue neutral with respect to the approved revenue requirement in Docket 07-0507?**

**A.** Yes. The Rate Zone 1 rates produce the combined approved revenue required for Rate Zone 1 (including Sterling and South Beloit).

**Q27. Please explain what you recommend for Private Fire and Public Fire Protection rates.**

**A.** Generally, except for Chicago Metro district, the private fire revenues do not sufficiently recover the cost of providing private fire protection. Therefore, I recommend increasing private fire rates in all other districts to move revenue toward the cost of providing service. Private fire rates for Chicago Metro were left unchanged. I will address Public Fire Protection rates later in my testimony.

**Q28. Please explain the next alternative rate design, Alternative 1A.**

**A.** Alternative 1A (shown on IAWC Exhibit 3.6) is similar to Alternative 1 with one exception. Instead of a declining block rate structure for residential customers, a single block rate was used and applied to all residential usage. All other customer charges and consumption charges for all other classes were left as shown in Alternative 1.

**Q29. How was the single block rate determined for the residential class?**

**A.** I divided the total residential consumption related revenue in Alternative 1 by the total residential consumption in each district. This is the average consumption rate for the residential class. When this average rate is applied to all rate blocks in Alternative 1 (or to the total usage), it produces the same level of revenue for the residential class.

**Q30. What is the advantage of having a single block rate for residential usage?**

**A.** Large usage residential customers are likely using water for discretionary purposes such as watering lawns or other outdoor use. This class of customers has a poor load factor and uses water at times of high peak demands when supplies may be near capacity. Such usage should not be priced at a lower block rate than small users that use water for basic needs. With a single block structure, all residential usage is priced at the same rate.

For non-residential customers, a declining block rate structure reflects that larger customers generally have better load factors and such usage can be appropriately priced at a lower rate. This is why the declining block structure was retained for non-residential customers.

**Q31. Please explain the rate design for Alternative 2.**

**A.** Alternative 2 (shown on IAWC Exhibit 3.7) addresses the requirement that inclining block rate designs be presented. I used a three tier inclining block rate design for the residential class and a two block design for non-residential classes.

For residential, I set the first block at 4 ccf per month or 3,000 gallons or about 100 gallons per day. This covers a typical household's basic needs for sanitary purposes. This usage is priced at about a 15% discount from the existing first block rate. Using Rate Zone 1 as an example, this block includes about 43.5% of customer's bills and approximately 50.6% of the total consumption.

The second block is for the next 8 ccf (6,000 gallons) or up to 12 ccf per month (9,000) gallons. This block covers about twice the average residential use, includes 91.3% of the bills and about 86% of the total usage. This usage is priced slightly above the existing first block rate.

The third block is for usage above 12 ccf per month or 9,000 gallons. The remaining 8.7% of customers bills fall into this block and the remaining 14% of the consumption. This block is priced at about 12% higher than the existing first block rate.

For non-residential customers, I developed two-block inclining structures for each classification with rates relatively flat between the blocks for cost of service considerations. This acknowledges that larger customers generally have better load factors and therefore should not pay higher rates with increased usage.

As with Alternative 1, South Beloit and Sterling were merged into Rate Zone 1 for the purposes of the Alternative 2 rate design.

**Q32. Please describe Alternative 3 rate design.**

**A.** Alternative 3, shown on IAWC Exhibit 3.8, is similar to Alternative 1A, except that a greater portion of fixed costs that is to be recovered in the customer charge is determined.

**Q33. How did you determine the additional amount of fixed costs that should be recovered in the customer charge?**

**A.** The customer charges, as determined in Alternative 1 rate design and IAWC Exhibit 3.2, recover the operation and maintenance expenses and capital costs associated with meters and service lines and the operating costs to read a customer's meter and render and collect a bill. These are the costs that are typically recovered in customer charges for water utilities.

In the energy utility industry, a common practice is to determine what portion of the distribution system results from connecting additional customers to the system regardless of the level of usage. This is commonly referred to as a minimum system analysis. In other words, what would be the cost of the distribution system if all you needed to do was connect everyone so that they could receive a unit of service? This minimum system is considered a customer cost and allocated to each customer based on the number of customers.

For IAWC, the smallest size main that had a significant length of pipe was a 2-inch main. I applied the current cost of installing each size main to the footage of mains by size to determine the current cost of the actual distribution

system. Then I applied the unit cost of the 2-inch main to the entire system and divided this result by the actual current cost. This ratio was 38.3%, representing the portion of the distribution system assigned as the minimum system and allocated to the number of customers. I then applied the 38.3% factor to the revenue requirement associated with mains – operation and maintenance expenses, depreciation and return and taxes. The revenue requirement associated with the customer portion of the distribution system was divided by the number of customers and twelve months to determine the monthly cost of $3.53 per customer, as shown on IAWC Exhibit 3.3. This amount was rounded down to $3.50 per month.

**Q34. How do you propose to recover the $3.50 per month?**

**A.** Since the $3.50 represents an additional 25% to the proposed $14.00 customer charge, I recommend recovering this additional fixed cost over two steps - $1.75 in this case (or, as discussed by Mr. Grubb, the next rate case in the event of consolidation) and the remaining $1.75 in the next subsequent rate case. The Alternative 3 rate design shows the inclusion of the first step in the customer charge and the resulting decrease to consumption charges in order to remain revenue neutral.

**Q35. Did you analyze the recovery of fixed costs through demand charges for non-residential customers?**

**A.** Yes. A review of the 25 highest usage customers in IAWC's service areas was conducted to identify customers for which a demand charge-based rate structure may be appropriate, and the rate areas for these 25 customers reside were

identified. The rate areas included Rate Zone 1, Champaign, Pekin and Lincoln. Example demand charges were then developed for these selected rate areas. IAWC Exhibit No. 3.4 shows the calculation of sample demand charges using the cost of service allocated to the Competitive Industrial class in Rate Zone 1 and the Industrial classes in Champaign, Pekin and Lincoln. The demand charge recovers the fixed costs of providing service based on a customer's maximum day requirement. Actual usage would be priced at the variable rate. A customer charge would also apply plus any costs associated with special metering equipment.

**Q36. What are the advantages and disadvantages of demand based rate structures?**

**A.** An advantage of demand rates is that, as compared to a more traditional rate design, demand rates can better track cost causation and enable the utility to recover its fixed costs (which are not affected by water usage) through the demand charge rather than a usage charge. Under the more traditional rates, a significant portion of the utility fixed cost is recoverable through charges that are based on usage. This is not an appropriate price signal in that fixed capacity cost does not vary with the amount of non-peak water used. A demand rate assigns all or a portion of the recovery of peak capacity cost to the demand charge and not to the usage charge. The customer has the incentive to control its cost of service by minimizing the peak use and the demand charge that would result. This potential reduction in peak use is an advantage to all customers that can provide extra capacity for other customers.

The disadvantages of demand rates include the administrative costs to monitor and keep track of daily readings and billing each customer on a separate basis. As Mr. Grubb notes, the Company has utilized water demand metering technology to apply its Standby Rate (under which one customer is served), and in connection with a 2007 demand factor study. As Mr. Grubb explains, problems were experienced with the reliability of the meters. Also, although I set forth estimated bills on the example demand rate calculations in Exhibit 3.4, these bills are based on estimates of customer peak demand, and not on actual demand data. Thus, as Mr. Grubb indicates, additional billing data would be required to support a proposed level of demand based charges. Because the Company has not yet determined the availability of adequate demand metering technology, I have not calculated an addition to the customer charge component of the demand rate to reflect the use of demand metering. For these reasons, I do not propose that a demand rate be implemented at this time.

**Q37. Please describe the analysis of public fire charges.**

**A.** An analysis of the public fire costs per customer by municipality for the Chicago Metro area and per hydrant by municipality in all other rate areas was prepared and is presented in IAWC Exhibit 3.9. Based on the cost of service allocation studies, the revenues allowed in the last case for public fire recover a reasonable portion of the cost of service, with the exception of Champaign and Sterling where the revenues exceed the cost of service. For Champaign, I recommend public fire rates that would recover the cost of service which is approximately $1,489,000. Revenues as a result of the last case were increased 47.7% from

$1,300,703 to $1,921,500. For Sterling, I recommend that the rates revert back to the level prior to the last case. This is still above the cost of service, but would remove the last increase of 20.7%.

For the Chicago Metro District, I recommend to continue the uniform rate per customer per month. This is supported by the analysis presented in Exhibit 3.9, page 3, which shows a comparison of the calculated rate per customer per month based on the number of hydrants and customers within each municipality. The comparison shows that the uniform rate of $4.27 per month recovers a reasonable portion of the cost based on the calculated rate. For the remaining districts, pages 1 and 2 of Exhibit 3.9 shows that the public fire revenues per hydrant by municipality for Rate Zone 1, Pekin and Lincoln recover a reasonable level of the cost to provide public fire protection.

**Q38. Please explain the rate design proposed for Chicago Metro Wastewater.**

**A.** The rate design for Chicago Metro Wastewater relied upon the results of the cost of service allocation presented in Exhibit 3.1. The cost allocation shows the cost of service attributable to Collection Only customers, Collection and Treatment customers, and Treatment Only customers. The cost allocation results show that under the allowed rates in the last case, the Collection Only customers are contributing revenues in excess of their costs and the Collection and Treatment and Treatment Only customers are contributing revenues far less than their costs.

The proposed rate design realigns the revenues with the cost of service and is presented in IAWC Exhibit 3.5 – CMWW. For Collection Only customers,

the proposed rates consist of a fixed charge and a single block consumption charge. The residential fixed charge includes an allowance of 1.33 ccf or 1,000 gallons. The flat fee for Potter Golf is based on a 5 ccf per month usage. A flat fee for Potter Golf is required because metered usage data is not available.

For Collection and Treatment customers, the proposed rates include a fixed charge and a single block consumption charge for residential and a two-block consumption charge for non-residential. The residential fixed charge also includes an allowance of 1.33 ccf or 1,000 gallons.

For Treatment Only customers, the Tinley Park flat rate of $35.10 per month was based on the total cost of service allocated to the Treatment Only classification. Tinley Park West monthly flat fee, a multi-unit development, was set at one-half of the Tinley Park rate or $17.55 per unit, in accordance with the agreement

**Q39. Does this complete your testimony at this time?**

**A.** Yes, it does.

# LIST OF CASES IN WHICH PAUL R. HERBERT HAS TESTIFIED

| | Year | Jurisdiction | Docket No. | Client/Utility | Subject |
|---|---|---|---|---|---|
| 1. | 1983 | Pa. PUC | R-832399 | T. W. Phillips Gas and Oil Co. | Pro Forma Revenues |
| 2. | 1989 | Pa. PUC | R-891208 | Pennsylvania-American Water Company | Bill Analysis and Rate Application |
| 3. | 1991 | PSC of W. Va. | 91-106-W-MA | Clarksburg Water Board | Revenue Requirements (Rule 42) |
| 4. | 1992 | Pa. PUC | R-922276 | North Penn Gas Company | Cash Working Capital |
| 5. | 1992 | NJ BPU | WR92050532J | The Atlantic City Sewerage Company | Cost Allocation and Rate Design |
| 6. | 1994 | Pa. PUC | R-943053 | The York Water Company | Cost Allocation and Rate Design |
| 7. | 1994 | Pa. PUC | R-943124 | City of Bethlehem | Revenue Requirements, Cost Allocation, Rate Design and Cash Working Capital |
| 8. | 1994 | Pa. PUC | R-943177 | Roaring Creek Water Company | Cash Working Capital |
| 9. | 1994 | Pa. PUC | R-943245 | North Penn Gas Company | Cash Working Capital |
| 10. | 1994 | NJ BPU | WR94070325 | The Atlantic City Sewerage Company | Cost Allocation and Rate Design |
| 11. | 1995 | Pa. PUC | R-953300 | Citizens Utilities Water Company of Pennsylvania | Cost Allocation and Rate Design |
| 12. | 1995 | Pa. PUC | R-953378 | Apollo Gas Company | Revenue Requirements and Rate Design |
| 13. | 1995 | Pa. PUC | R-953379 | Carnegie Natural Gas Company | Revenue Requirements and Rate Design |
| 14. | 1996 | Pa. PUC | R-963619 | The York Water Company | Cost Allocation and Rate Design |
| 15. | 1997 | Pa. PUC | R-973972 | Consumers Pennsylvania Water Company - Shenango Valley Division | Cash Working Capital |
| 16. | 1998 | Ohio PUC | 98-178-WS-AIR | Citizens Utilities Company of Ohio | Water and Wastewater Cost Allocation and Rate Design |
| 17. | 1998 | Pa. PUC | R-984375 | City of Bethlehem - Bureau of Water | Revenue Requirement, Cost Allocation and Rate Design |
| 18. | 1999 | Pa. PUC | R-994605 | The York Water Company | Cost Allocation and Rate Design |
| 19. | 1999 | Pa. PUC | R-994868 | Philadelphia Suburban Water Company | Cost Allocation and Rate Design |
| 20. | 1999 | PSC of W.Va. | 99-1570-W-MA | Clarksburg Water Board | Revenue Requirements (Rule 42), Cost Allocation and Rate Design |
| 21. | 2000 | Ky. PSC | 2000-120 | Kentucky-American Water Company | Cost Allocation and Rate Design |
| 22. | 2000 | Pa. PUC | R-00005277 | PPL Gas Utilities | Cash Working Capital |
| 23. | 2000 | NJ BPU | WR00080575 | Atlantic City Sewerage Company | Cost Allocation and Rate Design |
| 24. | 2001 | Ia. St Util Bd | RPU-01-4 | Iowa-American Water Company | Cost Allocation and Rate Design |
| 25. | 2001 | Va. St. Corp | PUE010312 | Virginia-American Water Company | Cost Allocation and Rate Design |
| 26. | 2001 | WV PSC | 01-0326-W-42T | West-Virginia American Water Company | Cost Allocation And Rate Design |
| 27. | 2001 | Pa. PUC | R-016114 | City of Lancaster | Tapping Fee Study |
| 28. | 2001 | Pa. PUC | R-016236 | The York Water Company | Cost Allocation and Rate Design |
| 29. | 2001 | Pa. PUC | R-016339 | Pennsylvania-American Water Company | Cost Allocation and Rate Design |
| 30. | 2001 | Pa. PUC | R-016750 | Philadelphia Suburban Water Company | Cost Allocation and Rate Design |
| 31. | 2002 | Va. St. Corp Cm | PUE-2002-00375 | Virginia-American Water Company | Cost Allocation and Rate Design |

| | Year | Jurisdiction | Docket No. | Client/Utility | Subject |
|---|---|---|---|---|---|
| 32. | 2003 | Pa. PUC | R-027975 | The York Water Company | Cost Allocation and Rate Design |
| 33. | 2003 | Tn Reg. Auth | 03- | Tennessee-American Water Company | Cost Allocation and Rate Design |
| 34. | 2003 | Pa. PUC | R-038304 | Pennsylvania-American Water Company | Cost Allocation and Rate Design |
| 35. | 2003 | NJ BPU | WR03070511 | New Jersey-American Water Company | Cost Allocation and Rate Design |
| 36. | 2003 | Mo. PSC | WR-2003-0500 | Missouri-American Water Company | Cost Allocation and Rate Design |
| 37. | 2004 | Va. St. Corp Cm | PUE-200 - | Virginia-American Water Company | Cost Allocation and Rate Design |
| 38. | 2004 | Pa. PUC | R-038805 | Pennsylvania Suburban Water Company | Cost Allocation and Rate Design |
| 39. | 2004 | Pa. PUC | R-049165 | The York Water Company | Cost Allocation and Rate Design |
| 40. | 2004 | NJ BPU | WRO4091064 | The Atlantic City Sewerage Company | Cost Allocation and Rate Design |
| 41. | 2005 | WV PSC | 04-1024-S-MA | Morgantown Utility Board | Cost Allocation and Rate Design |
| 42. | 2005 | WV PSC | 04-1025-W-MA | Morgantown Utility Board | Cost Allocation and Rate Design |
| 43. | 2005 | Pa. PUC | R-051030 | Aqua Pennsylvania, Inc. | Cost Allocation and Rate Design |
| 44. | 2006 | Pa. PUC | R-051178 | T. W. Phillips Gas and Oil Co. | Cost Allocation and Rate Design |
| 45. | 2006 | Pa. PUC | R-061322 | The York Water Company | Cost Allocation and Rate Design |
| 46. | 2006 | NJ BPU | WR-06030257 | New Jersey American Water Company | Cost Allocation and Rate Design |
| 47. | 2006 | Pa. PUC | R-061398 | PPL Gas Utilities, Inc. | Cost Allocation and Rate Design |
| 48. | 2006 | NM PRC | 06-00208-UT | New Mexico American Water Company | Cost Allocation and Rate Design |
| 49. | 2006 | Tn Reg Auth | 06-00290 | Tennessee American Water Company | Cost Allocation and Rate Design |
| 50. | 2007 | Ca. PUC | U-339-W | Suburban Water Systems | Water Conservation Rate Design |
| 51. | 2007 | Ca. PUC | U-168-W | San Jose Water Company | Water Conservation Rate Design |
| 52. | 2007 | Pa. PUC | R-00072229 | Pennsylvania American Water Company | Cost Allocation and Rate Design |
| 53. | 2007 | Ky. PSC | 2007-00143 | Kentucky American Water Company | Cost Allocation and Rate Design |
| 54. | 2007 | Mo. PSC | WR-2007-0216 | Missouri American Water Company | Cost Allocation and Rate Design |
| 55. | 2007 | Oh. PUC | 07-1112-WS-AIR | Ohio American Water Company | Cost Allocation and Rate Design |
| 56. | 2007 | Il. CC | 07-0507 | Illinois American Water Company | Customer Class Demand Study |
| 57. | 2007 | Pa. PUC | R-00072711 | Aqua Pennsylvania, Inc. | Cost Allocation and Rate Design |
| 58. | 2007 | NJ BPU | WR07110866 | The Atlantic City Sewerage Company | Cost Allocation and Rate Design |
| 59. | 2007 | Pa. PUC | R-00072492 | City of Bethlehem – Bureau of Water | Revenue Requirements, Cost Alloc. |
| 60. | 2007 | WV PSC | 07-0541-W-MA | Clarksburg Water Board | Cost Allocation and Rate Design |
| 61. | 2007 | WV PSC | 07-0998-W-42T | West Virginia American Water Company | Cost Allocation and Rate Design |
| 62. | 2008 | NJ BPU | WR08010020 | New Jersey American Water Company | Cost Allocation and Rate Design |
| 63. | 2008 | Va St Corp Com | | Virginia American Water Company | Cost Allocation and Rate Design |
| 64. | 2008 | Tn. Reg. Auth. | 08-00039 | Tennessee American Water Company | Cost Allocation and Rate Design |
| 65. | 2008 | Mo PSC | WR-2008-0311 | Missouri American Water Company | Cost Allocation and Rate Design |
| 66. | 2008 | De PSC | 08-96 | Artesian Water Company, Inc. | Cost Allocation and Rate Design |
| 67. | 2008 | Pa PUC | R-2008-2032689 | Penna. American Water Co. – Coatesville Wastewater | Cost Allocation and Rate Design |
| 68. | 2008 | AZ Corp. Com. | W-01303A-08-0227<br>SW-01303A-08- | Arizona American Water Co. - Water<br>- Wastewater | Cost Allocation and Rate Design |

| | Year | Jurisdiction | Docket No. | Client/Utility | Subject |
|---|---|---|---|---|---|
| | | | 0227 | | |
| 69. | 2008 | Pa PUC | R-2008-2023067 | The York Water Company | Cost Allocation and Rate Design |
| 70. | 2008 | WV PSC | 08-0900-W-42T | West Virginia American Water Company | Cost Allocation and Rate Design |
| 71. | 2008 | Ky PSC | 2008-00250 | Frankfort Electric and Water Plant Board | Cost Allocation and Rate Design |

CHI-1689854v4