COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	)	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	)	
RATES ON AND AFTER MARCH 28, 2010	)	

DIRECT TESTIMONY OF PATRICK L. BARYENBRUCH

February 26, 2010

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1. Q. Please state your name and business address.

A. Patrick L. Baryenbruch, 2832 Claremont Road, Raleigh, North Carolina 27608.

2. Q. Please describe your educational and professional background.

A. I received a Bachelors degree in accounting from the University of Wisconsin-Oshkosh in 1974 and a Masters in Business Administration degree from the University of Michigan in 1979.

I am a financial consultant and a certified public accountant. I am a member of the American Institute of Certified Public Accountants and the North Carolina Association of Certified Public Accountants.

I began my career as a staff accountant with Arthur Andersen & Company where I performed financial audits of utilities, banks and finance companies. After three years I left to pursue an M.B.A. degree. Upon graduation from business school, I worked with the consulting firms of Theodore Barry & Associates and Scott, Madden & Associates.

During my consulting career, I have performed consulting assignments for approximately 50 utilities and 10 public service commissions. I have participated as project manager, lead or staff consultant for 24 commission-ordered management and prudence audits of public utilities. Of these, I have been responsible for evaluating the area of affiliate charges and allocation of corporate expenses in the Commission-ordered audits of Connecticut Light and Power, Connecticut Natural Gas, General Water Corporation (Pennsylvania Operations), Philadelphia Suburban Water Company (now Aqua America) and Pacific Gas & Electric Company.

My firm has performed the commission-ordered audit of Southern California Edison’s 2002, 2003, 2004 and 2005 transactions with its non-regulated affiliate companies.

3. Q. What are your duties and responsibilities in your current position?

A. I am the President of my own consulting practice, Baryenbruch & Company, LLC, which was established in 1985. In that capacity, I provide consulting services to utilities and their regulators.

4. Q. Please describe the reason for your testimony in this case.

A. I am presenting the results of my study which evaluated the services provided by American Water Service Company ("Service Company") during the 12 months ended September 30, 2009 to Kentucky American Water (KAWC). This study was undertaken in conjunction with KAWC's rate case and is true to the best of my knowledge and belief. The study is attached as Exhibit PLB-1.

5. Q. What were the objectives of your study?

A. This study was undertaken to answer four questions concerning the services provided by American Water Works Service Company, Inc. ("Service Company") to Kentucky American Water Company ("KAWC"), each of which bears on the reasonableness of those charges as incurred during the 12 months ended September 30, 2009. First, were the Service Company's charges to KAWC during the 12 months ended September 30, 2009 reasonable? Second, was KAWC charged the lower of cost or market for managerial and professional services provided by the Service Company during the 12 months ended September 30, 2009? Third, were the 12 months ended September 30, 2009 costs of the Service Company's customer accounts services, including those of the National Call Centers, comparable to those of other utilities? Fourth, are the services KAWC receives from Service Company necessary?

6. Q. What conclusions were you able to draw concerning question number 1, whether the Service Company charges to KAWC were reasonable?

A. The Service Company's 12 months ended September 30, 2009 cost per KAWC customer was very reasonable compared to cost per customer for electric and combination electric/gas service companies. During the 12 months ended September 30, 2009, KAWC was charged $55 per customer for administrative and general (A&G)-related services provided by the Service Company. This compares to an average of $109 per customer for service companies reporting to the Federal Energy Regulatory Commission (FERC). Only 3 of the 24 utility service companies that filed a FERC Form 60 for 2008 had a lower per customer A&G cost than KAWC's charges from the Service Company.

7. Q. What conclusions were you able to draw concerning question number 2, whether KAWC was charged the lower of cost or market services provided by the Service Company?

A. I was able to draw the following conclusions:

(1) KAWC was charged the lower of cost or market for managerial and professional services during the 12 months ended September 30, 2009.

(2) On average, the hourly rates for outside service providers are 21% higher than the Service Company's hourly rates.

(3) The managerial and professional services provided by the Service Company are vital and could not be procured externally by KAWC without careful supervision on the part of KAWC. If these services were contracted entirely to outside providers, KAWC would have to add at least one position to manage activities of outside firms. This position would be necessary to ensure the quality and timeliness of services provided.

(4) If all the managerial and professional services now provided by the Service Company had been out-sourced during the 12-months ended

September 30, 2009, KAWC and its ratepayers would have incurred an additional $1,500,000 in expenses. This amount includes the higher cost of outside providers and the cost of a KAWC position needed to direct the outsourced work.

(5) This study's hourly rate comparison actually understates the cost advantages that accrue to KAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company managerial and professional personnel, on the other hand, charge a maximum 8 hours per day even when they work more. If the overtime hours of Service Company personnel had been factored into the hourly rate calculation, the Service Company would have had an even greater annual dollar advantage than the $1,500,000 cited above.

(6) It would be difficult for KAWC to find local service providers with the same specialized water industry expertise as that possessed by the Service Company staff. Service Company personnel spend substantially all their time serving operating water companies. This specialization brings with it a unique knowledge of water utility operations and regulation that is most likely unavailable from local service providers.

(7) Service Company fees do not include any profit markup. Only its actual cost of service is being recovered from KAWC ratepayers.

8. Q. What conclusions were you able to draw concerning question number 3, whether the 12 months ended September 30, 2009 costs of the Service Company's customer account services, including those of the National Call Centers, were reasonable?

A. I was able to determine that the cost of the Service Company's customer accounts services, including those provided by the National Call Center, is within a reasonable range of the average of the neighboring electric utility comparison group. As will be explained further herein, this group of companies provides a reasonable proxy group for comparison to a regulated utility of the size and scope of KAWC. During the 12-months ended September 30, 2009, the customer accounts cost for KAWC customers was $28.35 compared to the 2008 average of $27.07 for neighboring electric utilities. The highest comparison group per customer cost was $39.29 and the lowest $15.67.

9. Q. What conclusions were you able to draw concerning question number 4, whether the services KAWC receives from the Service Company are necessary?

A. I was able to draw the following conclusions:

(1) The services that the Service Company provides are necessary and would be required even if KAWC were a stand-alone water utility.

(2) There is no redundancy or overlap in the services provided by the Service Company to KAWC.

10. Q. Does this complete your testimony?

A. Yes.

Market Cost Comparison of Service Company Charges to Kentucky American Water Company

12-Months Ended September 30, 2009

Baryenbruch & Company, LLC

Kentucky American Water Company
Market Cost Comparison of Service Company Charges
12-Months Ended September 30, 2009

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Purpose of This Study

This study was undertaken to answer four questions concerning the services provided by American Water Works Service Company, Inc. (Service Company) to Kentucky American Water Company (KAWC):

1. Were the Service Company's charges to KAWC during the 12 months ended September 30, 2009 reasonable?

2. Was KAWC charged the lower of cost or market for managerial and professional services provided by the Service Company during the 12 months ended September 30, 2009?

3. Were the 12 months ended September 30, 2009 costs of the Service Company's customer accounts services, including those of the National Call Centers, comparable to those of other utilities?

4. Are the services KAWC receives from Service Company necessary?

Study Results

Concerning question 1, the following conclusion was reached:

- The Service Company's 12 months ended September 30, 2009 cost per KAWC customer was very reasonable compared to cost per customer for electric and combination electric/gas service companies. During the 12 months ended September 30, 2009, KAWC was charged $55 per customer for administrative and general (A&G)-related services provided by the Service Company. This compares to an average of $109 per customer for service companies reporting to the Federal Energy Regulatory Commission (FERC). Only 3 of the 24 utility service companies that filed a FERC Form 60 for 2008 had a lower per customer A&G cost than KAWC's charges from the Service Company.

Concerning question 2, the following conclusions were drawn from this study:

- KAWC was charged the lower of cost or market for managerial and professional services during the 12 months ended September 30, 2009.

- On average, the hourly rates for outside service providers are 21% higher than the Service Company's hourly rates.

- The managerial and professional services provided by the Service Company are vital and could not be procured externally by KAWC without careful supervision on the part of KAWC. If these services were contracted entirely to outside providers, KAWC would have to add at least one position to manage activities of outside firms. This position would be necessary to ensure the quality and timeliness of services provided.

- If all the managerial and professional services now provided by the Service Company had been outsourced during the 12 months ended September 30, 2009, KAWC and its ratepayers would have incurred more than $1,500,000 in additional expenses. This amount includes the higher cost of outside providers and the cost of one KAWC positions needed to direct the outsourced work.

- This study's hourly rate comparison actually understates the cost advantages that accrue to KAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company exempt personnel, on the other hand, charge a maximum of 8 hours per day even when they work more hours. If the overtime hours of Service Company personnel were factored into the hourly rate calculation, the Service Company would have had an even greater annual dollar advantage than the $1,500,000 cited above. For instance, if Service Company overtime is conservatively estimated at 5% (2 hours per week), then that work would have cost an estimated $70,000 in additional charges from outside providers.

- It would be difficult for KAWC to find local service providers with the same specialized water industry expertise as that possessed by the Service Company staff. Service Company personnel spend substantially all their time serving operating water companies. This specialization brings with it a unique knowledge of water utility operations and regulation that is most likely unavailable from local service providers.

- Service Company fees do not include any profit markup. Only its actual cost of service is being recovered from KAWC ratepayers.

Concerning question 3, the following conclusion was reached:

- The cost of the Service Company's customer accounts services, including those provided by the National Call Center, is within a reasonable range of the average of the neighboring electric utility comparison group. As will be explained further herein, this group of companies provides a reasonable proxy group for comparison to a regulated utility of the size and scope of the Service Company and KAWC. During the 12-months ended September 30, 2009, the customer accounts cost for KAWC customers was $28.35 compared to the 2008 average of $27.07 for neighboring electric utilities. The highest comparison group per customer cost was $39.29 and the lowest $15.67.

Concerning question 4, the following conclusions were drawn:

- The services that the Service Company provides are necessary and would be required even if KAWC were a stand-alone water utility.

- Furthermore, there is no redundancy or overlap in the services provided by the Service Company to KAWC. For all of the services listed in Exhibit 11, there was only one entity primarily responsible for the service.

Overview of American Water Works Service Company

American Water's Service Company exists to provide certain shared services to American Water subsidiaries. It follows a service company model used by many utility holding companies that own multiple regulated utilities. By consolidating executive and professional services into a single service company, utility holding companies are able to realize the following benefits for ratepayers:

- Purchasing Economies – Common expenses (e.g., insurance, chemicals, piping) can be procured on a much larger scale thereby providing greater bargaining power for the combined entity compared to individual utility operating companies. A service company facilitates corporate-wide purchasing programs through its procurement and contract administration functions.

- Operating Economies of Scale – A service company is able to deliver services more efficiently because workloads can be balanced across more persons and facilities. For instance, American Water's Service Company is able to maintain one principal data center for the entire corporation. This is much more cost-efficient than each operating utility funding their own data center with its large fixed hardware, software and staffing costs.

- Continuity of Service – Centralizing service company personnel who perform similar services facilitates job cross-training and sharing of knowledge and expertise. This makes it easier to deal with staff turnover and absences and to sustain high levels of service to operating utilities. An individual operating utility might experience considerable disruption if a key professional left and it was necessary to hire outside to fill the vacancy.

- Maintenance of Corporate-Wide Standards – Personnel in American Water's Service Company establish standards for many functions (e.g., engineering designs, operating procedures and maintenance practices). It is easier to ensure these standards are followed by every operating utility because their implementation is overseen by the Service Company.

- Improved Governance – American Water's Service Company provides another dimension of management and financial oversight that supplements local operating utility management. The Service Company facilitates standard planning and reporting that help ensure operating utilities meet the requirements of their customers in a cost effective manner.

- Retention of Personnel – A service company organization provides operating utility personnel with another career path beyond what may be available on a local level. These opportunities tend to improve employee retention.

American Water follows the model for other utility service companies in another important regard. Its services are provided to affiliate operating utilities, like KAWC, at cost. American Water's Service Company is not a profit-making entity. It assigns only its actual expenses to the American Water subsidiaries it services.

The Service Company provides services to American Water operating companies from the following locations:

- Corporate Office – Includes American Water's executive management and personnel from the various corporate support services. American Water's corporate office is located in Voorhees, New Jersey.

- National Call Centers – Perform customer service functions, including: customer call processing, service order processing, correspondence processing, credit and collections. American Water maintains two call centers. One in Alton, Illinois that went into operation in 2001 and a second in Pensacola, Florida that went into operation in 2005. Prior to the establishment of these national call centers, customer service functions were performed by employees of KAWC, which incurred the expense on its books.

- National Shared Services Center – The Shared Services Center, located in Cherry Hill, New Jersey, provides various financial, accounting and treasury functions that had been performed by individual operating companies. This arrangement has improved and streamlined the Company's financial processes and allowed operating companies to focus on providing utility service.

- Regional Offices – Regional offices provide operating companies with certain support services that can be performed more effectively on a regional basis because individual operating company/center workloads are not sufficient to warrant a full-time staff for these activities. At the same time, these services require closer proximity to operating companies served so they are not provided by the National Shared Services Center. Examples of regional office services include rates and revenues, engineering, operations and field resource coordination.

- Belleville Lab – The national trace substance laboratory is located in Belleville, Illinois and performs testing for all American Water operating companies.

- Information Technology Service Centers – American Water's principal data center, located in Hershey, Pennsylvania, supports the IT infrastructure required to run corporate and operating company business applications and the communications systems. IT personnel rotate, as needed, throughout the regional offices and operating companies.

Service Company Expense Categories

The Service Company renders a monthly bill to operating companies. Charges are broken down into the following expense categories:

- Labor – base pay (salaries) of managerial and professional employees
- Labor-Related Overheads - employee benefit costs (payroll taxes, medical coverage, pensions, disability insurance) and other general expenses
- Support - wages and salaries of office support personnel, including secretaries, clerical personnel, telephone operators and mail clerks
- Office Expenses - office rent, equipment leases, telephone, electric, office supplies, property taxes, office maintenance
- Vouchers/Journal Entries – (1) travel expenses incurred by Service Company personnel, (2) other items submitted for reimbursement by employees, including professional association dues, (3) outside service contracts for such things as actuarial

services, and (4) various other expenditures, including data center expenses for software licenses and hardware maintenance.

Service Company expenses are either assigned directly or allocated to operating companies, as shown in the table below.

Expense Category	Direct Charged	Allocated	Comments
Labor	X	X	Professional personnel working for one or several operating companies
Labor-Related Overheads	X	X	These are primarily employee benefit costs that relate directly to labor
Support		X	Administrative personnel support the professional staff, thus support costs are allocated on the basis of professional labor
Office Expense		X	Are all allocated on the basis of professional labor
Vouchers/Journals	X	X	May be either directly in support of one operating company (e.g., an engineer traveling from the Corporate Office to the operating company) or allocated to several operating companies

A direct charge occurs when Service Company work or expenses are incurred in support of only one operating company. Direct charge examples include work in support of an operating company's rate case, engineering design work on an operating company's project and the preparation of an operating company's financial statements.

Service Company expenses are allocated when more than one operating company benefits from the underlying work. Examples include assessments of new Federal water quality regulations, development of the company-wide materials procurement contracts and creation of company-wide engineering design standards.

Charging and Assignment Of Service Company Time and Expenses

Service Company transactions are assigned with the following information so there is a proper accounting and eventual charging to an operating company:

- Operating company
- Formula number
- Work order (where applicable)
- Authorization number (where applicable)

Charges can originate from the following systems:

- Payroll System
- RVI System (outside vendor payments)
- PCard System (credit card payments)
- Internal Purchase Order System
- Journal entries

The Service Company's time reporting process enables labor and support charges to be assigned to the proper operating company. Labor charges are based on the time reported by managerial and professional Service Company employees. Every week, Service Company professional employees complete an electronic time sheet that shows:

- Formula number (this is linked to operating company within American Water's financial system)
- Employee hours worked
- Account number for non-labor charges

At month-end, time report information is processed and direct and allocated professional labor hours tabulated for each operating company. Dollar charges are then calculated using the hourly rate of each Service Company professional employee based upon their base salary (i.e., an employee's hours times his/her hourly rate of pay).

Support (administrative) personnel charge their time to the activity "General Admin." As described in the table on page 4, their labor charges are allocated to operating companies based upon how their office's professional personnel labor charges are assigned. For instance, if 20% of American Water's Eastern Region's professional labor is assigned to KAWC during a month, then 20% of that office's monthly administrative labor charges also are assigned to the operating company.

The overhead cost category is next assigned based on professional and administrative labor costs. Thus, if 20% of the Eastern Region's accumulated professional and support labor is charged to KAWC during the month, then 20% of that month's overhead expenses will be assigned to KAWC.

Each Service Company location's office expenses are allocated to operating companies based on how professional labor charges for that office have been assigned. For instance, if 2% of professional labor from one Service Company office is assigned to KAWC, then 2% of that office's office expenses would be assigned to KAWC. Thus, office expenses are allocated in the very same way as administrative labor.

Vouchers/journal entries may be charged directly or allocated, depending on who benefits from the expenditure. For instance, the cost of a continuing professional education course taken by a professional in a regional office is allocated to the operating companies served by that office. Travel expenses by that same professional to a rate case proceeding are charged directly to the operating company whose case is being heard.

During the 12 months ended September 30, 2009, the Service Company billed KAWC $7,892,467 in O&M-related charges and $891,627 in capital-related charges. Included in the O&M amount are certain non-recurring expenses which are excluded from this market study. As calculated in the table below, net testable Service Company charges of $8,798,773 were subjected to a market cost comparison.

		12 Months Ended September 30, 2009
Mgmt Fee Expense (O&M)	$	7,892,467
Add(Subtract): Non-Recurring Items		
Sarbanes-Oxley	$	14,679
Net O&M Expenses	$	7,907,146
Mgmt Fees - Capital	$	891,627
Total Testable AWWSC Charges	**$**	**8,798,773**

For purposes of comparing these charges to certain outside benchmarks, Service Company services were placed into three categories:

- Managerial and Professional Services – Includes such services as management, accounting, legal, human resources, information technology and engineering.
- Customer Accounts Services – Includes customer-related services, such as call center, credit, billing, collection and payment processing.
- Field Resource Coordination Services – Includes the dispatching and oversight of work to operating company field crews.

Total test period Service Company charges break down between management/professional services, customer account services and field resource coordination as follows:

	12 Months Ended Sep 30, 2009		
		Amount	Hours
Management and Professional Services	$	6,816,711	52,690
Customer Account Services	$	1,728,850	47,924
Field Resource Coordination	$	253,212	5,049
Total Service Company Charges	**$**	**8,798,773**	**105,663**

This study's first question—whether Service Company 12 months ended September 30, 2009 charges were reasonable—was determined by comparing KAWC's A&G-related Service Company charges per customer to the same charges for utility companies that must file the FERC Form 60 – Annual Report of Service Companies.

The second question—whether Service Company charges during the 12 months ended September 3, 2009 were at the lower of cost or market—was evaluated by comparing the cost per hour for managerial and professional services provided by Service Company personnel to hourly billing rates that would be charged by outside providers of equivalent services. Service Company costs per hour were based on actual charges to KAWC during the 12 months ended September 30, 2009. Outside providers' billing rates came from surveys or other information from professionals that could perform the services now provided by the Service Company.

The third question—whether Service Company's 12 months ended September 30, 2009 customer account services charges, including those of the National Call Center costs, were comparable to other utilities—was addressed by comparing KAWC's customer accounts services expenses to those of neighboring electric utilities. This approach was selected because the costs of outside providers of call center services are not publicly available. However, electric utility customer account services expenses can be obtained from the FERC Form 1. The availability and transparency of FERC data adds to the validity of its use in this comparison.

The fourth question—the necessity of Service Company services—was investigated by defining the services provided to KAWC and determining if these services would be required if KAWC were a stand-alone utility.

KAWC's Service Company Cost per Customer

During the 12 months ended September 30, 2009, KAWC was charged $55 per customer by the Service Company for A&G/O&M-related services. The calculation of this amount, shown in the table below, starts with total net testable Service Company charges and adjusts for capital and non-A&G functions (engineering, operations and water quality) charges. These adjustments are necessary to develop a per customer cost that is comparable to cost of utility service companies.

	12 Months ended Sep 30, 2009 AWWSC Charges
Testable Service Company charges	$ 8,798,773
Less: Capital charges	$ (891,627)
Less: Non-A&G function O&M charges	
Engineering	$ (11,031)
Operations	$ (1,073,526)
Water Quality	$ (260,216)
Net A&G/O&M-related charges	$ 6,562,374
KAWC customers	118,279
KAWC Cost Per Customer	**$ 55**

Comparison Group Cost Per Customer

Every centralized service company in a holding company system must file a Form 60 in accordance with the Public Utility Holding Company Act of 2005, Section 1270, Section 390 of the Federal Power Act and 18 C.F.R. paragraph 366.23. This report is designed to collect financial information from service companies that are subject to regulation by the FERC.

For 2008, a Form 60 was filed by 24 utility service companies, all of which serve utilities that provide regulated electric and, in some cases, gas service to retail customers. In order to make a valid comparison of this group's costs to those of American Water Works Service Company, it was necessary to isolate expenses that that they have in common. These include A&G/O&M-related charges associated with the following FERC accounts:

901 – Supervision	921 – Office supplies and expenses
903 – Customer records and collection expenses	923 – Outside services employed
905 – Miscellaneous customer accounts expenses	926 – Employee pensions and benefits
907 – Supervision	928 – Regulatory commission expenses
910 – Misc customer service and info expenses	930.2 – Miscellaneous general expenses
911 – Supervision	931 – Rents
920 - Administrative and general salaries	935 – Maintenance of structures and equipment

O&M expenses charged to utility affiliates for the comparison group service companies were obtained from Schedule XVI – Analysis of Charges for Service Associate and Non-Associate Companies (p. 303 to 306) of each entity's FERC Form 60. This schedule shows charges by FERC Account.

Comparison group service company 2008 expenses were also adjusted to remove charges to non-regulated affiliates from the cost pool used to calculate the cost per regulated service customer. This determination was made using information from the FERC Form 60 schedule: Account 457 – Analysis of Billing – Associate Companies.

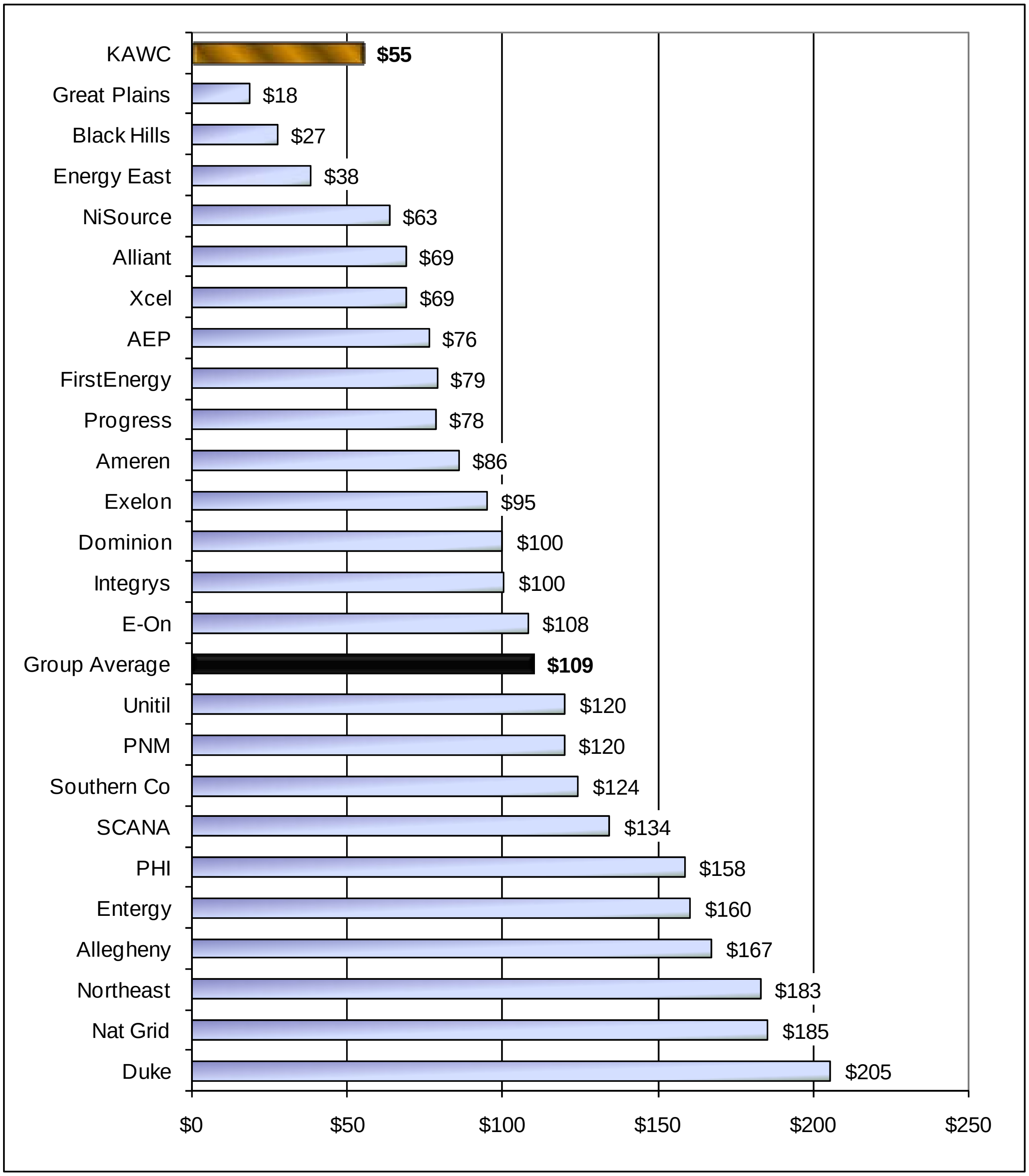
A&G expenses per regulated utility customer for the 24 utility companies that file Form 60 for 2008 are calculated below.

Utility Company	2008 Regulated Retail Service Company A&G Expenses	Regulated Retail Customers	Cost per Customer
AEP	$396,340,118	5,213,000	$ 76
Allegheny	$263,588,707	1,577,873	$ 167
Alliant	$205,754,832	3,000,000	$ 69
Ameren	$291,684,710	3,400,000	$ 86
Black Hills	$20,763,828	759,400	$ 27
Dominion	$357,718,046	3,588,500	$ 100
Duke	$923,936,645	4,500,000	$ 205
Energy East	$113,714,789	2,989,800	$ 38
Entergy	$432,575,683	2,700,000	$ 160
E-On	$136,276,177	1,263,000	$ 108
Exelon	$558,687,014	5,885,000	$ 95
FirstEnergy	$354,028,109	4,499,000	$ 79
Great Plains	$15,000,708	820,000	$ 18
Integrys	$216,364,166	2,157,000	$ 100
Nat Grid	$1,240,706,398	6,700,000	$ 185
NiSource	$237,380,009	3,750,000	$ 63
Northeast	$302,138,730	1,654,000	$ 183
PHI	$302,463,412	1,910,000	$ 158
Progress	$242,677,256	3,100,000	$ 78
PNM	$102,688,385	859,000	$ 120
SCANA	$191,207,825	1,424,300	$ 134
Southern Co	$546,498,605	4,402,000	$ 124
Unitil	$20,341,422	169,600	$ 120
Xcel	$367,626,617	5,345,000	$ 69
Group Total	**$7,840,162,191**	**71,666,473**	**$ 109**

Exhibit 1 shows KAWC's 12 months ended September 30, 2009 Service Company cost per customer of $58 to be considerably lower than the average of $109 per customer for the comparison group service companies. Only 3 of 24 comparison group service companies had a lower cost per customer than KAWC. Based on this result, it is possible to conclude that the Service Company's 12 months ended September 30, 2009 charges to KAWC were reasonable.

Exhibit 1

Kentucky-American Water Company
Comparison of Service Company Annual Costs Per Customer



Methodology

The lower-of-cost-or-market comparison is accomplished by comparing the cost per hour for Service Company managerial and professional services to those of outside service providers to whom these duties could be assigned. Based on the nature of the Service Company services it was determined that the following outside providers could perform the categories of services indicated below:

- Management Consultants – executive and administrative management, risk management services, human resources and communications services

- Attorneys – legal services

- Certified Public Accountants – accounting, financial, information technology and rates and revenues services

- Professional Engineers – engineering, operations and water quality services.

The services provided by the Belleville lab are assumed to be transferable to professional engineers for purposes of this cost comparison. This was done for two reasons. First, there is no readily available survey of hourly billing rates for testing services such as those performed by Belleville. Second, Belleville personnel have similar, scientific educational backgrounds as Service Company engineering personnel. Thus, it is valid to compare the hourly rates of Belleville services to those of outside engineering firms.

Service Company's hourly rate were calculated for each of the four outside service provider categories, based on the dollars and hours charged to KAWC during the 12 months ended September 30, 2009. Hourly billing rates for outside service providers were developed using third party surveys or directly from information furnished by outside providers themselves.

It should be noted that by using the Service Company's hours charged KAWC during the 12 months ended September 30, 2009, its hourly rates are actually overstated because Service Company personnel charge a maximum 8 per day even when they work more. Outside service providers generally bill for every hour worked. If the overtime hours of Service Company personnel had been factored into the hourly rate calculation, Service Company hourly rates would have been lower.

The last step in the market cost comparison was to compare the Service Company's average cost per hour to the average cost per hour for outside providers.

Service Company Hourly Rates

Exhibit 2 (page 14) details the assignment of 12 months ended September 30, 2009 management and professional Service Company charges by outsider provider category. Exhibit 3 (page 15) shows the same assignment for Service Company management and professional hours charged to KAWC during the 12 months ended September 30, 2009.

Certain adjustments to these dollar amounts were necessary to calculate Service Company hourly rates that are directly comparable to those of outside providers. The three categories of adjustments are:

- Contract Services – 12 months ended September 30, 2009 Service Company charges to KAWC include expenses associated with the use of outside professional firms to perform certain corporate-wide services (e.g., legal, financial audit, actuarial services). These professional fees are excluded from the Service Company hourly rate calculation because the related services have effectively been out-sourced already.

- Travel Expenses – In general, client-related travel expenses are not recovered by outside service providers through their hourly billing rate. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, it is appropriate to remove these Service Company charges from the hourly rate calculation.

- Information Technology Infrastructure Expenses – Included in the 12 months ended September 30, 2009 Service Company charges to KAWC are leases, maintenance fees and depreciation related to American Water's enterprise mainframe, server and network infrastructure and corporate business applications. An outside provider that would take over operation of this infrastructure would recover these expenses over and above the labor necessary to operate the data center.

Exhibit 4 (page 16) shows how contract services, travel expenses and computer hardware/software-related Service Company charges are assigned among the four outside provider categories.

Based on the assignment of expenses and hours shown in Exhibits 2 and 3 and the excludable items shown in Exhibit 4, the Service Company's equivalent costs per hour for the 12 months ended September 30, 2009 are calculated below.

	Attorney	Management Consultant	Certified Public Accountant	Professional Engineer	Total
Total management, professional & technical services charges	$ 334,249	$ 1,710,026	$ 3,561,408	$ 1,211,028	$ 6,816,711
Less:					
Contract services	$ 20,484	$ 95,374	$ 467,125	$ 14,259	$ 597,241
Travel expenses	$ 2,520	$ 43,997	$ 45,186	$ 73,938	$ 165,640
IT infrastructure expenses	$ 5,573	$ 243,378	$ 217,932	$ 47,913	$ 514,795
Net Service Charges (A)	$ 305,672	$ 1,327,278	$ 2,831,166	$ 1,074,919	$ 5,539,035
Total Hours (B)	4,166	7,038	29,356	12,130	52,690
Average Hourly Rate (A / B)	**$ 73**	**$ 189**	**$ 96**	**$ 89**	

Exhibit 2

Kentucky-American Water Company
Analysis of 12 Months Ended September 30, 2009 Service Company Charges By Location And Function

Location	Function	12 Months Ended September 30, 2009 Service Company Charges				
		Attorney	Management Consultant	Certified Public Accountant	Professional Engineer	Total
Belleville Lab	Water Quality				$ 203,790	$ 203,790
Call Center	Human Resources		$ 38,322			$ 38,322
Corporate	Accounting			$ 497,590		$ 497,590
	Administration		$ 322,790			$ 322,790
	Audit			$ 52,782		$ 52,782
	Communications		$ 93,321			$ 93,321
	Finance			$ 281,839		$ 281,839
	Human Resources		$ 275,961			$ 275,961
	Information Technology			$ 6,583		$ 6,583
	Legal	$ 97,417				$ 97,417
	Operations		$ 163,589		$ 724,909	$ 888,499
	Rates & Revenue			$ 75,655		$ 75,655
	Risk Management		$ 47,419			$ 47,419
	Water Quality				$ 91,789	$ 91,789
Regional Offices	Accounting			$ 29,285		$ 29,285
	Administration		$ 254,002			$ 254,002
	Communications		$ 167,071			$ 167,071
	Engineering				$ 13,044	$ 13,044
	Finance			$ 642,225		$ 642,225
	Human Resources		$ 61,873			$ 61,873
	Legal	$ 236,832				$ 236,832
	Operations		$ 161,223		$ 173,907	$ 335,129
	Risk Management		$ 21,941			$ 21,941
	Water Quality				$ 3,589	$ 3,589
Information Technology	Information Technology			$ 1,424,145		$ 1,424,145
Shared Services	Accounting			$ 410,795		$ 410,795
	Administration		$ 102,514			$ 102,514
	Finance			$ 64,120		$ 64,120
	Rates & Revenue			$ 76,388		$ 76,388
Total Dollars Charged		**$ 334,249**	**$ 1,710,026**	**$ 3,561,408**	**$ 1,211,028**	**$ 6,816,711**

Exhibit 3

Kentucky-American Water Company

Analysis of 12 Months Ended September 30, 2009 Service Company Hours By Location And Function

		12 Months Ended September 30, 2009 Service Company Hours				
Location	Function	Attorney	Management Consultant	Certified Public Accountant	Professional Engineer	Total
Belleville Lab	Water Quality				2,664	2,664
Call Center	Human Resources		493			493
Corporate	Accounting			3,725		3,725
	Administration		269			269
	Audit			254		254
	Communications		156			156
	Finance			827		827
	Human Resources		1,744			1,744
	Information Technology			18		18
	Legal	425				425
	Operations		471		6,534	7,005
	Rates & Revenue			174		174
	Risk Management		337			337
	Water Quality				787	787
Regional Offices	Accounting			123		123
	Administration		-			-
	Communications		1,348			1,348
	Engineering				16	16
	Finance			5,859		5,859
	Human Resources		166			166
	Legal	3,741				3,741
	Operations		1,501		2,095	3,596
	Risk Management		297			297
	Water Quality				32	32
Information Technology	Information Technology			8,783		8,783
Shared Services	Accounting			7,180		7,180
	Administration		255			255
	Finance			1,382		1,382
	Rates & Revenue			1,030		1,030
Total Hours Charged		**4,166**	**7,038**	**29,356**	**12,130**	**52,690**

Exhibit 4

Kentucky-American Water Company

12 Months Ended September 30, 2009 Service Company Charges Excludable From The Hourly Rate Calculation

Charges By Function	Exclusions From Hourly Rate Calculation: Contract Services	Travel Expenses	IT HW/SW	Total	Outside Service Provider Category
Accounting	$ 168,888	$ 5,552	$ 6,239	$ 180,679	Certified Public Accountant
Administration	$ 28,652	$ 6,822	$ 225,416	$ 260,891	Management Consultant
Audit	$ 3,552	$ 1,389	$ 483	$ 5,424	Certified Public Accountant
Communications	$ 17,791	$ 9,265	$ 1,579	$ 28,635	Management Consultant
Engineering	$ -	$ 200	$ 122	$ 322	Professional Engineer
Finance	$ 177,832	$ 16,245	$ 11,516	$ 205,593	Certified Public Accountant
Human Resources	$ 43,909	$ 12,075	$ 5,135	$ 61,119	Management Consultant
Information Technology	$ 106,168	$ 18,146	$ 197,015	$ 321,329	Certified Public Accountant
Legal	$ 20,484	$ 2,520	$ 5,573	$ 28,577	Attorney
Operations	$ 19,019	$ 82,351	$ 21,224	$ 122,593	Management Consultant, Professional Engineer
Rates & Revenue	$ 10,685	$ 3,854	$ 2,679	$ 17,217	Certified Public Accountant
Risk Management	$ 1,312	$ 3,204	$ 4,049	$ 8,564	Management Consultant
Water Quality	$ (1,050)	$ 4,017	$ 33,766	$ 36,733	Professional Engineer
Total	**$ 597,241**	**$ 165,640**	**$ 514,795**	**$ 1,277,676**	

Recap By Outside Provider	Exclusions From Hourly Rate Calculation: Contract Services	Travel Expenses	IT HW/SW	Total
Attorney	$ 20,484	$ 2,520	$ 5,573	$ 28,577
Management Consultant	$ 95,374	$ 43,997	$ 243,378	$ 382,748
Certified Public Accountant	$ 467,125	$ 45,186	$ 217,932	$ 730,242
Professional Engineer	$ 14,259	$ 73,938	$ 47,913	$ 136,109
Total	**$ 597,241**	**$ 165,640**	**$ 514,795**	**$ 1,277,676**

Outside Service Provider Hourly Rates

The next step in the cost comparison was to obtain the average billing rates for each outside service provider. The source of this information and the determination of the average rates are described in the paragraphs that follow.

It should be noted that professionals working for three of the five outside provider categories may be licensed to practice by state regulatory bodies. However, not every professional working for these firms is licensed. For instance, among Kentucky certified public accounting firms, only more experienced staff are predominantly CPAs (see table below). Some Service Company employees also have professional licenses. Thus, it is valid to compare the Service Company's hourly rates to those of the outside professional service providers included in this study.

	Firm Size		
Position	Small	Medium	Large
Partners/Owners	97%	98%	99%
Directors (11+ years experience)	na	100%	86%
Managers (6-10 years experience)	na	72%	88%
Sr Associates (4-5 years experience)	na	25%	69%
Associates (1-3 years experience)	na	0%	24%
New Professionals	na	8%	1%

Source: AICPA's National PCPS/TSCPA Management of an Accounting Practice Survey (2008)

Attorneys

The Kentucky State Bar does not survey its members as to their hourly billing rates. In addition, publicly available billing rate information could not be found for Kentucky attorneys. Therefore, an estimate of Kentucky attorney rates was developed from two surveys conducted by Lawyers Weekly in the states of Michigan and Massachusetts. As presented in Exhibit 5, the average rate for each firm was adjusted for the cost of living differential between its location and Lexington, Kentucky. The Lawyers Weekly surveys included rates in effect at December 31, 2007. Thus, the 2007 average rate was escalated to March 31, 2009—the midpoint of the test year ended September 30, 2009.

Management Consultants

The cost per hour for management consultants was developed from a 2009 survey performed by the Association of Management Consulting Firms—an industry trade organization. The survey includes rates that were in effect during 2008 for firms throughout the United States. Consultants typically do not limit their practice to any one region and must travel to a client's location. Thus, the U.S. national average is appropriate for comparison.

The first step in the calculation, presented in Exhibit 6, was to determine an average rate by consultant position level. From these rates, a single weighted average hourly rate was calculated based upon the percent of time that is typically applied to a consulting assignment by each consultant position level. The 2008 average rate was escalated to March 31, 2009—the midpoint of the 12 months ended September 30, 2009.

Certified Public Accountants

The average hourly rate for Kentucky CPAs was developed from a 2008 survey performed by the American Institute of Certified Public Accountants (AICPA). The Kentucky version of this survey was used to develop hourly rates for member firms in Kentucky.

As shown in Exhibit 7, a weighted average hourly rate was developed based on a set of accountant positions and a percent of time that is typically applied to an accounting assignment. This survey includes rate information in effect during 2007. Thus, the data had to be escalated to March 31, 2009—the test year's midpoint.

Professional Engineers

The Company provided hourly rate information for outside engineering firms that could have been used by KAWC in 2009. As presented in Exhibit 8, an average rate was developed for each engineering position level. Then, using a typical percentage mix of project time by engineering position, a weighted average cost per hour was calculated.

Exhibit 5

Kentucky-American Water Company
Estimated Billing Rates For Kentucky Attorneys Based On Michigan and Massachusetts Attorney Billing Rates

Billing rates as of December 31, 2007 (Note A)

Firm	Location	Number Of Lawyers	Billing Rate Range: Associate Low	Associate High	Partner Low	Partner High	Average	Cost of Living Adjust (C)	Adjusted Rate
Dickinson Wright PLLC	Detroit, Mi	229	$ 170	$ 275	$ 260	$ 530	$ 309	86%	$ 361
Dykema	Detroit, Mi	222	$ 185	$ 390	$ 245	$ 625	$ 361	86%	$ 422
Butzel Long	Detroit, Mi	209	$ 165	$ 400	$ 220	$ 550	$ 334	86%	$ 390
Bodman LLP	Detroit, Mi	128	$ 125	$ 215	$ 210	$ 495	$ 261	86%	$ 305
Jaffe Raitt Heuer & Weiss, PC	Southfield, Mi	100	$ 165	$ 225	$ 225	$ 500	$ 279	98%	$ 285
Trott & Trott, PC	Bingham Farms, Mi	64	$ 170	$ 170	$ 235	$ 235	$ 203	127%	$ 160
Brooks Kushman PC	Southfield, Mi	52	$ 160	$ 275	$ 250	$ 505	$ 298	98%	$ 304
Kemp, Klein, Umphrey, Edelman & May PC	Troy, Mi	36	$ 150	$ 190	$ 200	$ 340	$ 220	112%	$ 196
Pepper Hamilton LLP	Detroit, Mi	33	$ 200	$ 315	$ 340	$ 615	$ 368	86%	$ 430
Hertz, Schram & Saretsky, PC	Bloomfield Hills, Mi	29	$ 175	$ 260	$ 275	$ 400	$ 278	140%	$ 198
Strobl & Sharp, PC	Bloomfield Hills, Mi	28	$ 110	$ 210	$ 200	$ 300	$ 205	140%	$ 146
Kupelian Ormond & Magy, PC	Southfield, Mi	25	$ 165	$ 195	$ 235	$ 320	$ 229	98%	$ 234
Rader, Fishman & Grauer, PLLC	Bloomfield Hills, Mi	25	$ 130	$ 250	$ 275	$ 495	$ 288	140%	$ 205
McShane & Bowie PLC	Grand Rapids, Mi	22	$ 160	$ 275	$ 250	$ 375	$ 265	97%	$ 273
Edwards Angel Palmer & Dodge	Boston, Ma	259	$ 144	$ 321	$ 474	$ 474	$ 353	149%	$ 238
Sullivan & Worcester	Boston, Ma	137	$ 245	$ 530	$ 415	$ 700	$ 473	149%	$ 318
Burns & Levinson	Boston, Ma	112	$ 210	$ 350	$ 375	$ 475	$ 353	149%	$ 237
Bowditch & Dewey	Worcester, Ma	64	$ 150	$ 300	$ 280	$ 550	$ 320	117%	$ 274
Mirick O'Connell	Worcester, Ma	60	$ 160	$ 250	$ 280	$ 400	$ 273	117%	$ 233
Hinckley, Allen & Snyder	Boston, Ma	58	$ 200	$ 330	$ 300	$ 480	$ 328	149%	$ 220
Prince Lobel Glovsky & Tye	Boston, Ma	52	$ 175	$ 265	$ 275	$ 475	$ 298	149%	$ 200
Robinson & Cole	Boston, Ma	48	$ 220	$ 375	$ 340	$ 490	$ 356	149%	$ 240
Bromberg & Sunstein	Boston, Ma	42	$ 250	$ 450	$ 500	$ 725	$ 481	149%	$ 324
Lawson & Weitzen	Boston, Ma	35	$ 125	$ 225	$ 225	$ 400	$ 244	149%	$ 164
Murtha Cullina	Boston, Ma	34	$ 165	$ 290	$ 250	$ 500	$ 301	149%	$ 203
Marcus Errico Emmer & Brooks	Braintree, Ma	28	$ 250	$ 250	$ 300	$ 360	$ 290	139%	$ 208
Rich May	Boston, Ma	25	$ 150	$ 300	$ 300	$ 400	$ 288	149%	$ 194
Keegan Werlin	Boston, Ma	22	$ 150	$ 275	$ 325	$ 475	$ 306	149%	$ 206
Barron & Stadfeld	Boston, Ma	21	$ 160	$ 230	$ 250	$ 350	$ 248	149%	$ 167
Cain Hibbard Myers & Cook	Pittsfield, Ma	19	$ 150	$ 200	$ 210	$ 235	$ 199	118%	$ 169
								Overall Average 2007 Billing Rate	$ 250

Escalation to Test Year's Mid-Point - March 31, 2009 (Note B)

CPI at December 31, 2007	210.0
CPI at March 31, 2009	212.7
Inflation/Escalation	1.3%
Average Billing Rate At March 31, 2009	**$ 253**

Note A: Source is Michigan Lawyers Weekly (April 2008) and Massachusetts Lawyers Weekly (April 2008)

Note B: Source is U.S. Bureau of Labor Statistics (ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt)

Note C: Source is Sperling's Best Places (http://www.bestplaces.net/col/col.aspx). This percentage represents the cost of living difference between the Michigan and Massachusetts cities and Lexington, Kentucky. A number over 100% indicates the Michigan or Massachusetts city's cost of living is higher than Lexington. A number less than 100 % indicates Lexington's cost of living is higher.

Exhibit 6

Kentucky-American Water Company
Billing Rates of U.S. Management Consultants

Survey billing rates in effect in 2008 (Note A)

A. Calculation of Average Hourly Billing Rate by Consultant Position

	Average Hourly Rates (Note A)				
	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner
Average	$ 147	$ 196	$ 268	$ 295	$ 384

B. Calculation of Overall Average Hourly Billing Rate Based on a Typical Distribution of Time on an Engagement

	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner	
Average Hourly Billing Rate (from above)	$ 147	$196	$268	$295	$384	
Percent of Consulting Assignment	30%	30%	20%	10%	10%	Weighted Average
	$ 44	$ 59	$ 54	$ 29	$ 38	**$ 224**

Escalation to Test Year's Mid-Point - March 31, 2009 (Note B)	
CPI at December 31, 2008	210.2
CPI at March 31, 2009	212.7
Inflation/Escalation	1.2%
Average Hourly Billing Rate For Management Consultants At March 31, 2009	**$ 227**

Note A: Source is "Operating Ratios For Management Consulting Firms, 2009 Edition," Association of Management Consulting Firms

Note B: Source is U.S. Bureau of Labor Statistics (ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt)

Exhibit 7

Kentucky-American Water Company
Estimated Billing Rates Of Kentucky Certified Public Accountants

Survey billing rates were those in effect in 2007 (Note A)

	Average Hourly Billing Rate (Note A)			
Type of Firm	Staff Accountant	Senior Accountant	Manager	Partner
Average Hourly Rate	$ 71	$ 90	$ 120	$ 146

B. Calculation of Overall Average Accountant Billing Rate Based Upon Typical Distribution of Time on an Engagement

	Staff Accountant	Senior Accountant	Manager	Partner	Weighted Average
Average Hourly Billing Rate (From Above)	$ 71	$ 90	$ 120	$ 146	
Typical Percent of Time Spent on an Accounting Assignment	30%	30%	20%	20%	
	$ 21	$ 27	$ 24	$ 29	**$ 101**

Escalation to Midpoint of March 31, 2009 Test Period (Note B)	
CPI at December 31, 2007	210.0
CPI at March 31, 2009	212.7
Inflation/Escalation	1.3%
Average Hourly Billing Rate For CPAs At March 31, 2009	**$ 103**

Note A: Source is AICPA's 2008 National PCPS/TSCPA Management of an Accounting Practice Survey (Kentucky edition)

Note B: source is US Bureau of Labor Statistics (ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.t

Exhibit 8

Kentucky-American Water Company
Estimated Billing Rates Of Kentucky Engineers

A. Calculation of Average Hourly Rate by Engineer Position

	Average Hourly Billing Rates			
Name of Firm	Technician Senior Technician	Engineer Design Engineer Project Engineer	Project Manager Sr. Mgr. Engineer	Officer Principal Engineer
Firm #1	$77	$86	$108	$175
Firm #2	$76	$84	$136	$164
Firm #3	$80	$102	$162	$207
Firm #4	$55	$86	$139	$190

B. Calculation of Overall Average Engineering Hourly Billing Rate

	Technician Senior Technician	Engineer Design Engineer Project Engineer	Project Manager Sr. Mgr. Engineer	Officer Principal Engineer	
Average Hourly Billing Rate (From Above)	$72	$89	$136	$184	
Typical Percent of Time on an Engineering Assignment	30%	35%	25%	10%	Weighted Average
	$22	$31	$34	$18	**$105**

Source: Information provided by American Water Works Service Company

Service Company versus Outside Provider Cost Comparison

As shown in the table below, Service Company costs per hour are considerably lower than those of outside providers.

	12 Months Ended September 30, 2009		
Service Provider	Service Company	Outside Provider	Difference-- Service Co. Greater(Less) Than Outside
Attorney	$ 73	$ 253	$ (180)
Management Consultant	$ 189	$ 227	$ (38)
Certified Public Accountant	$ 96	$ 103	$ (7)
Professional Engineer	$ 89	$ 105	$ (16)

Based on these cost per hour differentials and the number of managerial and professional services hours billed to KAWC during the 12-months ended September 30, 2009, outside service providers would have cost $1,409,800 more than the Service Company (see table below). Thus, on average, outside providers' hourly rates are 21% higher than those of the Service Company ($1,409,800 / $6,816,711).

	12 Months Ended September 30, 2009		
Service Provider	Hourly Rate Difference-- Service Co. Greater(Less) Than Outside	Service Company Hours Charged	Dollar Difference
Attorney	$ (180)	4,166	$ (748,260)
Management Consultant	$ (38)	7,038	$ (270,282)
Certified Public Accountant	$ (7)	29,356	$ (192,538)
Professional Engineer	$ (16)	12,130	$ (198,720)
Service Company Less Than Outside Providers			$ (1,409,800)

It should be noted that the cost differential associated with using outside providers is even greater because Service Company personnel do not charge for more than 8 hours per day even when they work more. Outside providers generally charge clients for all hours worked. If, for instance, Service Company personnel worked 5% overtime (2 hours) per week on KAWC's behalf, that would have amounted to over 2,600 additional hours of work during the 12 months ended September 30, 2009. Based on the hourly rate differentials above, this overtime would have added another $70,000 to the cost of using outside providers.

If KAWC were to use outside service providers rather than the Service Company for managerial and professional services, it would incur other additional expenses besides those associated with higher hourly rates. Managing outside firms who would perform over 52,000 hours of work (more than 35 full-time equivalents at 1,500 "billable" hours per FTE per year) would add a significant workload to the existing KAWC management team. Thus, it would be necessary for KAWC to add at least one position to supervise the outside firms and ensure they delivered quality and timely services. The individual that would fill this position would need a good understanding of each profession being managed. He/she must also have management experience and the authority necessary to give them credibility with the outside firms. As calculated in the table below, this position would add almost $150,000 per year to KAWC's personnel expenses.

Cost of Adding 1 Professional Position To KAWC's Staff

	Total
New Position's Salary	$ 100,000
Benefits (at 49.4%)	$ 49,400
Office Expenses (15.2%)	$ 15,200
Cost of One Position	$ 149,400

Thus, the total effect on the ratepayers of KAWC of contracting all services now provided by Service Company would be an increase in their costs of $1,559,200 ($1,409,800 + $149,400). Based on the results of this comparison, it is possible to conclude that the Service Company charged KAWC at the lower of cost or market for services provided during the 12 months ended September 30, 2009.

Background

Customer Accounts Services covers the following utility functions:

- Customer Call Center – customer calls/contact, credit, order taking/disposition, bill collection efforts, outage calls
- Call Center IT – maintenance of phone banks, voice recognition units, call center software applications, telecommunications
- Customer billing – bill printing, stuffing, and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – locations where customers can pay their bills in person

It is difficult to compare the cost of the Service Company's customer accounts services-related charges to KAWC with outside providers of the same services because survey data is proprietary and expensive to obtain. For this reason, KAWC's charges from the Service Company for customer accounts services are compared to those of neighboring electric utilities because the data necessary to make such comparison is available to the public.

Neighboring electric utility cost information comes from the FERC Form 1 that each utility must file. FERC's chart of accounts is defined in Chapter 18, Part 101 of the Code of Federal Regulations. FERC accounts that contain customer accounts services-related expenses are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 9 provides FERC's definition of the type of expenses that should be recorded in these accounts.

In addition to the charges in these FERC accounts, labor-related overheads charged to the following FERC accounts must be added to the labor components of Accounts 903 and 905:

- Account 926 Employee Pension and Benefits
- Account 408 Taxes Other Than Income (employer's portion of FICA)

Comparison Group

Electric utilities included in the comparison group are shown in the table below. These are companies whose FERC Form 1 show amounts for accounts 903 and 905.

Kentucky	• Duke Energy – Kentucky • Kentucky Power	• Kentucky Utilities • Louisville Gas & Electric
West Virginia	• Wheeling Power	
Virginia	• Appalachian Power	• Virginia Electric Power
Ohio	• Cleveland Electric • Columbus Southern Power • Dayton Power & Light • Duke Energy – Ohio	• Ohio Edison • Ohio Power • Toledo Edison
Missouri	• Aquila • Kansas City Power & Light	• Union Electric
Indiana	• Duke Energy – Indiana • Indiana Michigan Power	• Indianapolis Power & Light • NIPSCo
Illinois	• Central Illinois Light • Central Illinois Public Service • Commonwealth Edison	• Illinois Power • Interstate Power & Light • MidAmerica Energy

Tennessee	• Kingsport Power

Kentucky-American Water Company
FERC Account Descriptions

903 – Customer Records and Collection Expenses

This account shall include the cost of labor, materials used and expenses incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Labor

1. Receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the customer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
2. Investigations of customers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off.
3. Receiving, refunding or applying customer deposits and maintaining customer deposit, line extension, and other miscellaneous records.
4. Checking consumption shown by meter readers' reports where incidental to preparation of billing data.
5. Preparing address plates and addressing bills and delinquent notices.
6. Preparing billing data.
7. Operating billing and bookkeeping machines.
8. Verifying billing records with contracts or rate schedules.
9. Preparing bills for delivery, and mailing or delivering bills.
10. Collecting revenues, including collection from prepayment meters unless incidental to meter reading operations.
11. Balancing collections, preparing collections for deposit, and preparing cash reports.
12. Posting collections and other credits or charges to customer accounts and extending unpaid balances.
13. Balancing customer accounts and controls.
14. Preparing, mailing, or delivering delinquent notices and preparing reports of delinquent accounts.
15. Final meter reading of delinquent accounts when done by collectors incidental to regular activities.
16. Disconnecting and reconnecting services because of nonpayment of bills.
17. Receiving, recording, and handling of inquiries, complaints, and requests for investigations from customers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
18. Statistical and tabulating work on customer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular customer accounting routines.
19. Preparing and periodically rewriting meter reading sheets.
20. Determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters.

Materials and expenses

21. Address plates and supplies.
22. Cash overages and shortages.
23. Commissions or fees to others for collecting.
24. Payments to credit organizations for investigations and reports.
25. Postage.
26. Transportation expenses, including transportation of customer bills and meter books under centralized billing procedure.
27. Transportation, meals, and incidental expenses.
28. Bank charges, exchange, and other fees for cashing and depositing customers' checks.
29. Forms for recording orders for services, removals, etc.
30. Rent of mechanical equipment.

Kentucky-American Water Company
FERC Account Descriptions

905 – Miscellaneous Customer Accounts Expenses
This account shall include the cost of labor, materials used and expenses incurred not provided for in other accounts.

Labor
1. General clerical and stenographic work.
2. Miscellaneous labor.

Materials and expenses
3. Communication service.
4. Miscellaneous office supplies and expenses and stationery and printing other than those specifically provided for in accounts 902 and 903.

KAWC Cost per Customer

As calculated below, KAWC's 12 months ended September 30, 2009 customer account services expense per customer was $28.35. The cost pool used to calculate this average includes charges for Service Company services (e.g., call center, billing, payment processing) and postage and forms expenses, which are incurred directly by KAWC. It was necessary to adjust the National Call Center charges because electric utilities experience an average of 2.50 calls per customer compared to American Water's 1.32 calls per customer. Thus, National Call Center expenses had to be increased, for comparison purposes, to reflect its costs at a 2.50 calls per customer level.

Kentucky American Cost Per Customer	Cost Component	Year Ended 9/30/2009 Service Co Charges	Adjustment Fewer Calls For Water Cos. (A)	Adjusted	
Service Company					
Call Centers	Call processing, order processing, credit, bill collection	$ 1,728,850	$ 688,295	$ 2,417,145	
Operating Company	Customer payment processing			$ 151,772	Note B
Operating Company	Postage & forms			$ 784,459	
			Cost Pool Total	$ 3,353,376	
			Total Customers	118,279	
	12 Months Ended September 30, 2009 Cost Per KAWC Customer			**$ 28.35**	

Note A: Adjustment for American Water's fewer calls per customer
This adjustment is necessary because water utilities experience fewer calls per customer than do electric utilities

Call handling expenses		$ 765,328
Electric utility industry's avg calls/customer	2.50	
American Water's avg calls/customer	1.32	
Percent different	90%	90%
Total Adjustment		$ 688,295

Note B: Estimated customer payment processing expenses

Number of customers	118,279
Number of payments/customer/year	12
Total payments processed/year	1,419,348
Bank charge per item	$ 0.1069
Total estimated annual expense	$ 151,772

Electric Utility Group Cost per Customer

Exhibit 10 shows the actual 2008 customer accounts expense per customer calculation for the electric utility comparison group. All of the underlying data was taken from the utilities' FERC Form 1.

Summary of Results

As shown in the table below, KAWC's cost per customer within a reasonable range of the average cost of the neighboring electric utility comparison group. It can therefore be concluded that KAWC's 12 months ended September 30, 2009 customer accounts-related expenses, including those of the Alton and Pensacola Call Centers, assigned by the Service Company to KAWC were comparable to those of other utilities.

Average Customer Accounts Expense Per Customer		
Louisville Gas & Electric	$	15.67
Interstate Power & Light	$	15.79
Virginia Electric Power	$	16.15
Monongahela Power	$	16.17
Dayton Power & Light	$	18.51
Ohio Edison	$	19.13
Cleveland Electric Illuminating	$	20.60
Indianapolis Power & Light	$	21.64
Union Electric	$	22.95
Illinois Power	$	23.26
Aquila	$	24.53
Toledo Edison	$	24.81
Central Illinois Public Service	$	25.71
Wheeling Power	$	26.12
Duke Energy Indiana	$	26.22
Comparison Group Average	**$**	**27.07**
Kansas City Power & Light	$	27.15
MidAmerican Energy	$	27.66
Kentucky American Water	**$**	**28.35**
Kentucky Utilities	$	28.42
Indiana Michigan Power	$	29.17
Duke Energy Kentucky	$	29.65
Central Illinois Light	$	30.33
Northern Indiana Public Service	$	30.72
Duke Energy Ohio	$	31.20
Ohio Power	$	31.70
Appalachian Power	$	32.57
Kingsport Power	$	32.60
Columbus Southern Power	$	35.11
Kentucky Power	$	36.02
Commonwealth Edison	$	39.29

Kentucky-American Water Company
Comparison Group 2008 Actual Customer Accounts Expense Per Customer

		Kentucky				Virginia	
		Duke Energy Kentucky	Kentucky Power	Kentucky Utilities	Louisville Gas & Electric	Appalachian Power	Virginia Electric Power
Customer Account Services Cost Pool							
FERC Account Balances:							
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 3,221,753	$ 5,948,209	$ 12,515,610	$ 4,626,491	$ 29,231,353	$ 32,985,338
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ (46,234)	$ 4,229	$ 334,960	$ 336,884	$ 1,894	$ -
Subtotal		$ 3,175,519	$ 5,952,438	$ 12,850,570	$ 4,963,375	$ 29,233,247	$ 32,985,338
Add: Employee Benefits & Employer FICA (not included in above amounts)							
Account 926 - Employee Pension & Benefits	**Note A**	$ 574,297	$ 268,710	$ 1,972,749	$ 1,054,370	$ 1,415,185	$ 3,978,170
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	**Note B**	$ 243,542	$ 105,032	$ 424,973	$ 262,847	$ 548,440	$ 1,573,799
Total Cost Pool		**$ 3,993,358**	**$ 6,326,180**	**$ 15,248,292**	**$ 6,280,591**	**$ 31,196,872**	**$ 38,537,306**
Total Customers (page 304, line 43)		134,703	175,646	536,441	400,699	957,875	2,386,208
Customer Account Services Expense per Customer		**$ 29.65**	**$ 36.02**	**$ 28.42**	**$ 15.67**	**$ 32.57**	**$ 16.15**
Note A: Calculation of Pension & Benefits Pertaining to Customer Acct Mgmt							
Account 926 - Employee Pension & Benefits (page 323, line 187)		$ 6,333,174	$ 4,765,373	$ 24,119,043	$ 22,418,737	$ 23,000,789	$124,252,946
Total O&M Payroll (page 355, line 65)		$ 35,107,273	$ 24,348,550	$ 67,918,514	$ 73,056,617	$116,519,186	$642,556,137
Benefits as Percent of Payroll		18.0%	19.6%	35.5%	30.7%	19.7%	19.3%
Payroll Applicable to Customer Account Services							
Total Payroll Charged to Customer Accounts Function							
Electric (page 354, line 7)		$ 2,613,424	$ 1,602,234	$ 7,181,104	$ 2,668,667	$ 8,480,076	$ 27,320,711
Gas (page 354, line 37)		$ 1,559,494	$ -	$ -	$ 2,175,749	$ -	$ -
Total Payroll Charged to Customer Accounts		$ 4,172,918	$ 1,602,234	$ 7,181,104	$ 4,844,416	$ 8,480,076	$ 27,320,711
Percent Applicable to Customer Accounts Services (903 and 905):							
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 3,221,753	$ 5,948,209	$ 12,515,610	$ 4,626,491	$ 29,231,353	$ 32,985,338
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ (46,234)	$ 4,229	$ 334,960	$ 336,884	$ 1,894	$ -
Subtotal - Total Charges Applicable to Customer Accounts Services		$ 3,175,519	$ 5,952,438	$ 12,850,570	$ 4,963,375	$ 29,233,247	$ 32,985,338
Acct 902 - Meter Reading Expenses (page 322, line 160)		$ 986,864	$ 993,970	$ 3,761,113	$ 2,034,678	$ 5,345,473	$ 10,819,819
Total Charges Applicable to Customer Acccounts Svcs & Meter Reading		$ 4,162,383	$ 6,946,408	$ 16,611,683	$ 6,998,053	$ 34,578,720	$ 43,805,157
Percent Applicable to Customer Accounts Services (903 and 905)		76.3%	85.7%	77.4%	70.9%	84.5%	75.3%
Customer Account Services Portion of Total Payroll		$ 3,183,556	$ 1,372,968	$ 5,555,204	$ 3,435,906	$ 7,169,154	$ 20,572,530
Pension & Benefits Pertaining to Customer Accounts Services		$ 574,297	$ 268,710	$ 1,972,749	$ 1,054,370	$ 1,415,185	$ 3,978,170
Note B: Calculation of Employer's FICA Pertaining to Customer Accounts Services							
Customer Account Services Portion of Total Payroll		$ 3,183,556	$ 1,372,968	$ 5,555,204	$ 3,435,906	$ 7,169,154	$ 20,572,530
Employer's Portion of FICA (6.20%) and Medicare (1.45%)		7.65%	7.65%	7.65%	7.65%	7.65%	7.65%
Estimated Employer's Portion of FICA		$ 243,542	$ 105,032	$ 424,973	$ 262,847	$ 548,440	$ 1,573,799

Kentucky-American Water Company
Comparison Group 2008 Actual Customer Accounts Expense Per Customer

		Ohio						
		Cleveland Electric Illum.	Columbus Southern Pwr	Dayton Power & Light	Duke Energy - Ohio	Ohio Edison	Ohio Power	Toledo Edison
Customer Account Services Cost Pool								
FERC Account Balances:								
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 14,516,027	$ 24,640,129	$ 8,648,983	$ 17,655,073	$ 20,713,551	$ 21,137,257	$ 6,909,201
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 531,238	$ 15,947	$ -	$ (256,106)	$ 579,775	$ 19,561	$ 213,136
Subtotal		$ 15,047,265	$ 24,656,076	$ 8,648,983	$ 17,398,967	$ 21,293,326	$ 21,156,818	$ 7,122,337
Add: Employee Benefits & Employer FICA (not included in above amounts)								
Account 926 - Employee Pension & Benefits	**Note A**	$ 243,960	$ 1,169,753	$ 547,426	$ 2,836,968	$ (1,852,176)	$ 1,008,466	$ 482,226
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	**Note B**	$ 280,555	$ 401,794	$ 333,017	$ 1,229,505	$ 468,076	$ 387,630	$ 152,465
Total Cost Pool		**$ 15,571,780**	**$ 26,227,624**	**$ 9,529,426**	**$ 21,465,440**	**$ 19,909,226**	**$ 22,552,914**	**$ 7,757,028**
Total Customers (page 304, line 43)		755,807	747,099	514,882	687,930	1,040,518	711,447	312,642
Customer Account Services Expense per Customer		**$ 20.60**	**$ 35.11**	**$ 18.51**	**$ 31.20**	**$ 19.13**	**$ 31.70**	**$ 24.81**
Note A: Calculation of Pension & Benefits Pertaining to Customer Acct Mgmt								
Account 926 - Employee Pension & Benefits (page 323, line 187)		$ 2,546,911	$ 13,054,219	$ 11,936,626	$ 34,365,193	$ (15,395,255)	$ 25,630,628	$ 4,035,809
Total O&M Payroll (page 355, line 65)		$ 38,286,937	$ 58,613,682	$ 94,920,691	$194,685,375	$ 50,858,052	$128,781,829	$ 16,679,734
Benefits as Percent of Payroll		6.7%	22.3%	12.6%	17.7%	-30.3%	19.9%	24.2%
Payroll Applicable to Customer Account Services								
Total Payroll Charged to Customer Accounts Function								
Electric (page 354, line 7)		$ 5,037,050	$ 6,281,750	$ 6,306,396	$ 14,312,049	$ 8,765,466	$ 6,394,108	$ 2,665,076
Gas (page 354, line 37)		$ -	$ -	$ -	$ 7,113,829	$ -	$ -	$ -
Total Payroll Charged to Customer Accounts		$ 5,037,050	$ 6,281,750	$ 6,306,396	$ 21,425,878	$ 8,765,466	$ 6,394,108	$ 2,665,076
Percent Applicable to Customer Accounts Services (903 and 905):								
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 14,516,027	$ 24,640,129	$ 8,648,983	$ 17,655,073	$ 20,713,551	$ 21,137,257	$ 6,909,201
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 531,238	$ 15,947	$ -	$ (256,106)	$ 579,775	$ 19,561	$ 213,136
Subtotal - Total Charges Applicable to Customer Accounts Services		$ 15,047,265	$ 24,656,076	$ 8,648,983	$ 17,398,967	$ 21,293,326	$ 21,156,818	$ 7,122,337
Acct 902 - Meter Reading Expenses (page 322, line 160)		$ 5,619,752	$ 4,833,074	$ 3,880,743	$ 5,795,966	$ 9,211,147	$ 5,540,885	$ 2,401,739
Total Charges Applicable to Customer Acccounts Svcs & Meter Reading		$ 20,667,017	$ 29,489,150	$ 12,529,726	$ 23,194,933	$ 30,504,473	$ 26,697,703	$ 9,524,076
Percent Applicable to Customer Accounts Services (903 and 905)		72.8%	83.6%	69.0%	75.0%	69.8%	79.2%	74.8%
Customer Account Services Portion of Total Payroll		$ 3,667,381	$ 5,252,213	$ 4,353,161	$ 16,071,965	$ 6,118,641	$ 5,067,064	$ 1,993,009
Pension & Benefits Pertaining to Customer Accounts Services		$ 243,960	$ 1,169,753	$ 547,426	$ 2,836,968	$ (1,852,176)	$ 1,008,466	$ 482,226
Note B: Calculation of Employer's FICA Pertaining to Customer Accounts Services								
Customer Account Services Portion of Total Payroll		$ 3,667,381	$ 5,252,213	$ 4,353,161	$ 16,071,965	$ 6,118,641	$ 5,067,064	$ 1,993,009
Employer's Portion of FICA (6.20%) and Medicare (1.45%)		7.65%	7.65%	7.65%	7.65%	7.65%	7.65%	7.65%
Estimated Employer's Portion of FICA		$ 280,555	$ 401,794	$ 333,017	$ 1,229,505	$ 468,076	$ 387,630	$ 152,465

Kentucky-American Water Company
Comparison Group 2008 Actual Customer Accounts Expense Per Customer

		Missouri			Indiana			
		Aquila	Kansas City Power & Light	Union Electric	Duke Energy Indiana	Indiana Mich Power	Indianapolis Power & Light	NIPSCo
Customer Account Services Cost Pool								
FERC Account Balances:								
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 7,452,019	$ 11,197,895	$ 23,468,942	$ 17,986,550	$ 15,734,787	$ 8,284,813	$ 9,129,615
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 2,347	$ 4,657	$ 308,130	$ (233,182)	$ 142,897	$ 157,521	$ 158,834
Subtotal		$ 7,454,366	$ 11,202,552	$ 23,777,072	$ 17,753,368	$ 15,877,684	$ 8,442,334	$ 9,288,449
Add: Employee Benefits & Employer FICA (not included in above amounts)								
Account 926 - Employee Pension & Benefits	**Note A**	$ 1,977,597	$ 2,386,936	$ 2,869,858	$ 2,046,539	$ 799,163	$ 1,360,502	$ 3,381,340
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	**Note B**	$ 475,084	$ 448,997	$ 799,714	$ 560,144	$ 323,764	$ 329,537	$ 1,347,966
Total Cost Pool		**$ 9,907,047**	**$ 14,038,485**	**$ 27,446,644**	**$ 20,360,051**	**$ 17,000,611**	**$ 10,132,373**	**$ 14,017,755**
Total Customers (page 304, line 43)		403,879	516,978	1,196,119	776,647	582,769	468,203	456,302
Customer Account Services Expense per Customer		**$ 24.53**	**$ 27.15**	**$ 22.95**	**$ 26.22**	**$ 29.17**	**$ 21.64**	**$ 30.72**
Note A: Calculation of Pension & Benefits Pertaining to Customer Acct Mgmt								
Account 926 - Employee Pension & Benefits (page 323, line 187)		$ 25,845,865	$ 63,342,544	$ 96,460,926	$ 49,637,989	$ 31,291,702	$ 33,892,398	$ 22,891,873
Total O&M Payroll (page 355, line 65)		$ 81,163,764	$155,753,238	$351,369,910	$177,595,604	$165,714,630	$107,311,441	$ 119,291,633
Benefits as Percent of Payroll		31.8%	40.7%	27.5%	28.0%	18.9%	31.6%	19.2%
Payroll Applicable to Customer Account Services								
Total Payroll Charged to Customer Accounts Function								
Electric (page 354, line 7)		$ 6,887,814	$ 8,022,470	$ 14,643,835	$ 10,335,603	$ 5,125,654	$ 7,218,568	$ 8,921,614
Gas (page 354, line 37)		$ 2,645,654	$ -	$ 3,496,597	$ -	$ -	$ -	$ 14,203,890
Total Payroll Charged to Customer Accounts		$ 9,533,468	$ 8,022,470	$ 18,140,432	$ 10,335,603	$ 5,125,654	$ 7,218,568	$ 23,125,504
Percent Applicable to Customer Accounts Services (903 and 905):								
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 7,452,019	$ 11,197,895	$ 23,468,942	$ 17,986,550	$ 15,734,787	$ 8,284,813	$ 9,129,615
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 2,347	$ 4,657	$ 308,130	$ (233,182)	$ 142,897	$ 157,521	$ 158,834
Subtotal - Total Charges Applicable to Customer Accounts Services		$ 7,454,366	$ 11,202,552	$ 23,777,072	$ 17,753,368	$ 15,877,684	$ 8,442,334	$ 9,288,449
Acct 902 - Meter Reading Expenses (page 322, line 160)		$ 3,988,972	$ 4,109,830	$ 17,483,238	$ 7,306,480	$ 3,351,882	$ 5,704,871	$ 2,901,921
Total Charges Applicable to Customer Acccounts Svcs & Meter Reading		$ 11,443,338	$ 15,312,382	$ 41,260,310	$ 25,059,848	$ 19,229,566	$ 14,147,205	$ 12,190,370
Percent Applicable to Customer Accounts Services (903 and 905)		65.1%	73.2%	57.6%	70.8%	82.6%	59.7%	76.2%
Customer Account Services Portion of Total Payroll		$ 6,210,247	$ 5,869,246	$ 10,453,784	$ 7,322,142	$ 4,232,208	$ 4,307,675	$ 17,620,471
Pension & Benefits Pertaining to Customer Accounts Services		$ 1,977,597	$ 2,386,936	$ 2,869,858	$ 2,046,539	$ 799,163	$ 1,360,502	$ 3,381,340
Note B: Calculation of Employer's FICA Pertaining to Customer Accounts Services								
Customer Account Services Portion of Total Payroll		$ 6,210,247	$ 5,869,246	$ 10,453,784	$ 7,322,142	$ 4,232,208	$ 4,307,675	$ 17,620,471
Employer's Portion of FICA (6.20%) and Medicare (1.45%)		7.65%	7.65%	7.65%	7.65%	7.65%	7.65%	7.65%
Estimated Employer's Portion of FICA		$ 475,084	$ 448,997	$ 799,714	$ 560,144	$ 323,764	$ 329,537	$ 1,347,966

Kentucky-American Water Company
Comparison Group 2008 Actual Customer Accounts Expense Per Customer

		Illinois					
		Central Illinois Light	Central Illinois Pub Service	Commonwealth Edison	Illinois Power	Interstate Power & Light	MidAmerican Energy
Customer Account Services Cost Pool							
FERC Account Balances:							
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 5,468,977	$ 8,826,365	$ 118,395,856	$ 12,193,518	$ 6,845,375	$ 14,926,857
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 228,479	$ 207,236	$ -	$ 455,279	$ 30,036	$ 292,025
Subtotal		$ 5,697,456	$ 9,033,601	$ 118,395,856	$ 12,648,797	$ 6,875,411	$ 15,218,882
Add: Employee Benefits & Employer FICA (not included in above amounts)							
Account 926 - Employee Pension & Benefits	**Note A**	$ 467,069	$ 654,814	$ 26,429,619	$ 1,416,112	$ 1,069,042	$ 3,112,472
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	**Note B**	$ 337,546	$ 408,318	$ 5,341,307	$ 506,754	$ 369,305	$ 1,600,713
Total Cost Pool		**$ 6,502,071**	**$ 10,096,733**	**$ 150,166,782**	**$ 14,571,662**	**$ 8,313,758**	**$ 19,932,067**
Total Customers (page 304, line 43)		214,343	392,680	3,822,023	626,530	526,600	720,661
Customer Account Services Expense per Customer		**$ 30.33**	**$ 25.71**	**$ 39.29**	**$ 23.26**	**$ 15.79**	**$ 27.66**
Note A: Calculation of Pension & Benefits Pertaining to Customer Acct Mgmt							
Account 926 - Employee Pension & Benefits (page 323, line 187)		$ 3,980,881	$ 7,991,993	$ 121,698,929	$ 20,079,443	$ 22,576,821	$ 33,240,956
Total O&M Payroll (page 355, line 65)		$ 37,607,070	$ 65,143,952	$ 321,500,723	$ 93,926,786	$101,951,019	$223,470,422
Benefits as Percent of Payroll		10.6%	12.3%	37.9%	21.4%	22.1%	14.9%
Payroll Applicable to Customer Account Services							
Total Payroll Charged to Customer Accounts Function							
Electric (page 354, line 7)		$ 3,001,449	$ 5,415,977	$ 89,883,002	$ 6,938,167	$ 6,673,047	$ 16,132,340
Gas (page 354, line 37)		$ 2,899,863	$ 2,531,598	$ -	$ 4,147,119	$ 2,618,508	$ 14,617,265
Total Payroll Charged to Customer Accounts		$ 5,901,312	$ 7,947,575	$ 89,883,002	$ 11,085,286	$ 9,291,555	$ 30,749,605
Percent Applicable to Customer Accounts Services (903 and 905):							
Acct 903 - Customer Records & Collection (page 322, line 161)		$ 5,468,977	$ 8,826,365	$ 118,395,856	$ 12,193,518	$ 6,845,375	$ 14,926,857
Acct 905 - Misc Customer Accounts (page 322, line 163)		$ 228,479	$ 207,236	$ -	$ 455,279	$ 30,036	$ 292,025
Subtotal - Total Charges Applicable to Customer Accounts Services		$ 5,697,456	$ 9,033,601	$ 118,395,856	$ 12,648,797	$ 6,875,411	$ 15,218,882
Acct 902 - Meter Reading Expenses (page 322, line 160)		$ 1,922,600	$ 4,417,522	$ 34,019,237	$ 8,518,274	$ 6,357,744	$ 7,146,189
Total Charges Applicable to Customer Acccounts Svcs & Meter Reading		$ 7,620,056	$ 13,451,123	$ 152,415,093	$ 21,167,071	$ 13,233,155	$ 22,365,071
Percent Applicable to Customer Accounts Services (903 and 905)		74.8%	67.2%	77.7%	59.8%	52.0%	68.0%
Customer Account Services Portion of Total Payroll		$ 4,412,365	$ 5,337,489	$ 69,821,005	$ 6,624,229	$ 4,827,515	$ 20,924,352
Pension & Benefits Pertaining to Customer Accounts Services		$ 467,069	$ 654,814	$ 26,429,619	$ 1,416,112	$ 1,069,042	$ 3,112,472
Note B: Calculation of Employer's FICA Pertaining to Customer Accounts Services							
Customer Account Services Portion of Total Payroll		$ 4,412,365	$ 5,337,489	$ 69,821,005	$ 6,624,229	$ 4,827,515	$ 20,924,352
Employer's Portion of FICA (6.20%) and Medicare (1.45%)		7.65%	7.65%	7.65%	7.65%	7.65%	7.65%
Estimated Employer's Portion of FICA		$ 337,546	$ 408,318	$ 5,341,307	$ 506,754	$ 369,305	$ 1,600,713

Kentucky-American Water Company

Comparison Group 2008 Actual Customer Accounts Expense Per Customer

		West Virginia			Tennessee	Group Average
		Appalachian Power	Monongahela Power	Wheeling Power	Kingsport Power	
Customer Account Services Cost Pool						
FERC Account Balances:						
Acct 903 - Customer Records & Collection (page 322, line 161)			$ 5,020,473	$ 1,013,571	$ 1,473,158	
Acct 905 - Misc Customer Accounts (page 322, line 163)			$ -	$ 286	$ 425	
Subtotal			$ 5,020,473	$ 1,013,857	$ 1,473,583	
Add: Employee Benefits & Employer FICA (not included in above amounts)						
Account 926 - Employee Pension & Benefits	**Note A**		$ 849,338	$ 46,865	$ 32,646	
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	**Note B**		$ 294,683	$ 18,802	$ 24,728	
Total Cost Pool			**$ 6,164,494**	**$ 1,079,524**	**$ 1,530,957**	**$ 555,857,055**
Total Customers (page 304, line 43)			381,193	41,334	46,961	20,535,119
Customer Account Services Expense per Customer		see Virginia	**$ 16.17**	**$ 26.12**	**$ 32.60**	**$ 27.07**
Note A: Calculation of <u>Pension & Benefits</u> Pertaining to Customer Acct Mgmt						
Account 926 - Employee Pension & Benefits (page 323, line 187)			$ 16,659,462	$ 402,736	$ 199,803	
Total O&M Payroll (page 355, line 65)			$ 75,556,781	$ 2,112,138	$ 1,978,375	
Benefits as Percent of Payroll			22.0%	19.1%	10.1%	
Payroll Applicable to Customer Account Services						
Total Payroll Charged to Customer Accounts Function						
Electric (page 354, line 7)			$ 6,101,855	$ 339,964	$ 368,129	
Gas (page 354, line 37)					$ -	
Total Payroll Charged to Customer Accounts			$ 6,101,855	$ 339,964	$ 368,129	
Percent Applicable to Customer Accounts Services (903 and 905):						
Acct 903 - Customer Records & Collection (page 322, line 161)			$ 5,020,473	$ 1,013,571	$ 1,473,158	
Acct 905 - Misc Customer Accounts (page 322, line 163)			$ -	$ 286	$ 425	
Subtotal - Total Charges Applicable to Customer Accounts Services			$ 5,020,473	$ 1,013,857	$ 1,473,583	
Acct 902 - Meter Reading Expenses (page 322, line 160)			$ 2,932,203	$ 388,499	$ 204,604	
Total Charges Applicable to Customer Acccounts Svcs & Meter Reading			$ 7,952,676	$ 1,402,356	$ 1,678,187	
Percent Applicable to Customer Accounts Services (903 and 905)			63.1%	72.3%	87.8%	
Customer Account Services Portion of Total Payroll			$ 3,852,062	$ 245,783	$ 323,247	
Pension & Benefits Pertaining to Customer Accounts Services			$ 849,338	$ 46,865	$ 32,646	
Note B: Calculation of <u>Employer's FICA</u> Pertaining to Customer Accounts Services						
Customer Account Services Portion of Total Payroll			$ 3,852,062	$ 245,783	$ 323,247	
Employer's Portion of FICA (6.20%) and Medicare (1.45%)			7.65%	7.65%	7.65%	
Estimated Employer's Portion of FICA			$ 294,683	$ 18,802	$ 24,728	

Analysis of Services

The final aspect of this study was an assessment of whether the services that are provided to KAWC by the Service Company would be necessary if KAWC were a stand-alone water utility. The first step in this evaluation was to determine specifically what the Service Company does for KAWC. Based on discussions with Service Company personnel, the matrix in Exhibit 11 was created showing which entity—KAWC or a Service Company location—is responsible for each of the functions KAWC requires to ultimately provide service to its customers. This matrix was reviewed to determine: (1) if there was redundancy or overlap in the services being provided by the Service Company and (2) if Service Company services are typical of those needed by a stand-alone water utility.

Upon review of Exhibit 12, the following conclusions can be drawn:

- The services that the Service Company provides are necessary and would be required even if KAWC were a stand-alone water utility.

- There is no redundancy or overlap in the services provided by the Service Company to KAWC. For all of the services listed in Exhibit 12, there was only one entity that was primarily responsible for the service.

Kentucky-American Water Company
Designation Of Responsibility For Water Utility Functions

Primarily Responsible P
Provides Support S

Water Company Function	KAWC	Customer Call Center	Divisional Office	Shared Services	Corporate Office	IT Service Centers	Belleville Lab
		Performed By: American Water Service Company					
Engineering and Construction Management							
CPS Preparation	P				S		
Five-Year System Planning	P				S		
Engineering Standards & Policies Development					P		
Project Design							
Major Projects (e.g., new treatment plant)	P				S		
Special Projects	P				S		
Minor Projects (e.g., pipelines)	P						
Construction Project Management							
Major Projects	P				S		
Special Projects	P				S		
Minor Projects	P						
Hydraulics Review	P				S		
Developers Extensions	P						
Tank Painting	P						
Water Quality and Purification							
Water Quality Standards Development					S		P
Research Studies	S				S		P
Water Quality Program Implementation	P				S		
Water Treatment Operations & Maintenance	P				S		
Compliance Tracking and Chemical Testing	P						S
Sample Collection and Other Testing	S				S		P
Transmission and Distribution							
Preventive Maintenance Program Development	P						
System Maintenance	P						
Leak Detection	P						
Customer Service							
Community Relations	P		S		S		
Customer Contact	S		P				
Call Processing			P				
Service Order Creation	S		P				
Service Order Processing	P		S				
Customer Credit			P				
Meter Reading	P					S	
Customer Bill Preparation			S			P	
Bill Collection	S		P			S	
Customer Payment Processing	S			P			
Meter Standards Development	S				P		
Meter Testing, Maintenance & Replacement	P						

Note A: KAWC provides in-person customer contact while Service Company call centers provide customer phone contact

Kentucky-American Water Company
Designation Of Responsibility For Water Utility Functions

Primarily Responsible P
Provides Support S

Water Company Function	KAWC	Customer Call Center (Performed By: American Water Service Company)	Divisional Office	Shared Services	Corporate Office	IT Service Centers	Belleville Lab
Financial Management							
Financial Planning	P		S		S		
Financings--Equity	S		P		S		
Financings--Long Term Debt & Preferred (A)	S		P				
Short Term Lines of Credit Arrangements (A)	S				P		
Investor Relations			S		P		
Insurance Program Administration	S				P		
Loss Control/Safety Program Administration	P				S		
Pension Fund Asset Management					P		
Cash Management/Disbursements				P			
Internal Auditing					P		
Budgeting and Variance Reporting							
Corporate Guidelines & Instructions					P		
Regional Guidelines & Instructions			P				
Budget Preparation							
Revenue	P		S				
O&M	P		S		S		
Depreciation and Interest Expense	S		S	P			
Budget Preparation--Service Company Charges	S	S	S	S	P	S	S
Capital Budget Preparation—Projects	P						
Capital Budget Preparation—Non-Project Work	P						
Prepare Monthly Budget Variance Report (“Budget/Plan Analysis”)	P						
Prepare Capital Project Budget Status Report	P						
Year-End Projections (A)	P						
Accounting and Taxes							
Accounts Payable Accounting	S			P			
Payroll Accounting	S			P			
Work Order Accounting	S			P			
Fixed Asset Accounting	S			P			
Journal Entry Preparation—Billing Corrections	S			P			
Journal Entry Preparation--All Others	S			P			
Financial Statement Preparation	S			P			
State Commission Reporting	S		S	P			
Income Taxes—State				P			
Income Taxes—Federal				P			
Property Taxes	S			P			
Gross Receipts Taxes	S			P			

Note A: Financings and lines of credit are the responsibility of American Capital Corporation

Kentucky-American Water Company
Designation Of Responsibility For Water Utility Functions

Primarily Responsible P
Provides Support S

Water Company Function	KAWC	Customer Call Center	Divisional Office	Shared Services	Corporate Office	IT Service Centers	Belleville Lab
		Performed By: American Water Service Company					
Rates							
Rate Studies & Tariff Change Administration	S		P				
Rate Case Planning and Preparation	S		P				
Rate Case Administration	S		P				
Commission Inquiry Response	S		P				
Legal			P		S		
Purchasing and Materials Management							
Specification Development	S		S	S	P		
Bid Solicitation	S			P			
Contract Administration	S			P			
Ordering	P						
Inventory Management	P			S			
Human Resources Management							
Benefit Program Development					P		
Benefits Program Administration	S		P				
Management Compensation Administration					P		
Wage & Salary Program Design					P		
Wage & Salary Administration	P		S				
Labor Negotiations--Wages	P		S				
Labor Negotiations--Benefits					P		
Labor Negotiations-- Work Rules	S		P				
Training Program Development	S		S		P		
Training--Course Delivery	P						
Affirmative Action/EEO--Plan Development	P						
Affirmative Action/EEO--Implementation	P						
Information Systems Services							
Service Company Data Centers							
System Operations & Maintenance						P	
Software Maintenance						P	
Network Administration			P			S	
PC Acquisition & Support			P			S	
Help Desk			S			P	

Governance Practices Associated With Service Company Charges

There are several ways by which KAWC exercises control over Service Company services and charges. The most important of these are described below.

- **President of Regulated Operations Oversight** – The President of Regulated Operations is on the Executive Management Team (EMT) of American Water. This position is responsible for the overall performance of each operating company in American Water. As part of the EMT, the President of Regulated Operations has equal say with other EMT members in major business decisions of American Water and has the ability to monitor Service Company performance quality and spending. The President of Regulated Operations also has dialogue with each operating company president to address local concerns.
- **Divisional Vice President & Treasurer** – The Divisional Vice President and Treasurer of the Eastern Division states is responsible for the financial reporting, performance and internal controls of each of the operating companies in the division. The Vice President and Treasurer monitors the performance and reporting from the Service Company and follows up on instances where the quality and timeliness of services are not as expected. The operating company interacts with the Divisional VP & Treasurer to discuss any concerns with billings, etc.
- **Operating Company Board Oversight** – KAWC's board of directors includes members of American Water's EMT, members of the divisional management team and business and community leaders from outside the Company. KAWC's president is Chairman of the KAWC board. This helps ensure that KAWC's needs are a factor in the delivery of Service Company services.
- **Service Company Budget Review/Approval** – The President of Regulated Operations sits on the Service Company board and that board must formally approve the budget for Service Company charges for the next year. These budgeted charges are consolidated with the operating company's own spending into an overall budget which must be approved by the operating company's board of directors. KAWC's president also sits on the Service Company board.
- **Major Project Review And Approval** – Major projects undertaken by the Service Company must first be reviewed by American Water's Executive Management Team, which includes the President of Regulated Operations. With input from the local presidents and Divisional Vice President & Treasurer, they have the ability to impact all new initiatives and projects before they are authorized.
- **Service Company Bill Scrutiny** – KAWC Finance personnel review the monthly Service Company bill for accuracy and reasonableness on a monthly basis. KAWC's financial manager has dialogue with Shared Services Center office personnel concerning the monthly bill and any mistakes or overcharges are credited on a subsequent billing. The KAWC Finance Manager prepares an actual to budget comparison of management fees each month for use in identifying unusual variances. Service Company actual to budget comparison is included in the monthly FRP. Unusual variances are researched, explanations are provided and any corrections are made, as necessary.
- **Service Company Budget Variance Reporting** – Each month, a summary variance analysis is prepared that explains differences between budgeted and actual Service Company spending. In addition, a more detailed monthly variance report, called the "Statement of Expenses and Billed Charges," is produced by Service Company location and shows actual spending for the month.
- **Operating Company Budget Variance Reporting** – The "Budget/Plan Analysis," produced monthly, has a line item for Management Fees (i.e., Service Company charges). In this way, Service Company budget versus actual charges can be monitored

for the month and year-to-date. Additional information exists that allows more detailed analysis of "Divisional" and "Corporate" Management Fees.

- **Capital Investment Management ("CIM") –** CIM is one of American Water's primary business planning processes. It covers capital and asset planning and is employed throughout American Water. CIM provides a full range of governance practices, including a formal protocol for assessing system needs, prioritizing expenditures, managing the capital program, approving project spending, delivering projects and measuring outputs. CIM ensures that:
  - Capital expenditure plans are aligned with the strategic intent of the business
  - The impact of capital expenditure and income plans are fully reflected in operating expense plans
  - The impacts of these plans are understood and affordable, and
  - Effective controls are in place over budgets (through business plans) and individual capital projects (through appropriate authorization thresholds, management and reporting processes).

  The CIM process was designed to optimize the effectiveness of asset investment. The process is managed at two levels for all American Water companies, including all KAWC Operating Units. Monthly meetings of the CIM are held to review capital spending compared to plan, review new project requests, and review updates or modifications to existing projects. The President of KAWC, VP Finance, and others participate as necessary (e.g. KAWC operations managers and Rates Manager) and provide the data used in the monthly review schedules.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	

DIRECT TESTIMONY OF LINDA C. BRIDWELL, P.E.

February 26, 2010

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1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Linda C. Bridwell and my business address is 2300 Richmond Road, Lexington, Kentucky 40502.

2. Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Kentucky-American Water Company ("KAW") as Manager, Project Delivery, Water Supply.

3. Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS COMMISSION?

A. Yes.

4. Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a B.S. degree in Civil Engineering from the University of Kentucky in 1988 and I received a M.S. degree in Civil Engineering from the University of Kentucky in 1992 with an emphasis in water resources. I completed a Masters of Business Administration from Xavier University in Cincinnati, Ohio in 2000. I am a registered Professional Engineer.

I have been employed by American Water Works Company ("AWW") since 1989. I worked as a distribution supervisor for KAW until 1990 when I was promoted to Planning Engineer. In July 1995, I was promoted to Engineering Manager. In January 1998, I was promoted to Director of Engineering. In July 2004, I accepted the position of Project Delivery and Developer Services Manager for the Southeast Region of AWW, responsible for Kentucky, Tennessee, and West Virginia. In 2006, that title was changed to Manager – Engineering, and responsibility for West Virginia was shifted to someone in West Virginia. In November 2007, I shifted to my role as Manager, Project Delivery, Water Supply for KAW, and my focus is entirely on project implementation of our new water treatment plant and transmission main. I am a member of the American Water Works Association (AWWA), served as president of the local chapter and state section of the American Society of Civil Engineering (ASCE), and served as an officer in the local chapter of the National Society of Professional Engineers (NSPE) and as a State officer. I have previously served as an Adjunct Professor at the University of Kentucky in the

Civil Engineering Department, teaching "Water Quality and Pollution Control" and the "Introduction to Environmental Engineering." I serve as a member of the Civil Engineering Industrial Advisory Committee at the University of Kentucky. I served as a Commissioner on the Kentucky Water Resources Development Commission established by Governor Patton and currently serve on the Board of Directors for the Kentucky Infrastructure Authority.

5. Q. WHAT ARE YOUR DUTIES AS MANAGER, PROJECT DELIVERY, WATER SUPPLY?

A. My primary responsibility is the coordination and implementation of the new water treatment plant, transmission main and booster station. Since 1997, I have been involved directly as the project manager for the Bluegrass Water Project, and since December 1999 I have served as KAW's representative to the Bluegrass Water Supply Consortium/Commission ("BWSC"). Until June 2008, I was also responsible for the coordination of the Engineering Department at KAW, which included the planning, development, and implementation of all aspects of construction projects. This included working with all new main extensions and developers, water treatment plant upgrades, new construction, and network facilities improvements. I was involved in the development of the 1992 Least Cost/Comprehensive Planning Study ("LC/CPS") for KAW, including coordinating local input, regionalization and data collection, as well as drafting a 1998 update to the LC/CPS. I continue to be responsible for updating the demand projections and monitoring the source of supply for KAW.

6. Q. WHAT WILL YOUR TESTIMONY ADDRESS?

A. My testimony will initially describe the calculation of tap fees and progress on our conservation initiative. I will then turn to addressing in some detail the status of the water supply project, including construction progress and the budget.

7. Q. DOES KAW PROPOSE AN INCREASE TO ITS TAP FEES?

A. Yes. KAW requested the addition of a tap fee in Case No. 2000-120. The tap fees were modified from the original submission, but approved for all customers in that proceeding. The tap fees at that time were based on a three-year average cost of the installation of new services. New services are installed through a contractor, who competitively bids on an annual contract for this work. KAW employees oversee the installation of all new service and meter settings. The tap fees were increased in 2004 and again in 2007 and 2008 based on increased contractor and materials pricing. Since 2008, the cost of installing taps has significantly increased. Because of the unusual economic situation of the last two years, KAW has proposed a slight alteration to its tap fee calculation, using a five-year average of actual construction costs. The proposed new tap fees are:

¾ x 5/8" meter	$817 (increased from $702)
1" meter	$1,569 (increased from $1,287)
2" meter	$3,536 (increased from $3,129)

8. Q. WHY HAVE THE TAP FEES CHANGED IN JUST EIGHTEEN MONTHS?

A. The proposed increase in 2008 was based on a 3-year average of actual costs from 2005-2007. As everyone is aware, there have been significant economic changes in the last two years that have dramatically impacted everyone. The contractor costs have increased per installation. The cost of materials in 2008 increased tremendously, driven mainly by raw material cost increases. Although the cost of materials dropped in 2009, the costs did not drop to the pre-2008 levels. Additionally, there are a number of fixed cost items, including KAW labor and overhead, that are applied to the services. During 2008 and 2009 we saw a sharp drop in the number of new services installed, thereby raising the proportioned costs on each service. KAW has historically seen very gradual increases in service installation pricing that has been similar to inflationary increases. However, the impact of the last two years has been extraordinary. To smooth the impact of the last two years, KAW is proposing to use a five-year average in this instance.

9. Q. ARE YOU FAMILIAR WITH KAW'S CONSERVATION PROGRAM?

A. Yes. In 1992, I was in charge of an extensive expansion of KAW's conservation program, which included a number of customer programs and community education. Over the years, it became clear that the most effective efforts were in community education. In 2001, KAW filed a Conservation Initiative Plan with the Public Service Commission (PSC) and initiated an evaluation of our conservation education programs to develop a comprehensive approach to encourage water conservation.

The evaluation led to additional focus on community education in mixed delivery methods with a recognizable slogan. KAW developed the slogan, "Water. It's Worth Using Wisely." We used other one-time promotions to keep the program fresh while reinforcing television, radio and print messages. The program has been continually reinforced with customer surveys and focus groups as well as partnerships with other entities such as Bluegrass PRIDE and other organizations to promote wise water use among all consumers.

The effectiveness of the program continues to be monitored through surveys and adjusted accordingly. The Company believes the conservation programs have been successful and have contributed to the reduced per customer average usage as discussed in Dr. Edward Spitznagel's direct testimony.

10. Q. WHAT WAS INCLUDED IN THE PSC'S ORDER IN CASE NUMBER 2007-134 AND WHAT HAS KAW DONE TO MEET THE CONDITIONS IN THAT ORDER?

A. In Case No. 2007-00134, the expert witness for the Attorney General's office testified that KAW should review its conservation program and compare it to best practices in the water industry. KAW agreed to do so. Accordingly, the PSC ordered KAW to "retain a qualified consultant(s) to assist in developing a water conservation, leak-mitigation and demand management plan consistent with the best practices of the water industry. This plan shall include a program (or programs) to cost-effectively reduce non-revenue water."

The PSC also stated, "On November 1, 2008 and the first day of each month thereafter, Kentucky-American shall submit a written report to the Commission on the status of the development and implementation of its water conservation, leak-mitigation and demand side management plan and the effects that the implementation of such plan has had on usage."

KAW determined that it should seek two separate consultants, one to look at leak mitigation and the reduction of non-revenue water, and one to review the conservation program and demand management plan. In his testimony, Keith Cartier discusses leak mitigation and non-revenue water. I will address the efforts of the review of the conservation program and demand management plan. KAW retained

Strand Associates, based out of Wisconsin, to perform a review of its conservation and demand side management program for comparison with best practices of the water industry and recommend revisions to the program as necessary. Strand completed this effort and submitted its report, which has been provided to the PSC.

Strand identified two challenges in conservation programs: 1) difficulties from relying on the participation of customers and how to encourage that participation; and 2) difficulties in tracking success through reduced water usage. Citing USEPA guidelines, Strand emphasized that because of the low water usage in Kentucky compared to other states and low water costs compared to other states, it has been and will continue to be difficult for KAW to implement many cost effective conservation measures that are utilized in other areas of the United States.

Strand provided thirteen recommendations for Kentucky American Water to improve its Conservation Program in cost effective ways:

1) *Establish a Standing Conservation Program as an Ongoing Project*

   Strand recommends that a cross-functional team be established with designated responsibilities for budgeting, performance and tracking to be maintained under the Conservation Program. This team would be responsible for external communications and operational coordination.

2) *Develop Annual Report*

   Strand recommends that the Conservation team develop an annual report on conservation. This report would use the information to educate customers about the program, consider new initiatives, and help track success of the program.

3) *Review of Drought Management Appeals Board*

   One responsibility of the Conservation team would be to memorialize the efforts and decisions of the Drought Management Appeals Board to provide consistency over the period between droughts.

4) *Annual Report as Press Release*

   The Conservation team would prepare and publish the annual report similar to an annual Water Quality Report.

5) *Water Balance*

Strand recommends the completion of the AWWA/IWA Water Balance to help develop tracking of water usage on a more detailed level and identify areas where external conservation programs may be more effective. This Water Balance was also recommended by the NRW report and KAW has begun this effort.

6) *Other Performance Indicators*

Strand recommends that performance indicators be utilized beyond the water balance to develop benchmarks. These performance indicators go beyond numbers tracked in the water balance such as areas of personnel, quality of service, and economic and financial indicators. Strand recommended that some of these performance indicators be also identified that can help understand operational areas that can be improved to reduce real and apparent losses.

7) *Request Similar Information from Wholesale Customers*

Strand also recommends that KAW request water balance information from each of its wholesale customers to have a better understanding of customer usage.

8) *Pressure Management*

Strand recommends that KAW annually assess the value of an in-depth study to reveal areas with high pressure and high leakage.

9) *Continue Monthly Billing and Charting*

Strand acknowledged that KAW was an industry leader in its conversion from quarterly to monthly billing and should highlight this success and continue it.

10) *Rate Structures*

Strand acknowledged that KAW was an industry leader in its conversion from declining block rates to uniform rates. Strand recommends that KAW highlight this success and continue it.

11) *Future Block Rate Structures*

Strand recommends that KAW continue to review the potential for increasing block rates.

12) *Handouts of Low Flow Fixtures Should Continue on an As-Requested Basis*

A number of case studies were reviewed that indicated a low-flow retrofit program is only successful when the customer has a strong intention to change based on personal choice driven from the customer end. Based on the case studies and KAW's previous experience, Strand recommends continuing to provide fixtures as requested and highlight fixtures that are installed in its annual report.

13) *Commercial and Industrial Programs*

Strand recommends that KAW serve as a conservation resource for its large customers that can have a big impact on water usage and look to partner in the future on other programs.

After receiving the report from Strand, KAW established a task force to review the report and determine the best approach for implementation. An ongoing team was established in January 2010 to lead the implementation of the changes. That team will be responsible for detailing the current program in a concise document at both a local and national level. The team will also prepare an annual report that will heighten awareness among customers and establish program goals. The team will look for opportunities to partner with other agencies, including the LFUCG and Bluegrass Pride. The team will be responsible for implementing any new programs, making additional budget requests as necessary, and continuing to track progress and report on it to the PSC.

11. Q. WILL YOU BRIEFLY DESCRIBE THE PURPOSE OF THE WATER SUPPLY AND TREATMENT PROJECT?

A. Yes. Over twenty years ago, KAW identified a problem in meeting the needs of its customers. This water supply deficit was a future deficit, but as efforts progressed through the years and the central Kentucky area grew, it became a very current problem. There are actually two distinct but integrated issues facing KAW: a lack of an adequate quantity of raw water available in its current source of supply, and a capacity deficit in its water treatment facilities. The purpose of the water supply and treatment project is to address both of those problems for current customers and provide adequate facilities through the 2030 planning horizon.

The project consists of a new water treatment plant built on Pool 3 of the Kentucky River. This plant will have a capacity of 20 million gallons per day (mgd) and will supply water through a 42-inch transmission main that is approximately 30 miles long and connects to KAW's distribution system in Fayette County. There is one intermediate booster pumping station in Franklin County with a 3.0 million gallon ground storage tank located adjacent to the booster station.

The project concept was developed as a result of nearly twenty years of study, working with various stakeholders and regional utilities to determine the best solution for central Kentucky. In 2007, KAW filed an application for a Certificate of Convenience and Necessity with the PSC, which became Case Number 2007-134. For a detailed history of the development of the project, please refer to my direct testimony in that case.

The Certificate Case lasted over a year and incorporated the information provided in 2 previous cases before the PSC related to KAW's water supply and treatment capacity deficits. The case (including the previous cases) provided an exhaustive review of the needs of KAW to supply its customers, alternative solutions to meet those needs, costs associated with those alternatives, details of design, environmental and cultural impacts of construction, and the estimated financial review. After this extensive review and two evidentiary hearings, the PSC granted a Certificate of Public Convenience and Necessity to construct the proposed facilities in a 97-page Order dated April 25, 2008.

12. Q. PLEASE DESCRIBE THE WATER SUPPLY AND TREATMENT PROJECT?

A. The project includes three separate construction efforts, each with its own construction contract. The first is for the construction of the raw water intake and treatment plant at Pool 3 of the Kentucky River. The raw water intake and pumping station is located just adjacent to Pool 3 and has three pipes that provide water from the river into the pumping station. The pumping station, with a capacity of 20 mgd, transfers raw water through a 42-inch pipe approximately 1,500 feet to the water treatment process building that sits up a bluff overlooking the river. There are four raw water vertical turbine pumps with space for a future pump in the design. Two of the pumps are rated at 10 mgd with variable frequency drives and two of the pumps are rated at 7 mgd to provide optimal combinations of operations. The variable frequency drives allow the pumps to operate efficiently and at a greater range of flows.

The water treatment process is essentially all housed in one building that has three separate levels. The treatment process is conventional, using modules of 5 mgd flow volumes for flocculation and sedimentation, with five sand filters and two separate clearwells. There are four high service pumps that will draw from the clearwells and transfer water into the high service main. The chemical systems have redundancy and allow for two different coagulation chemicals to be utilized if necessary. There is also space for additional chemical treatment or ultraviolet installation for disinfection. The residuals removed from the water will be processed in two clarifiers and one thickener, then run through a belt press to further dewater the residuals. The decanted water and pressed water will be discharged back to the Kentucky River while residuals will be beneficially reused on the treatment plant site.

The second component of the construction effort is the high service water transmission main. The main is a 42” ductile iron pipe that generally follows state roads from the treatment plant to the booster station and on to the connection point with KAW’s distribution system in Fayette County. Approximately 55% of the main is in Kentucky Transportation Cabinet right-of-way while the other 45% of the main is installed in private easements acquired for this project. There are periodic valves to allow the main to shut down for maintenance and periodic air release valves along the route. Additionally, KAW has installed flushing hydrants along the main that can also be utilized for fire protection in Franklin and Scott Counties. The transmission main work was bid as two separate contracts, one from the treatment plant to the booster station, and one from the booster station to the connection point with the existing distribution system in Fayette County. One contractor was the successful bidder on both transmission main bids and the project was combined into one contract.

The third component of the construction effort is the booster station located in Franklin County approximately 12.7 miles from the treatment plant along the pipeline route. The main discharges water into a 3 mg concrete ground storage tank. The adjacent booster pumping station building houses three 10 mgd vertical turbine pumps that will draw water from the tank and push water on to the connection point with KAW’s system in Fayette County.

13. Q. WHAT IS THE STATUS OF THE WATER SUPPLY AND TREATMENT PROJECT?

A. Following issuance of the Order in Case No. 2007-134, KAW immediately began work on the project, executing contracts for construction by the end of May 2008, finalizing purchases of plant, intake and booster station property in June, and breaking ground. KAW believes it is critical to have facilities in-service in 2010, and the only way to accomplish that was to begin work immediately. This also locked in construction pricing at bid levels, thus minimizing any potential negative impact to ratepayers.

Moderate weather through the end of 2008 allowed the contractors at the treatment plant, booster station, and along the pipeline route to move on schedule, in some cases even slightly ahead of schedule. In early 2009, however, inclement weather began to slow construction down. The rest of 2009 saw unusually heavy periods of rain, which proved to be challenging for both the treatment plant and pipeline contractors. Nevertheless, the contractors met those challenges and remained on schedule, frequently working late hours and weekends to keep the project on the scheduled completion plan.

In late 2009, KAW was able to acquire the last of the easements necessary to complete the pipeline construction and all of the transmission pipe will be installed by the end of the first quarter 2010. Through the spring/summer of 2010 the contractor will continue work on restoring, reseeding the pipeline areas, pressure testing the pipeline and disinfection of the pipeline. Additionally, the contractor will complete final paving required by the Kentucky Transportation Cabinet in Franklin County.

The intermediate booster station building is nearly complete and the contractor has made the connection to supply electricity to the building and will begin testing facilities and equipment during the first quarter of 2010. The tank has been constructed and will be disinfected after the transmission main is fully disinfected. Final grading has occurred, security fencing has been installed, and the drive has been fully paved. Final site clean-up, including landscaping, will continue through the spring/early summer period.

The water treatment plant building remains on schedule. The intake structure is built, including all of the work in the river and the wet well under the raw water pumping structure. However, the roof of the raw water pumping station has not been completed, which must occur before the work on the interior of the building can be finalized and equipment installed. The raw water pipe has been installed between the raw water pumping station and the water treatment process building. The exterior walls of the water treatment process building have been completed and the structure is under roof. Most of the treatment equipment is installed in the flocculation and sedimentation basins. The work on electrical, plumbing, chemical and HVAC systems is ongoing and progressing on schedule. The residuals process tanks have been constructed, as well as the residuals press building. The work remains on schedule.

14. Q. WHAT IS THE ESTIMATED FINAL COST OF THE PROJECT?

A. The current estimate of the project is $163.9 million. This is slightly higher than the estimate of $162.3 million used during the certificate case. The primary driver of this increase is related to additional AFUDC due to a lower amount of CWIP receiving full rate base treatment in the Company's 2008 rate case than anticipated in the certificate filing estimates. The Company proposed in the certificate case that all CWIP at the time of its 2008 rate case filing would be afforded full rate base treatment and that AFUDC would cease from the effective date of the rates approved in the 2008 rate case on that incremental portion of the CWIP.

15. Q. WHAT ARE THE EXPENDITURES TO DATE?

A. As of January 31, 2010, the total construction project expenditures are $140,994,656.00. This includes accruals for value of work booked but not invoiced to the project and contractor retainage held in a separate account until ready for release. Within the funding project, there have been five separate work orders established to assist in tracking expenditures. Relevant design charges are captured within those individual work orders as well. The five work orders are: 1) the water treatment plant and intake station including high service transmission mains to the edge of the treatment plant property; 2) the booster pumping station and storage tank including transmission main on the booster station site; 3) the total transmission main from the treatment plant to the booster station and from the booster station to the connection to the distribution system; 4) land acquisition and easement acquisition including engineering, surveying and legal expenses; and 5) the interest expenses for tax-exempt financing bonds since these costs are not part of AFUDC. The expenditures as of the end of January 31, 2010 are listed in Table 1 below by work order.

Table 1

Work Order	Expenditures as of January 31, 2010
434232 – Water Treatment Plant	$65,241,317.41
434231 – 3.0 mg storage tank & booster pump station	$10,543,965.96
434227 – 42" Transmission main	$56,069,056.30
50111193 – Land and Easement acquisition	$4,748,956.98
455050 – Record Interest from Bonds	$2,277,251.77
Funding Project 12020607 Total	$138,880,548.42
12012092 – Preliminary Source of Supply Work (FP 12020204)	$2,114,107.58
Project Total	$140,994,656.00

16. Q. WHAT HAVE BEEN THE SIGNIFICANT CHANGES IN PROJECT CONSTRUCTION COST ESTIMATES TO DATE AND WHY HAVE THEY OCCURRED?

A. On this project, KAW executed construction contracts with three primary contractors, one for the treatment plant and intake facility with Reynolds-Rogers, LLC, one with PAE and Associates for the booster pumping station and 3.0 million gallon storage tank, and one combined contract with Garney Companies, Inc., for both bids on the 42" transmission main, although the contract references two sections as Section A (from the treatment plant to the booster station) and Section B (from the booster station to the connection point to the distribution system).

As of February 2010, there have been five approved change orders on the water treatment plant project. The original contract price was $65,314,525 and the current authorized contract price is $66,341,982. The contract time for substantial completion has been extended by 78 days and the contract time for final completion has been extended by 30 days.

17. Q. HAVE THERE BEEN CHANGE ORDERS FOR THE TRANSMISSION MAIN CONSTRUCTION CONTRACT?

A. Yes. There have been ten change orders on the pipeline, five on Section A and five on Section B. The original contract price for Section A was $25,037,475 and the original contract price for Section B was $27,289,530 for a combined total of $52,327,005. The current authorized contract price for Section A is $26,810,336 and the current authorized contract price for Section B is $28,803,969 for a combined total of $55,614,305. It should be noted, however, that the pipeline contract is based on unit pricing and may ultimately vary as installed quantities differ from the estimated quantities in the authorized contract. A final change order will be issued to authorize the actual quantities installed.

18. Q. WERE THERE CHANGE ORDERS FOR THE BOOSTER STATION AND TANK CONTRACT ON THE PROJECT?

A. Yes. As of the end of January 31, 2010, there have been three approved change orders on the booster pumping station contract. The original contract price was $8,445,123 and the current authorized contract price is $8,683,671.

19. Q. WHAT IS THE PROCESS FOR AUTHORIZING CHANGE ORDERS TO THE CONSTRUCTION CONTRACTS?

A. There are two types of change orders. The first type is initiated as a request by KAW and the second type is initiated by a request from the contractor. Under the first type, KAW may request the change based on additional information from operations personnel, a change based on other contracts, or a request necessary to comply with permit and regulatory requirements or necessary to comply with easement negotiations. Under these types of change orders, KAW alerts the contractor to the necessary change and requests pricing from the contractor. Details regarding the change are developed from either KAW or the construction administration engineering consultant on the contract and delivered to the contractor. Under the second type, the contractor generally identifies a concern in the contract documents through a request for information to KAW. The request for information is formally reviewed by the construction administration engineering consultant and KAW and a response is provided to the contractor. Based on the information provided, the contractor may then submit a change order request if the contractor believes the information conflicts with the original contract documents. The request is reviewed by the construction administration engineering consultant and KAW. In both types, there is generally substantial negotiation over the change order request. The contractor generally has to substantiate the price within the change order request, providing vendor quotes, labor and equipment pricing, and details as to why the change order request is justified if it has been requested by the contractor. Once an agreement has been reached over the appropriate level of increase or decrease, KAW prepares a change order for execution. The contractor signs five copies and returns them to KAW for execution under its Contract Approval process. Each of the change orders is reviewed to determine the impact on the contract, operations, schedule, and budget of the project. Alternatives are weighed carefully prior to execution. In each of the change orders described above, an extensive review of the information took place by all of the parties involved in the project.

20. Q. HAVE THERE BEEN OTHER CHANGES TO THE PROJECT COST ESTIMATES AND WHY HAVE THEY OCCURRED?

A. In the Certificate Case, KAW estimated the land and easement costs to be $1,968,024. The original budget at the start of construction anticipated $3,437,315 for easement and land acquisition with the increase being offset by a reduction in Omissions and Contingencies. This number was increased in 2009 based on easement acquisition costs exceeding the original estimate, to a current estimated cost of $4,236,000. This includes additional costs for surveying, engineering, and legal services in support of the easement and land acquisition efforts.

Additional construction administration costs were requested and approved by the: (1) engineering consultant on the booster station as a result of a lengthy investigation into bedrock conditions at the booster tank site; (2) engineering consultant on the treatment plant for additional design work at the intake station as a result of the riverbank stabilization efforts; and (3) the engineering consultant on the pipeline for construction administration of the numerous alignment changes that resulted from property owner negotiations. The engineering costs have been increased from the original budget of $942,580 by $151,000.

Additional resident observation costs were requested and approved by the engineering consultant on the booster station as a result of the project completion delays. The original budget estimate of $343,200 has been increased by $36,000.

The labor charges for KAW and AWW support of the project in the original budget was $880,000 and has been revised to $1,776,660. This has been offset by a reduction in capitalized overhead on the project. All appropriate personnel, including operations and management team members that are working on the project, are charging labor directly to the project.

The original estimate for Allowance for Funds Used During Construction was $10,278,033. An accelerated projection of the cash flow from the contractor resulting from the immediate commencement of work on the pipeline and booster station, along with a reduction of the amount of plant removed from CWIP during the last rate increase meant an increase in AFUDC. This has been partially offset by the availability of tax exempt debt financing for the project. The total AFUDC and interest charges are currently projected at $12,386,298. The tax-exempt financing effort will be discussed later in my testimony.

Inspection of the building materials during construction at the water treatment plant, including concrete and steel testing, had to be removed from the construction contract per a requirement of KY Building Code and the inspection services have been retained by KAW. This was originally structured as an allowance in the Construction contract that will not be invoiced.

21. Q. DID THE COMPANY INCLUDE AN OMMISSIONS AND CONTINGENCIES ALLOWANCE IN ITS ESTIMATE OF THE PROJECT COSTS?

A. Yes. An allowance for omissions and contingencies should always be included in any construction budget for a number of basic reasons. Changes are sometimes required when field conditions are not exactly as anticipated, regulations governing construction may change, vendors may discontinue specified equipment, items may have been overlooked during design, or the owner may have reasons to make changes based on new information or technology. Generally, the more complex the project, the greater the allowance for omissions and contingencies.

22. Q. WAS THE OMMISSION AND CONTINGENCY ALLOWANCE INCLUDED IN THE COMPANY'S PROJECT COST ESTIMATE SUFFICIENT TO COVER THE CHANGES IN CONTRACT SCOPE FOR THE THREE AREAS OF THE PROJECT DISCUSSED PREVIOUSLY?

A. Yes. The omissions and contingency allowance included in the Company's project cost estimate were sufficient to cover all the change orders related to the construction of the facilities, and were sufficient to cover a portion of the additional AFUDC related to the lower CWIP afforded full rate base treatment in the Company's 2008 rate case.

23. Q. WHAT HAS KAW DONE TO CONTROL COSTS OF THE PROJECT?

A. The first steps to control project costs were taken during the design and bid efforts by developing a very detailed design and bid package that was reviewed by KAW engineering, AWW engineering, and KAW operations personnel. This review effort was made to determine if there were engineering design elements originally proposed that were different from KAW or AWW normal operations. Contractors were pre-qualified prior to bidding for experience, financial stability and quality of work. Equipment was specified in the design package to qualify only vendors and manufacturers that offered equipment that KAW would accept for overall operational performance. Pre-bid and pre-construction meetings were held for all three contracts under the construction project and multiple addenda to the bid packages were issued as questions from contractors were clarified.

The second step to control project costs was to utilize standard contract documents prepared by AWW based on the standard documents from the engineering community. These documents are straightforward, thorough and reduce the number of disagreements based on inconsistent or unclear contract language.

24. Q. HOW HAS KAW DEALT WITH THE CONTRACTORS TO CONTROL PROJECT COSTS?

A. KAW implemented a partnership approach to the project with all of the contractors to control project costs. AWW has long recognized that performing contracts in a manner that results in an adversarial relationship between the owner and the contractor generally ends in a bad result for everyone, including the ratepayers who are ultimately provided service through the asset constructed. To reduce the adversarial nature of construction contract implementation, this partnership approach is designed to bring all of the contract parties to the table before the project begins and develop formal processes for communications. Differences in the contract are approached as negotiations, and everyone agrees upfront that the goal is to construct a quality project, at the most efficient cost, at a fair price to the contractor and the Company. AWW has found this approach successful on other large complex projects and this approach was embraced by all of the contractors and engineers at the beginning of this project. Using this approach appears to have been successful so far on this project. Change order requests have been thoroughly vetted, reviewed and revised in a professional approach that kept the project moving forward in all cases.

25. Q. WHO HAS KAW ASSIGNED TO WORK ON PROJECT ADMINSTRATION?

A. To further control project costs, KAW has dedicated resources for the project administration that allow focus on the project. In addition to my role as project manager, Michael Galavotti from KAW has been assigned as Senior Operations Engineer for the project and has worked closely on technical issues throughout the project. AWW assigned two engineers from the corporate construction group to help with contract administration. H. Tim Mentzer was assigned for the water treatment plant administration and Ryan Ural was assigned for the booster station and transmission main projects. Full-time inspectors with knowledge and construction experience were retained on each of the three construction projects. At one point a second construction inspector was assigned from KAW to assist in the transmission main inspection efforts. Legal counsel has been assigned as necessary to assist on a variety of issues, including questions on easements, permits and contract language. Input has been sought from operations personnel throughout the project for decisions that will impact maintenance and operations. Public Relations personnel from KAW and AWW have worked closely with the construction team to stay familiar with the project and its process, and to develop material for customers, property owners, employees and the general public. Finance and rate personnel from KAW and AWW have been assigned as necessary to assist in interest estimates, project accounting, and overall budget issues. Finally, KAW has hired Kevin Kruchinksi as the plant supervisor. By hiring Mr. Kruchinski during construction, he has been able to assist in directing the contractor on questions that will impact overall operations of the plant. This level of resource commitment has helped to anticipate challenges before they arise or quickly address them once they are recognized. This has also allowed the construction team to focus its efforts on implementing the project as designed, which is critical to keeping the project on budget and on schedule. Clearly, AWW and KAW have technical, financial and professional resources internally that has allowed KAW to be an active and engaged owner during construction. We believe these resources help provide a better focus during construction and overall a better project for operational and long-term maintenance issues.

Additionally, KAW worked to establish regular communications with the project construction team and KAW senior management to keep decision-making timely and maintain the project schedule and control project costs. During the easement acquisition efforts, KAW retained two consultants to dedicate teams of resources to acquiring easements. These teams scheduled a regular meeting every three weeks to review progress on all easements. This assisted in keeping negotiations consistent and helped anticipate problems and challenges during the acquisition phase. The legal team was regularly updated following those meetings to stay abreast of progress and offer insight as necessary. A formal progress report and map was developed that allowed all interested team members to track progress of easement acquisition compared with construction activities. Each construction team established a regular monthly meeting to discuss the construction project and interim progress conference calls to stay on top of issues that arose during construction. Minutes were taken of each progress meeting with action items assigned and potential completion dates for those items. The meetings were held at the construction site for each project. Additionally, a small group from each contract was combined for start-up discussions and coordinating in-service efforts between each of the three projects. In the spirit of implementing the partnership efforts, a group meeting was held at the beginning of the project to establish the communications lines with all contractors and sub-contractors. A mid-point partnership meeting was held in August 2009 to determine if there were areas that needed to be improved or addressed. A weekly meeting was established with the Vice-President of Operations, Keith Cartier, to keep him abreast of project issues and review budget status. A weekly conference call was established with the communications and external affairs team to review those efforts and provide information regarding the project status. This meeting was utilized to determine potential media coordination and identify communication materials that would be developed as part of the overall project management and education process.

Finally, KAW has maintained a regular presence at each of the construction projects. In addition to the resident observers, Michael Galavotti, Kevin Kruchinski and I have been involved at each of the construction sites almost daily for most of the project. Now in the role of plant supervisor, Mr. Kruchinski occupies office space in the construction trailer at the water treatment plant and is on that site on a daily basis. This effort has allowed the key project administrators to understand the construction issues, see first hand the ongoing progress, and identify challenges as they develop.

26. Q. WHAT IS THE TAX EXEMPT FINANCING THAT YOU MENTIONED AND WHY DID KAW ELECT TO PURSUE THE TAX EXEMPT FINANCING?

A. In 2008, KAW applied for and received two different allocations of State Cap Allocation, which ultimately allowed for the issuance of $71,390,000 of tax-exempt bonds. Revenues from those bonds are being used to finance the water supply project. Due to the interest savings realized from the tax-exempt nature of the bonds, KAW has saved $720,731 in interest, which will be passed on to its customers. KAW witness Michael Miller discusses these savings further in his testimony in this case.

27. Q. THERE HAS BEEN A LOT OF PUBLIC INFORMATION REGARDING THE PROJECT INCLUDING TELEVISION AND RADIO SPOTS. ARE THERE PUBLIC RELATIONS COSTS RELATING TO THE PROJECT IN THE PROJECT BUDGET?

A. No. KAW recognized the need to educate consumers regarding the project but determined that the costs of the education should not be included in rates. Therefore, none of the television or radio costs or other public media efforts are included in the project or in our request for increased revenues in this case. KAW has retained professional photographers and videographers to help document the development of the project, and those costs have been included in the project. These included weekly still photography of the treatment plant construction, video recordings of the trencher operation developed for communications with property owners, and a video recording of the final connection of the two section of pipeline installation. The development of material for communications with property owners and the costs of mailing those communications have also been charged to the project. All other costs for professional services in developing communications materials have not been included in the costs of the project or sought in this rate case.

28. Q. WHAT CHALLENGES HAVE BEEN ENCOUNTERED IN IMPLEMENTING THE PROJECT?

A. Easement acquisition presented the first project challenge. Many of the property owners along the pipeline route did not want to execute easements until after the PSC granted the Certificate of Convenience and Necessity for the project. At the same time, KAW had bid pricing that was set to expire while raw material pricing was escalating at unprecedented rates. KAW made the decision to move forward on executing the contract, making the contractor fully aware that not all easements had been acquired. KAW then assembled a team to assist in easement acquisition and negotiations to cover a large number of property owners in a short amount of time. In a couple of instances, the contractor was delayed for a short period while the final negotiations were completed and in one case the construction proceeded past the property and then returned to complete it once the easement was acquired. Eventually, all necessary easements were acquired by agreement.

Second, the Kentucky Transportation Cabinet did not issue the permit for construction in the road right-of way until after the PSC granted the Certificate of Convenience and Necessity for the project. The KY Transportation Cabinet then included items in the permit that had not been originally anticipated. However, in weighing the restrictions and requirements in the permit against the cost and time for additional easement acquisition for up to 55% of the transmission main installation, KAW complied with the permit requirements as received and requested only that they be altered to allow for road closings. Closings were necessary in three locations where the safety of the travelling public was at greater risk if one lane of traffic remained open during construction. The KY Transportation Cabinet agreed with this request and allowed full road closures for construction during the summer months when school buses would not be operating.

Third, the weather has been a significant factor for a long period in the project. The fall of 2008 proved to be dry and moderate, allowing construction to progress even ahead of schedule before winter weather set in. However, 2009 proved to be a rainy, cool year with construction hampered from the spring through the end of the year. Construction in the Kentucky River at the intake site was halted in April and equipment moved away from the river because of moderate flooding at the intake site. The wet and muddy conditions required constant maintenance of adjacent roadways so as to not track mud and debris from construction traffic. The cool, wet spring delayed pavement restoration in Franklin County for up to two months and slowed the transmission main construction down that was to be located in the road. The flowable fill would not set up in time to get pavement binder down by the end of the work day. The wet conditions lasted into the summer, and the crossing of the North Elkhorn Creek was delayed due to heavy rains in the fall that had the creek levels at unusually high levels for that time of year. Rain throughout the summer required that erosion and sedimentation control measures be constantly monitored and adjusted. Early winter conditions slowed final masonry and concrete work at the plant as well. Throughout these conditions, however, each of the contractors has worked to find ways to maintain schedules, working evenings and weekends as necessary.

Additionally, coordination with other utilities has been extensive in the area of the transmission main construction. Although KAW and its contractor Garney attempted to communicate regularly with other utilities, request locations of their facilities, and even reimburse them for relocations when necessary, there were short outages for customers in water, phone and electric service at times due to damages to facilities during construction. KAW and Garney worked hard to minimize those outages, providing assistance if outages occurred and communicating regularly with property owners.

Overall, the project has progressed well and the challenges have been fairly moderate given the size and complexity of the project, allowing the project to stay on schedule and budget.

29. Q. WHEN IS THE PROJECT SCHEDULED FOR COMPLETION?

A. It is anticipated that the project will be placed in service in early September 2010. The current contract for the water treatment plant has a required substantial completion date of July 17, 2010 with a final completion date of November 30, 2010. There are extensive testing requirements in the contract on the water treatment plant to determine not only that the equipment works, but that all of the facilities are disinfected and can operate to produce potable water for a full range of flows with all of the automated controls and alarm systems working fully before the plant can be placed in service. It is anticipated that the automated controls and alarm systems will not be completed until late July or early August. Prior to that time, the transmission main will have been completely pressure tested and disinfected, and the booster station and storage tank tested and disinfected.

30. Q. HOW WILL THE NEW PLANT OPERATE?

A. KAW expects that the facility will operate 24 hours per day, 7 days per week. The new plant will pump water to the storage tank in Franklin County. The pumps at the booster station have been designed to draw water from the storage tank and deliver it to the KAW distribution system at a variety of flows. The pump pressures have been designed to meet pressure in the distribution system.

The facility can operate at a minimum of 4 mgd, but the optimal pump efficiency will likely be around 6 mgd. Therefore, the operations budget has been developed anticipating a 6 mgd level of operations. Under normal operating conditions, KAW plans reflect the assumption that KRS II production will reduce the demand placed on Kentucky River Station.

There are a number of operating circumstances under which KRS II may produce at higher levels. KAW has long been under restrictions for withdrawal from the Kentucky River at Pool 9 during low flow periods. It is anticipated that during those periods, KRS II will increase operations as the withdrawal permit at Pool 3 does not have restrictions similar to those of Pool 9. KAW also expects the new plant will be utilized at higher levels when high demand periods occur, when maintenance at either of the other two plants limits capacity, or if there is a power outage that affects only one of the other two plants.

Further, KAW has maintained an effort to transfer water from the Kentucky River to Jacobson Reservoir to keep the reservoir full for operations at the Richmond Road Station during the summer in case a drought should occur. KRS II will enable KAW to reevaluate the degree to which those transfers should occur going forward.

Although extensive analysis has gone into the design of the facilities to allow maximum flexibility, the most efficient and cost effective practices of incorporating KRS II into operations are expected to evolve over time based on real operating experience.

31. Q. IS KAW STILL WILLING TO CONSIDER REGIONAL PARTNERSHIPS FOR THE PROJECT?

A. Absolutely.

32. Q. HOW WILL THE FACILITIES ACCOMMODATE REGIONAL PARTNERSHIPS?

A. KAW has attempted to maintain communications with each of the BWSC utilities to confirm that an opportunity for regional partnerships will continue after the plant has gone into service. Because this facility was constructed at a capacity of only 20 mgd, which KAW identified as the appropriate size to meet the needs of its customers, the facility would need to be expanded to accommodate a regional partnership so the full 20 MGD of plant capacity could remain dedicated to KAW customers' needs when demand dictates that level of plant capacity. However, because the design was developed with expansions anticipated, these expansions could be done very cost effectively and fairly quickly. KAW would negotiate contracts that would allow KAW customers to benefit from a shared plant. KAW hopes that as central Kentucky continues to grow, the concept developed by the efforts of the BWSC is eventually realized.

The cost of these facilities is significant and constitutes the major portion of this rate case. However, the success of this project will result in the continued economic viability of Central Kentucky. I am looking forward to the completion of a successful project and the resolution of water supply deficits that have existed for two decades.

33. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES ON AND AFTER MARCH 28, 2010	**)** **)** **)** **)**	**CASE NO. 2010-00036**

DIRECT TESTIMONY OF KEITH L. CARTIER

February 26, 2010

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1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Keith Cartier and my business address is 2300 Richmond Road, Lexington, Kentucky 40502.

2. Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Kentucky-American Water Company, Inc. (KAW) as the Vice President of Operations.

3. Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS COMMISSION?

A. Yes.

4. Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I earned a Bachelor of Science degree in Civil Engineering from the University of Pittsburgh in 1979 and a Masters in Business Administration from the University of Pittsburgh's Katz School of Business in 1980.

I have worked in the utility industry since 1982, beginning as an Engineer/Commercial Representative at Duquesne Light Company in Pittsburgh, Pennsylvania. I served in a number of positions during my seventeen years at Duquesne, the first seven years in customer service roles, and the last ten in a number of roles primarily focused on improving operational and business performance. During that latter span, I also served for one year as project manager for merger integration planning on the proposed merger of DQE (Duquesne's parent company) and Allegheny Energy. In 1999, I joined UMS Group, an international management consulting firm headquartered in Parsippany, New Jersey. I worked with UMS for nearly three years, providing operational and business performance consulting services to utility clients throughout the United States and Canada. I have been with the American Water family of companies since 2003, first joining Pennsylvania American Water as Superintendent for the Pittsburgh operations, which provides water service to approximately 140,000 customers in the suburban Pittsburgh area. I moved to Contract Operations Manager with American Water Enterprises (AWE) in 2004 with responsibility for managing operations for a number of client water authorities. My responsibilities expanded in 2005 as I joined American Water Services' Southeast Region in the role of Director of Business Performance. In that role, I assumed responsibility for helping improve operations of the regulated businesses in American Water's Southeast Region, as well as expanding my responsibilities to include oversight for all water and wastewater contract operations in American Water's Southeast Region. In February 2008, I joined KAW as Vice President, Operations.

In addition to my role with Kentucky American Water, I was recently appointed by Governor Steve Beshear to serve on the Board of the Kentucky River Authority (KRA). The KRA maintains and manages water resources of the Kentucky River Basin to ensure water supply, water quality and recreational activities associated with the Kentucky River.

5. Q. WHAT ARE YOUR RESPONSIBILITIES AS VICE PRESIDENT OF OPERATIONS?

A. My responsibilities encompass all activity related to water production, water distribution and local customer service. I have also provided oversight on the new water treatment plant and pipeline project for Linda Bridwell, KAW's Project Delivery Manager, who is providing testimony regarding that project. I also work closely with KAW's Director of Engineering, Lance Williams, to support planning system improvements and managing capital investments.

6. Q. WHAT WILL YOUR TESTIMONY ADDRESS?

A. My testimony will describe the operations of KAW's production and distribution systems. I will address fuel and power costs, chemical costs, staffing, and operational efforts including leak detection, non-revenue water and water quality.

7. Q. PLEASE DESCRIBE THE OPERATIONS OF KAW FACILITIES.

A. KAW currently operates three water treatment facilities. The two water treatment facilities in Fayette County provide treated water to retail and bulk water customers in Fayette and surrounding counties. The water treatment facility in Owen County provides treated water to residents of Owen County. The Kentucky River Station I (KRS I) and the Richmond Road Station (RRS) in Fayette County have a combined design treatment capacity of 65 million gallons per day (mgd), with the KRS I rated at 40 mgd capacity and the RRS rated at 25 mgd capacity. The RRS at times, and for short durations, is able to operate at a slightly higher capacity and has demonstrated a temporary operational capacity of 30 mgd, raising the total treatment capacity of these two plants to 70 mgd. The Owen County facility is rated at 1.4 mgd.

KAW withdraws water from Pool 9 of the Kentucky River for KRS I and RRS. An intake pumping facility at river level withdraws water and pumps the raw water up a 380-foot bluff. The raw water is then directed to the KRS I treatment plant and as necessary may also be directed through a pipeline to the RRS or to Jacobson Reservoir. The RRS may utilize raw untreated water supplied directly from the Kentucky River pipeline or withdraw water from Jacobson Reservoir on US 25 south of Lexington or from Lake Ellerslie located on Richmond Road next to the RRS.

For the Owenton plant, KAW withdraws water from Severn Creek, which flows into Pool 2 of the Kentucky River. Raw water is pumped from the Severn Creek intake through a pipeline to the Owenton treatment plant site. The raw water may be directed immediately into the plant or to Lower Thomas Lake. The Owenton plant is capable of accepting water directly from the creek or withdrawing water from Lower Thomas Lake.

KAW's treatment facilities utilize a chemical-mechanical process. The RRS utilizes a conventional coagulation and sedimentation process, followed by filtration through granular activated carbon and sand filters. Both KRS I and Owenton utilize an up-flow solid contact process followed by filtration. For KRS I, that process occurs through mixed media high rate filters; for Owenton, through mixed media in two separate filters. The KRS I and RRS use chloramination to maintain residual disinfectant within the distribution system; the Owenton facility uses fee chlorine but is able to switch to chloramination. Each facility is fully staffed by water treatment plant operators certified by the Kentucky Division of Water. Operations of the KAW treatment facilities meet or exceed all federal and state water quality regulations.

As of the end of 2009, KAW's distribution system contained 1,956 miles of pipeline mains of various materials, ranging in size from 2 to 36 inches. The new transmission pipeline will add 30 miles of 42" pipe to that total. The system also contains 26 tanks, 25,990 valves, and 8,291 hydrants.

KAW transmits water to bulk water customers from various points in the distribution system. Those customers are Jessamine South Elkhorn Water District, the City of Nicholasville, the Georgetown Municipal Water and Sewer Service, the City of Versailles, the City of Midway, the City of North Middletown, East Clark County Water District and the Harrison County Water Association.

8. Q. HOW WILL THE NEW WATER TREATMENT PLANT AND BOOSTER STATION INTEGRATE INTO KAW OPERATIONS?

A. Linda Bridwell addresses the design and operation characteristics of the new Kentucky River Station II plant (KRS II) in her testimony. When KRS II initially comes on line, a minimum of 6 million gallons per day of treated water will be transmitted through the new 42" transmission pipeline into the central Kentucky distribution system. The new transmission line ties into the existing distribution system near the intersection of Newtown Pike and Iron Works Pike in Fayette County. The Owen County distribution system traverses the plant site road frontage. KAW plans to extend transmission mains to enable KRS II to better support the Owen County distribution system than would be the case by simply connecting to existing facilities directly at the plant site.

9. Q. KAW'S LEAK DETECTION HAS BEEN DISCUSSED IN PRIOR CASES. WHAT IS THE CURRENT STATUS OF KAW'S LEAK DETECTION EFFORTS?

A. KAW continues to focus on aggressive leak detection with a comprehensive program that utilizes cutting edge technology. KAW deploys some of the most advanced leak surveying and monitoring equipment the industry has to offer. We currently have 971 permalogs deployed at key locations throughout the distribution system, with an additional 40 that we move to address uncovered or problem areas. These small computerized devices, which listen for leak sounds, afford KAW the ability to monitor areas for leaks with limited manual intervention required. In addition to the permalogs, KAW continues to employ manual leak sounding to survey certain areas of the system and further pinpoint potential leaks identified through the permalog soundings. KAW personnel conducted 26,839 manual soundings on services, hydrants, mains and valves during the past two years. KAW routinely inspects pipelines that cross streams and those in right of ways. KAW's 41 stream crossings were inspected annually the last two years. During that time, KAW also inspected all 60 right of way locations for non-surfacing leaks.

KAW monitors total non-revenue water (NRW) results closely and reports monthly NRW results to the Public Service Commission (PSC). The PSC categorizes NRW into two primary categories – Other Water Used and Water Loss. The "Other Water Used" category includes estimates for water used for system flushing and for fire fighting. The "Water Loss" category is further delineated into water lost from tank overflows, line breaks and other loss, which is comprised of leaks, theft of service, non-metered usage, and any other usage that may not otherwise be known. The PSC report highlights this "Other Loss" category with specific metrics, including Other Loss Percentage, which is the percentage of total water delivered into the system that was lost due to leaks, theft of service, non-metered usage, and any other usage that may not otherwise be known. KAW reported an Other Loss Percentage of 10% for 2009.

The PSC in its order on Case No. 2007-00134 required KAW to hire an external consultant to review its non-revenue water programs. KAW engaged Gannett Fleming (GF) to assist in an objective evaluation of KAW strategy and practices and to develop recommendations for cost effectively improving the results from KAW activities. The project encompassed six distinct tasks:

<u>Task Number One - Main Break Analysis and Leak Monitoring</u>

GF analyzed the existing main break database for the Central Division system to determine what correlations may exist between main breaks and location in the distribution system, including considerations of pressure, main age, main size and customer usage. GF also assessed KAW's existing leak monitoring methodology.

<u>Task Number Two - Sub-Meter Zones and Reduced Pressure Zones</u>

GF evaluated the distribution system to determine the practicality and economic feasibility of establishing sub-metered zones and/or reduced pressure zones in the Central Division.

<u>Task Number Three - Surge Analysis</u>

GF performed a preliminary evaluation to determine the degree to which pressure surges may contribute to main failures.

<u>Task Number Four - Large Meter Program</u>

GF evaluated the effectiveness of KAW's current methodology of specifying and testing large meters (i.e., 2 inches and larger).

<u>Task Number Five - Special Connection, Private Property Loss Analysis</u>

GF analyzed potential losses on private properties served by special connections and the feasibility of metering such connections.

<u>Task Number Six - Tracking Water Loss - AWWA Audit Methodology</u>

GF evaluated KAW's current water loss tracking methodology and controls.

KAW has begun implementing recommendations contained in the GF report and has reported progress monthly to the PSC as required in its order for Case No. 2007-00134.

In their report, GF references the water audit methodology developed by the International Water Association (IWA) and the American Water Works Association (AWWA), and points out that this methodology has been identified by AWWA Water Loss Control Committee as a world-best management practice in water loss control. GF also points out that the American Water Works Association Research Foundation (AWWARF) designated the IWA/AWWA Water Audit methodology as the current best practice.

The IWA/AWWA methodology defines a number of industry standard performance indicators, including Unavoidable Annual Real Losses (UARL) and Infrastructure Leakage Index (ILI). IWA/AWWA suggests ILI target ranges based on factors such as availability of water resources for development, and the cost of developing and treating water sources. The various target ranges are intended to address the economic balance of water treatment and infrastructure investment. KAW's ILI, calculated as a ratio of Real Losses to UARL, was reported as 2.51, within the IWA/AWWA's most stringent target range of 1.0 – 3.0.

10. Q. IS KAW PROPOSING ANY TARIFF CHANGES IN THIS CASE TO ASSIST IN THE EFFORT TO REDUCE NRW?

A. Yes. In conducting hydrant and fire service maintenance, KAW field personnel have noticed water usage at some fire services unrelated to fire fighting. This usage may be illegal usage, such as irrigation, or it may indicate a leak. KAW has proposed changes to two tariffs that will allow us to meter a fire protection line, if necessary, and charge a usage charge for all flows unrelated to fires.

Further, GF made specific recommendations related to Special Connections where the customer is responsible for maintaining a private water line from the KAW main to the metering point. Where the customer has fire service connected by a Special Connection, KAW is proposing to charge the cost of metering the connection to the customer if unauthorized usage does not cease after reasonable notice.

11. Q. WATER QUALITY CONTINUES TO BE A TOPIC OF MAJOR EMPHASIS WITH ONGOING REGULATIONS. WHAT EFFORTS HAS KAW MADE IN RECENT YEARS REGARDING WATER QUALITY?

A. KAW continues to evaluate treatment and distribution processes to stay ahead of regulatory requirements.

KAW has a long history of being an industry leader in water quality, and has been recognized in the Partnership for Safe Water initiative. The Partnership is a voluntary cooperative effort between the USEPA, AWWA and other drinking water organizations, encompassing more than 200 surface water utilities throughout the United States. The Partnership encourages water suppliers to continually improve their treatment plant performance, using enhanced monitoring and stringent contaminant targets to better assure the quality of water delivered to customers. KAW was honored in 2008 by the Partnership, with both KRS I and RRS plants earning the prestigious Ten-Year Directors Award for ongoing commitment to excellence in water quality, consumer safety and regulatory compliance. Those plants have continued to meet the Partnership requirements since the award. Only thirty three water treatment plants from across the country have earned that distinction, out of the 14,000 surface water treatment plants governed by USEPA regulations.

12. Q. ARE THERE NEW REGULATIONS THAT KAW IS REQUIRED TO MEET?

A. Yes. There are four new regulations that KAW is required to meet. The regulations are the Stage 2 Disinfection Byproduct Rule (“Stage 2 DBPs”), the Long-Term Enhanced Surface Water Treatment Rule (“LT2”), the Groundwater Rule and the Unregulated Contaminant Monitoring Rule 2 (“UCMR 2”). The new regulations require detailed evaluations of the treatment and distribution processes, and also require additional water sampling, analysis and reporting.

KAW has been completing analyses and evaluating processes to prepare for meeting the Stage 2 rule. Compliance with new Stage 2 DBP regulations for location running annual average requirements begin in 2012 for the central Kentucky system and in 2013 for the Owen County system. KAW anticipates that process modifications may be necessary in the central Kentucky system and is evaluating a change in the disinfection points at each facility and chemical feed improvements. KAW does not currently anticipate additional process changes will be required for compliance in the Owen County system.

KAW completed monitoring and reporting requirements for the first round of LT2 with no modifications required to meet this rule.

The Groundwater Rule is designed to reduce the risk of illness caused by microbial contamination in groundwater systems. KAW purchases treated groundwater from Gallatin County Water District and from Carroll County Water District to serve a small number of customers in northern Owen County. Beginning December 1, 2009, KAW is required to report detections of microbial contamination (e.g., total coliforms) in areas supplied by a groundwater system within 24-hours of a positive sample result. KAW is prepared to meet these reporting requirements should the need arise.

The UCMR 2 regulation increases the monitoring and reporting requirements associated with contaminants suspected to be present in drinking water, but that may not have health-based standards established under the SDWA. KAW has completed the initial phase of testing and reporting. KAW plans to include these results in the 2009 Consumer Confidence Reports to be published later this year.

13. Q. PLEASE EXPLAIN HOW YOUR FUEL & POWER AND CHEMICALS ARE DETERMINED FOR THE FORECASTED TEST-YEAR.

A. These expenses are directly related to how much water is forecast to be treated and delivered (i.e., system delivery). The volume of water sales is based on projections determined from the bill analysis for the forecasted test-year as adjusted for the weather normalization factor. System delivery volume is projected directly from this base of forecasted sales volume, adjusted for historical percentages of NRW. This forecasted system delivery is then used to calculate fuel and power expense for the forecasted test-year. This method matches the system delivery to the water sales developed for the forecasted test-year. Total system delivery for the forecast period is 14.635 billion gallons.

Once the production volume is established, an assessment is made of how much volume will be produced at each treatment plant over the course of the year. Anticipated fuel and power costs at each location are then calculated based on the projected power usage to meet the production volume and electric provider tariff pricing for that location. For existing facilities (e.g., KRS I, RRS, Owenton, etc.), the projected power demand and consumption (kwh consumed per million gallons produced) are based on historic usage. For the new water treatment plant (KRS II) and new booster station, the projected power consumption is based on engineering estimates. Kentucky Utilities and Owen Electric are the electric providers to KAW's treatment plants and booster stations. The total fuel and power expense for the forecast period is $4.38 million.

KAW expects to use 19 different chemicals in the water treatment process. Chemical expenses for the existing plants are projected based on the most recent five-year average consumption for each chemical (in pounds per million gallons treated), adjusted if warranted based on operating experience. Chemical consumption for the various chemicals used for the new plant (KRS II) is based on KRS I experience, assuming water quality and treatment characteristics will be similar as both draw water from the Kentucky River, albeit in different pools (Pool 9 for KRS I and Pool 3 for KRS II). The pounds per million gallons treated is then applied to the forecasted test-year production at each plant to determine the pounds of each chemical to be used in the forecasted test-year. The pounds of each chemical are then multiplied by the most current contract price (adjusted for expected price increases or decreases through the forecasted test-year) to determine the total chemical expense. Chemicals are purchased by KAW through a national competitive bidding process conducted by American Water's supply chain function. Prices on certain chemicals have fluctuated substantially the past two years. For example, the 2009 price for zinc ortho phosphate (ZOP), which KAW uses as a corrosion inhibitor, had risen from $0.273 in 2008 to $1.29 per pound in 2009, a four fold increase in annual costs for ZOP to approximately $600,000. Contract prices in 2010 for ZOP have retreated to $0.459 per pound. Contract pricing is in place through December 2010, and KAW has projected a decrease in overall chemical expenses (compared to 2009 actual expenses) based on those contracts. The chemical expense for the forecast period is approximately $1.8 million.

14. Q. DOES THE WATER TREATEMENT PROCESS GENERATE WASTE MATERIAL?

A. Yes**.** Source water always contains some amount of solid matter in very small suspended particles that must be removed during the treatment process. The process to remove that suspended matter varies across KAW treatment plants. For example, the RRS and KRS II processes use a coagulation and flocculation process, which helps the solid matter form particles large enough, and heavy enough, to settle out of the water. A chemical coagulant is rapidly mixed into the water to help bind the solid matter together. The water continues though chambers at slowing mix speeds into sedimentation processes that allow these larger particles to fall to the bottom of the chambers. A mechanical piping device is slowly dragged along the bottom of the chambers to extract this solid waste material. The waste is pumped to a separate holding tank where further settling occurs, and the wet sludge that results is run through a filter belt press to squeeze the water from the sludge, resulting in a dryer sludge material. At KRS I, the up-flow clarifiers serve a similar function, but the final waste product is dewatered in a series of dewatering lagoons as opposed to the use of the filter belt presses used at RRS and KRS II. KAW incurs costs in disposing of this residual material.

15. Q. PLEASE EXPLAIN HOW KAW'S WASTE DISPOSAL EXPENSE IS DETERMINED FOR THE FORECASTED TEST-YEAR.

A. Waste disposal costs are projected based on anticipated routine expenses to operate the waste treatment processes, typical source water conditions and periodic expenses related to sludge removal. KAW has mitigated typical disposal costs with its beneficial use permit-by-rule from the Division of Waste Management that allows the beneficial reuse of residuals on site at KRS I, KRS II and RRS. Waste disposal expenses are projected to be $340,226.

16. Q. HOW HAS THE PROCESS OF BENEFICIAL REUSE OF RESIDUALS ON SITE BENEFITED KAW?

A. Many water facilities around the country experience significant costs associated with transporting residuals and paying to dispose of the material in a permitted landfill. KAW has avoided the costs associated with trucking and landfilling by beneficially reusing these residuals on its property.

17. Q. PLEASE EXPLAIN HOW MAINTENACE EXPENSES ARE DETERMINED FOR THE FORECASTED TEST-YEAR.

A. Maintenance expense is projected based on historic trends and anticipated activity. These programs include items such as valve operation, hydrant inspections, hydrant flow testing, flushing dead end mains, maintenance of equipment at treatment plants, and maintenance of building and grounds. KAW projects maintenance related expenses to be $1.3 million for the forecast period.

18. Q. HYDRANT MAINTENANCE HAS BEEN A TOPIC IN PRIOR PROCEEDINGS. WHAT TYPE OF MAINTENANCE IS ASSOCIATED WITH FIRE HYDRANTS?

A. Generally, each fire hydrant is inspected annually with maintenance performed at that time. Hydrants are tested to ensure that each is operational and to confirm flow rates projected at each hydrant. A KAW technician opens the valve and flows water through the hydrant, as would a fire fighter. The technician visually inspects all parts, checks for leakage, and confirms that the control valve is fully open and operational. The technician also lubricates threads and moving parts and addresses any minor maintenance issue identified during the inspection. Any additional repair not addressed as part of the inspection is reported for follow up and resolution. Any vegetation growing around the hydrant is removed and the hydrant is cleaned. The results from the flow test (measured in gallons per minute) are then documented. KAW has been providing to Lexington Fayette Urban County Government results from these flow tests for those hydrants in the Fayette County.

19. Q. HYDRANT PAINTING HAS ALSO BEEN A TOPIC IN PRIOR PROCEEDINGS. PLEASE DESCRIBE THE RECENT HYDRANT PAINTING PROJECT.

A. KAW painted the hydrants in Lexington according to National Fire Protection Association Standard 291. The standard calls for hydrants to be color coded to correspond with the hydrant flow rating. The color coding is intended to aid a fire commander's decision-making process in determining how to best fight a particular fire based on how much water is available at each hydrant near the fire event. The hydrant painting project is being amortized over a five year period, ending May 31, 2014.

20. Q. HOW DOES KAW DETERMINE STAFF REQUIREMENTS?

A. There are several factors considered in determining staffing requirements, foremost being the amount of work that must be accomplished. KAW has continued to experience growth in the number of customers we serve and in facilities installed to serve them, even during the recent economic downturn. KAW assesses whether the work can be absorbed by existing staff through productivity or technology gains, or whether the work has evolved to the degree that requires additional resources. For example, KAW now uses mobile computers installed in field technician vehicles, enabling work to be dispatched electronically and in real time. Field technicians begin working immediately from their homes each day, rather than coming into an office to get their daily work, saving time. Various types of field service work orders and customer appointments are scheduled along the most efficient travel routes, resulting in technicians working more orders per day now than had been the case before mobile computing was in place. The real time capability enables emergency work to be prioritized and reduces rework by ensuring the technician has the most recent information available at the time an order is performed. KAW also assesses whether work might be most effectively performed by KAW staff or by contract vendors. Staff adjustments are made accordingly.

21. Q. DOES KAW PROPOSE ANY STAFF CHANGES FROM PRIOR CASES?

A. Yes. KAW staffing has changed as positions have been eliminated and/or added to address evolving work activities, and as a result of transfers between KAW and American Water Service Company (AWSC). The primary driver of staffing changes is the addition of positions to staff the new water treatment plant, with seven new positions associated with KRS II (one supervisor and six production technicians). Two AWSC employees have been transferred to KAW as their roles evolved to support KAW, with one KAW position moving to AWSC. KAW anticipates water related staffing requirements will be 152 employees through the end of the forecast period.

22. Q. WHAT HAS KAW DONE TO CONTROL COSTS OF OPERATIONS?

A. KAW routinely reviews expenses as a normal course of business, reviewing expenditures at least monthly, and more often as may be necessary, to ensure that the company is controlling expenses as planned. Technology often plays a role in enabling work to be completed in a more efficient fashion. Examples of technology that help mitigate costs include KAW's use of permalogs for leak monitoring and Automated Meter Reading (AMR) meters, both of which enable an individual to obtain electronic readings while driving by a location.

KAW has begun implementation of a new computerized maintenance management system (CMMS) to better manage distribution maintenance work orders. CMMS is expected to track any work needed on distribution assets, whether routine reactive activities such as repairing a main break, preventive activities like operating valves or customer initiated activities such as relocating a meter box. KAW expects CMMS to enhance efficiency by reducing duplicative field visits through better work tracking and aggregation of work on a given asset. KAW expects to expand the CMMS program to include production and booster facilities as well. Other efficiency improvement initiatives being considered include expanding the mobile computing capability to include more field operations functions and expanding AMR to replace certain direct read meters.

23. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	
	)	

DIRECT TESTIMONY OF PAUL R. HERBERT

February 26, 2010

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

RE: KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2010-00036

DIRECT TESTIMONY OF PAUL R. HERBERT

Line
No.

QUALIFICATIONS

1. Q. Please state your name and address.

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

2. Q. By whom are you employed?

A. I am employed by Gannett Fleming, Inc.

3. Q. What is 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.

4. Q. 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 Illinois Commerce Commission, the Tennessee Regulatory Authority, the California Public Utilities Commission, New Mexico Public Regulation Commission, the Delaware Public Service Commission, Arizona Corporate Commission and the Missouri Public Service Commission concerning revenue requirements, cost of service allocation, rate design and cash working capital claims.

A list of the cases in which I have testified is provided at the end of my direct testimony.

5. Q. What is your educational background?

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

6. Q. 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.

7. Q. Briefly describe your work experience.

A. I joined the Valuation Division of Gannett Fleming Corddry and Carpenter, Inc., predecessor to Gannett Fleming Valuation and Rate Consultants, 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 on November 1, 2003, I was promoted to Senior Vice President. On July 1, 2007, I was promoted to my current position as President of the Valuation and Rate Division of Gannett Fleming, Inc.

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.

COST OF SERVICE ALLOCATION

8. Q. What is the purpose of your testimony in this proceeding?

A. My testimony is in support of the cost of service allocation and rate design study conducted under my direction and supervision for the Kentucky-American Water Company, (the "Company").

9. Q. Have you prepared an exhibit presenting the results of your study?

A. Yes. Exhibit No. 36 presents the results of the allocation of the pro forma cost of service to the several customer classifications as of September 30, 2011, and the proposed rate design.

10. Q. Briefly describe the purpose of your cost allocation study.

A. The purpose of the study was to allocate the total cost of service, which is the total revenue requirement, to the several customer classifications. The cost of service includes operation and maintenance expenses, depreciation expense and amortizations, taxes other than income, income taxes and income available for return. In the study, the total costs were allocated to the residential, commercial, industrial, public authority, sales for resale, private fire protection and public fire protection classifications in accordance with generally-accepted principles and procedures. The cost of service allocation results in indications of the relative cost responsibilities of each class of customers. The allocated cost of service is one of several criteria appropriate for consideration in designing customer rates to produce the required revenues.

11. Q. Please describe the method of cost allocation that was used in your study.

A. The base-extra capacity method, as described in the 2000 and prior Water Rates Manuals (M1) published by the American Water Works Association (AWWA), was used to allocate the pro forma costs. The method 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 has been used by the Company in previous rate cases.

12. Q. Is the method described in Exhibit No. 36?

A. Yes. It is described on pages 3 and 4 of the exhibit.

13. Q. Please describe the procedure followed in the cost allocation study.

A. Each element of cost in the pro forma cost of service was allocated to cost functions and customer classifications through the use of appropriate allocation factors. This allocation is presented in Schedule B on pages 8 through 14 of Exhibit No. 36. The customer classifications include residential, commercial, industrial, public authority, sales for resale and private and public fire protection classifications. The items of cost, which include operation and maintenance expenses, depreciation and amortization expenses, 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 the exhibit.

The four basic cost functions are base, extra capacity, customer and fire protection costs. Base Costs are costs that tend to vary with the quantity of water used, plus costs associated with supplying, treating, pumping and distributing water to customers under average load conditions, without the elements necessary to meet peak demands. Base costs are allocated to customer classifications based on average daily usage.

Extra Capacity Costs are costs associated with meeting usage requirements in excess of average. They include the operating and capital costs for additional plant and system capacity beyond that required for average use. Extra capacity costs were subdivided into costs to meet maximum day extra capacity and maximum hour extra capacity requirements. Extra capacity costs are allocated to customer classifications based on estimated maximum day and hour demands in excess of average use for each classification.

Customer Costs are costs associated with serving customers regardless of their usage or demand characteristics. Customer costs are subdivided into customer facilities costs, which include meters and services, and customer accounting costs, which include billing and meter reading functions. Customer costs are allocated to classes based on the number and size of meters and the number of bills.

Fire Protection Costs are costs associated with providing the facilities to meet the potential peak demand of fire protection service as well as direct costs such as the cost for fire hydrants. The demand costs for fire protection are subdivided into costs for Private Fire Protection and Public Fire Protection on the basis of relative potential demands.

14. Q. Please provide examples of the cost allocation process.

A. I will use some of the larger cost items to illustrate the principles and considerations used in the cost allocation methodology. Water purchased for resale, purchased electric power, treatment chemicals and sludge handling costs are examples of costs that tend to vary with the amount of water consumed and are considered base costs. Thus, Factor 1 assigns these costs to customer classifications based on average daily usage.

Other source of supply, pumping, purification and transmission costs are associated with meeting usage requirements in excess of the average, generally to meet maximum day requirements. Costs of this nature are allocated 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 shown in Schedule C, pages 15 and 17, is based on the system peak day ratio and the potential demand of fire protection.

Costs associated with distribution mains and storage facilities are 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, on pages 19 through 22, of Exhibit No. 36. Fire demand costs are allocated to public and private fire protection service in proportion to the relative potential demands on the system by public fire hydrants as compared to the demands for private fire services and hydrants. The demand for private fire units is increased by a factor of 1.5 over the public fire units to recognize the greater flow rate required for a fire at a private service than for a public hydrant. This adjustment was accepted by the Commission in a previous case.

Costs associated with pumping facilities are allocated on a combined bases of maximum day, maximum day including fire and maximum hour extra capacity because pumping facilities serve these functions. The relative weightings of Factor 2 (maximum day), Factor 3 (maximum day with fire) and Factor 4 (maximum hour) for pumping facilities were based on the horsepower of the pumps serving these functions. The development of these weighted factors, referenced as Factor 6, is presented on page 23 of Exhibit No. 36.

Operation and maintenance costs for transmission and distribution mains are allocated on a combined basis of Factor 3 (maximum day with fire) for transmission mains and Factor 4 (maximum hour) for distribution mains. The weighting of the factors is based on the footage of mains and is referenced as Factor 7.

Costs associated with meters and services facilities are allocated to customer classifications based on meter and service equivalents using Factors 9 and 10. Billing and collecting costs and meter reading are assigned to customer classifications based on the number of bills using Factors 13 and 14. Uncollectible accounts are allocated based on net write-offs by class (Factor 20). Operating and capital costs associated with public fire hydrants were assigned directly to the public fire protection class (Factor 8).

Administrative and general costs are allocated on the basis of allocated direct costs excluding those costs such as purchased water, power and chemicals, which require little administrative and general expense. The development of factors for this allocation, referenced as Factor 15, is presented on page 31 of Exhibit No. 36. Factor 15A, used to allocate cash working capital, was based on the allocation of all operation and maintenance expenses.

Annual depreciation accruals are 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 is 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 pages 33 through 35 of Exhibit No. 36.

Factor 18, as well as Factors 15 and 15A discussed earlier, are composite allocation factors. Composite factors are generated internally in the cost allocation program based on the results of allocating other costs. Factors 11, 12, 16, 17 and 19 also are composite factors. Refer to Schedule C of Exhibit No. 36 for a description of the basis of each composite factor.

15. Q. What was the source of the total cost of service data set forth in column 3 of Schedule C of Exhibit No. 36?

A. The pro forma costs of service were furnished by the Company, and are set forth in Company Schedules B, D and E.

16. Q. Refer to Factors 2 and 3 and explain what factors were considered in estimating the maximum day extra capacity and maximum hour extra capacity demands used for the customer classifications.

A. The estimated demands were based on judgment which considered field studies of customer class demands conducted for the Company, field observations of the service areas of the Company, the class factors used in the last cost of service study, and generally-accepted customer class maximum day and maximum hour demand ratios.

17. Q. 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 on page 6 of Exhibit No. 36. The total allocated pro forma cost of service as of September 30, 2011, for each customer classification identified in column 1 is brought forward from Schedule B and shown in column 2. Column 3 presents each customer classification's cost responsibility as a percent of the total cost.

18 Q. 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 of revenue under existing rates can be made by comparing columns 3 and 5 of Schedule A of Exhibit No. 36. A similar comparison of the percentage cost responsibilities (relative cost of service) and the percentage of pro forma revenues (relative revenues) under proposed rates can be made by comparing columns 3 and 7 of Schedule A of Exhibit No. 36. The proposed increase and the percent increase by class are shown in columns 8 and 9, respectfully.

CUSTOMER RATE DESIGN

19. Q. Are you responsible for the design of the rate schedules proposed by the Company in this proceeding?

A. Yes, I am.

20. Q. Is the proposed rate structure presented in an exhibit?

A. Yes. A comparison of the present and proposed rate schedules is presented in Schedule G on page 41 of Exhibit No. 36.

21. Q. What are the appropriate factors to be considered in the design of the rate structure?

A. In preparing a rate structure, one should consider the allocated costs of service, the impact of radical changes from the present rate structure, the understandability and ease of application of the rate structure, community and social influences, and the value of service. General guidelines should be developed with management to determine the extent to which each of these criteria is to be incorporated in the rate structure to be designed, inasmuch as the pricing of a commodity or service ultimately should be a function of management.

22. Q. Did you discuss rate design guidelines with management?

A. Yes, I did. The guidelines established were: (1) maintain the existing rate structure applicable to all divisions that includes a service charge by meter size applicable to all classes of customers and a separate one-block volumetric charge for each classification, (2) increase public fire service class as indicated by the cost of service, and (3) adjust revenues among the remaining classes in conformity with or toward the indicated cost of service, without increasing any one class by more than 50%.

23. Q. Do the proposed rates comply with the guidelines enumerated in the answer to question 22?

A. Yes, they do.

24. Q. Do you support the concept of single-tariff pricing and to maintain the consolidation of the rate divisions achieved in prior cases?

A. Yes, I do.

25. Q. Please explain the development of the service charges.

A. The development of the service charges is set forth on Schedule F on page 40 of the Exhibit. Service charges should recover the cost of customer facilities such as meters and services and the cost of customer accounting including billing and collecting and meter reading costs.

Schedule F shows the cost of service for these cost functions in column 2. These amounts were taken from an analysis of customer costs generated within the cost allocation study. The costs associated with meters are divided by the total 5/8-inch meter equivalents and by 12 months to determine the monthly cost related to a 5/8-inch meter. The costs associated with services are divided by 3/4-inch service equivalents and by 12 months to determine the monthly cost related to a 3/4-inch service. Costs associated with billing and collecting, and meter reading are divided by the number of customers and metered customers, respectively, and by 12 months to determine the monthly cost per customer for these functions. The sum of the monthly costs for a 5/8-inch meter is $9.14 which was rounded up to $9.15 for the monthly 5/8-inch service charge. The rates for the larger-sized meters are determined by multiplying the meter capacity ratios times the $9.15 rate for the 5/8-inch meter, as shown at the bottom on the schedule. Meter capacity ratios also were used to determine the larger-sized service charges under the existing rate structure.

26. Q. How were the volumetric rates determined?

A. After the proposed service charges were applied to the bill analysis, the existing volumetric rates for each classification were increased so that revenues from each class moved toward the indicated cost of service and that total revenues equaled the proposed revenue requirement.

27. Q. Does that conclude your direct testimony?

A. Yes, it does.

LIST OF CASES IN WHICH PAUL R. HERBERT 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
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

LIST OF CASES IN WHICH PAUL R. HERBERT TESTIFIED

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
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 SW-01303A-08-227	Arizona American Water Co. - Water - Wastewater	Cost Allocation and Rate Design
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
72.	2008	Ky PSC	2008-00427	Kentucky American Water Company	Cost Allocation and Rate Design
73.	2009	PaPUC	2008-2079660	UGI – Penn Natural Gas	Cost of Service Allocation
74.	2009	PaPUC	2008-2079675	UGI – Central Penn Gas	Cost of Service Allocation
75.	2009	PaPUC	2009-2097323	Pennsylvania American Water Co.	Cost Allocation and Rate Design
76.	2009	Ia St Util Bd	RPU-09-	Iowa-American Water Company	Cost Allocation and Rate Design
77.	2009	Il CC	09-0329	Illinois-American Water Company	Cost Allocation and Rate Design
78.	2009	Oh PUC	09-391-WS-AIR	Ohio-American Water Company	Cost Allocation and Rate Design
79.	2009	PaPUC	R-2009-2132019	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
80.	S009	Va St Corp Com	PUC-00059	Aqua Virginia, Inc.	Cost Allocation (only)
81.	2009	Mo PSC	WR-2010-0131	Missouri American Water Company	Cost Allocation and Rate Design

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES ON AND AFTER MARCH 28, 2010	))))	**CASE NO. 2010-00036**

DIRECT TESTIMONY OF MICHAEL A. MILER

February 26, 2010

KENTUCKY AMERICAN WATER COMPANY
CASE NO. 2010-00036
DIRECT TESTIMONY
<u>MICHAEL A. MILLER</u>

1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael A. Miller, 1600 Pennsylvania Avenue, Charleston, West Virginia.

2. Q. BY WHOM ARE YOU EMPLOYED AND WHAT POSITION DO YOU HOLD WITH KENTUCKY AMERICAN WATER?

A. I am employed by American Water Works Service Company as the Director of Rates, assigned to the Eastern Region, and in that role I am also the Assistant Treasurer of Kentucky American Water Company ("KAWC" or "Company").

3. Q. PLEASE DESCRIBE YOUR PROFESSIONAL EDUCATION AND EXPERIENCE.

A. My resume is attached to this testimony in Appendix A.

4. Q. WHAT ARE YOUR RESPONSIBILITIES AS ASSISTANT TREASURER?

A. I am responsible for the rates and revenue functions for the Company, including the filing of rate cases and other matters before the Commission. I also assist in the preparation and review of financial statements, financing plans, budget preparation, and cash management functions. I perform the same duties for West Virginia American, Virginia American and Tennessee American.

5. Q. HAVE YOU TESTIFIED BEFORE IN REGULATORY PROCEEDINGS?

A. Yes. I have testified previously on numerous occasions before the utility regulatory agencies in West Virginia, Tennessee, Virginia and the Kentucky Public Service Commission.

6. Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I will address (i) drivers of the need to increase rates of KAWC, (ii) capital structure and the overall cost of capital that includes the return on equity (ROE), which will be addressed by Dr. Vander Weide, (iii) American Water Works Service Company ("AWWSC") costs, (vi) allowance for working capital, (vi) pension expense, (viii) other post employment benefit ("OPEB") costs, (ix) income taxes, and (x) cost allocations.

GENERAL

7. Q. WHAT FACTORS ARE DRIVING THE NEED TO INCREASE RATES AT THIS TIME?

A. The Company's ability to attract capital at reasonable rates is a critical factor in meeting its public service obligation. The Company must replace and construct facilities necessary to meet water quality regulations and maintain its service capabilities, maintain its facilities to maximize their useful life, and provide the employees necessary to carry out those public service obligations. Rates should be set to provide revenue to the utility to cover all prudently incurred operating and capital costs, including the opportunity to achieve a fair and reasonable return on the investment by the stockholders. It is essential that the Company's rates be set at levels to cover its cost of service if it is to continue to maintain service levels, meet its public service obligations and attract capital at reasonable rates.

The Company's last rate increase was effective June 1, 2009. The rates approved in this filing are not likely to become effective prior to September 28, a period of sixteen months between rate increases. During that time KAWC has continued to make significant investments in utility plant, including commencement of the major construction project related to the new Kentucky River Station II treatment plant ("KRS II") and transmission main. As can be seen on Exhibit MAM-1 attached to this testimony, the Company's achieved ROE has been under the level authorized by the Commission for 2008 and 2009. Without rate relief, the achieved ROE for 2010 is currently forecasted to be 5.41%, and in 2011 (the first full year after rates from this case will be effective), achieved ROE is expected to be 1.12%. The Company does not believe that a 5.41% or 1.12% ROE is sufficient to attract the capital necessary to carry out its public service obligations, particularly given the extensive capital invested to complete the KRS II Project. The only reasonable alternative is to seek an increase in rates at this time.

8. Q. WHAT ARE THE COMPONENTS OF THE COST OF SERVICE DRIVING THE INCREASE IN RATES?

A. I have provided Exhibit MAM-2 which addresses the rate increase amount by the major categories of the cost of service that have increased over the levels currently authorized by the Commission: i) Rate Base, ii) Operating Expenses, and iii) Cost of Capital. While the Company's 2008 rate case ended in a settlement to overall revenue requirement, the Company used its judgment to determine the cost of service elements embedded in current rates. As indicated on Exhibit MAM-2, (in both text and graphically), rate base has increased by $61.343 million since the Company's last rate case. However, the Company's 2008 rate case included $102.8 million of CWIP of which only $20.2 million was afforded full rate base treatment instead of the non-cash AFUDC treatment for rate making purposes. In fact, through September 2011, the end of the forecasted test-year in this case, the Company will have invested over $100 million in utility plant improvements since June 1, 2009, the effective date of the rates approved in case number 2008-00427.

This significant investment level includes the full investment for the KRS II Project that will be in service in the third quarter of 2010. Increased rate base accounts for 69% of the rate increase requested in this case. In fact, as shown on Exhibit MAM-2 the cost of service elements strictly related to the KRS II Project account for a rate increase (on a stand-alone basis) of $23.579 million or approximately 91% of the total rate increase requested in this proceeding.

Operations and Maintenance expense has increased by $5.113 million from the level currently authorized by the Commission. O&M expenses represent 20% of the increased rates requested in this case and is primarily driven by: i) labor and benefit costs at both the Company and AWWSC, ii) increased production costs, iii) increased uncollectible expense driven by the historical charge-off ratio applied to the rate increase amount requested in this case, and iv) increases in several categories of Miscellaneous Expense. The O&M expense levels will be fully addressed in the testimony of several Company witnesses. The cost of energy and petroleum products has had a major impact on the O&M expenses of the Company. Power costs included in this filing have increased $875,000 or 25.0% over the level currently recovered in rates primarily related to fuel adjustment increases from the electric providers. The increase in power costs has been substantially offset by favorable chemical contract prices.

Changes in the cost of capital and capital structure represent 11% of the requested revenue increase in this case. This area of the case will be covered by Dr. Vander Weide and later in this testimony.

While the Company did include customer growth through the forecasted test-year, those customer growth rates have declined from past years and are not expected to return to prior levels through the end of the forecasted test-year in this case based on current economic conditions. I have allocated the impact on this case from the decline in water sales to the Rate Base and O&M Expense categories as shown on Exhibit MAM-2.

In his testimony, Dr. Edward Spitznagel will address the weather normalization factors used by the Company in arriving at present rate revenues for this filing. After applying the weather normalization factors recommended by Dr. Spitznagel, the forecasted test-year usage per customer for residential and commercial customers reflects a decline in usage per customer from the level currently approved in rates. This trend is a continuation of the trends seen in past KAWC rate cases and across the country as a result of low flow plumbing devices and smaller family sizes. Moreover, the Company believes the customer communication information used by the Company to stress the importance of water and the value of conservation of water use is impacting this trend.

COST OF SERVICE STUDY

9. Q. DID THE COMPANY PREPARE A COST OF SERVICE STUDY FOR THIS CASE?

A. Yes. The Company contracted with the firm of Gannett/Fleming to provide the cost of service study. The cost of service study is covered in the testimony of Paul Herbert filed in this case.

10. Q. WHAT WERE THE RESULTS OF THE STUDY?

A. The Commission approved a “single,” company-wide water tariff for KAWC in the 2007 rate case. In that case, the Company recommended there be movement in all customer classifications towards the cost of service. The Company’s approach to move all classes towards the cost of service on a gradual basis was included in the Settlement Agreement for case number 2008-00427, which was approved by the Commission. As described in more detail in Mr. Herbert's testimony, the Company is continuing to recommend movement towards cost of service. The overall increases recommended by customer classification in this case are: residential – 37.1%, commercial – 42.8%, industrial – 49.3%, public authority – 46.5%, sale for resale – 49.0%, private fire – 44.0%, and public fire – 31.8%. This approach, if approved, will have commercial, public authority, sale for resale, private fire, and public fire at the cost of service recommendation, and will continue to move residential, and industrial towards the cost of service.

<u>CAPITAL STRUCTURE & OVERALL COST OF CAPITAL</u>

11. Q. WHAT CAPITAL STRUCTURE DID THE COMPANY USE IN CALCULATING THE COST OF SERVICE (REVENUE REQUIREMENT) IN THIS CASE?

A. The Company used the capital structure for the thirteen month average of the forecasted test-year ending September 30, 2011. The capital structure proposed by the Company is attached to this testimony as Exhibit MAM-3 and is also included in the filing documents on schedules J-1 thru J-4 of Exhibit 37. Exhibit MAM-3 indicates the thirteen month average capital structure on which the Company based its cost of service and revenue requirement in this case. The proposed capital structure is comprised of 2.315% Short-term debt, 52.060%

Long-term Debt (54.375% Total Debt), 1.652% preferred stock, and 43.973% Common Equity.

12. Q. IS THE CAPITAL STRUCTURE PROPOSED BY THE COMPANY IN LINE WITH THE CAPITAL STRUCTURES HISTORICALLY APPROVED BY THE COMMISSION FOR SETTING THE COMPANY'S RATES?

A. Yes. The Company has historically maintained its debt capital in the 53-57% range and its common equity ratio between 40-45%. The Company believes this mix of debt and equity in the capital structure is in line with rating agency expectations and in line with capital structures previously approved by the Commission. The Company believes a capital structure of 56.027% debt and preferred stock, and 43.973% common equity provides a capital structure that enables the Company to attract capital at reasonable costs and balances both the stockholder requirements and the rates paid by the customers as determined in the ratemaking process.

13. Q. IN WHAT MANNER DOES THE COMPANY CURRENTLY OBTAIN ITS LONG-TERM AND SHORT-TERM DEBT?

A. The Company utilizes the services of American Water Capital Corp. ("AWCC") to place its long-term ("LT") and short-term ("ST") debt requirements. AWCC is an American Water Company affiliate and was created to consolidate the financing activities of the operating subsidiaries, to effect economies of scale on debt issuance and legal costs, to attract lower debt interest rates through larger debt issues in the public/private market, and to use more cost effective means of obtaining ST debt (to bridge the gap between permanent debt financings) than the historical bank lines of credit previously used. The Company believes the use of AWCC has permitted the Company to attract capital at lower interest rates and resulted in lower issuance and transaction costs by utilizing the combined size and resources of the entire American Water System.

14. Q. HAS THE COMMISSION APPROVED THE COMPANY OBTAINING ITS DEBT THROUGH AWCC?

A. Yes. By Order entered July 21, 2000 in Case No. 2000-189, the Commission authorized the Company to enter into a Financial Services Agreement with AWCC to issue debt securities in the form of notes or debentures periodically for the purpose of placing debt issues to replace ST debt or refinance maturities of existing debt. The Commission reaffirmed in case 2006-00418 the Company's use of AWCC for the placement of the Company debt. In its order in case number 2009-00156, the Commission again authorized the Company's continued use of AWCC to place its LT and ST Debt. As discussed below, the Company is confident the benefits of utilizing AWCC will remain just as strong in the future.

15. Q. HAS THE COMPANY BEEN PLEASED WITH THE RESULTS OF ITS RELATIONSHIP WITH AWCC THUS FAR?

A. Yes. The Company and its customers have benefited from the interest savings resulting from pooling the capital requirements of the American Water subsidiaries. On March 31, 2008, the Company filed with the Commission a "Statement of Best Practices" as required by Condition No. 19 in case number 2002-00317. That filing demonstrated the benefits derived from the affiliations with AWCC for the three LT Debt issues placed since 2001. Attached is Exhibit MAM-4 (updated for the benefits of issuing LT Debt by AWCC through 2009) that recaps the identified benefits regarding the use of AWCC since 2001. The customers have realized cumulative savings of $650,000 through 2008 related to these three taxable debt issues.

16. Q. WHAT WAS THE IMPACT OR SAVINGS GENERATED THROUGH THE LONG-TERM DEBT ISSUED IN 2009?

A. In 2009, the Company pursued maximizing the use of tax-exempt debt to fund its KRS II source of supply and treatment capacity solution. The Company was able to obtain State Cap Allocations necessary to issue $45.390 million of tax-exempt debt in June 2009 and $26.0 million of tax exempt debt in September 2009. As shown on Exhibit MAM-4, in 2009 KAWC was able to generate an additional annual interest savings of $720,731 over what the annual interest rate for taxable BBB-rated utility bonds issued at about the same time frames would have been. The 2009 LT Debt financing activities increased the cumulative benefit of using AWCC to $1.429 million for 2002-2009.

17. Q. WHAT FACTORS REQUIRE THE COMPANY TO SEEK ADDITIONAL

CAPITAL?

A. The Company has documented in past rate cases and in this filing that capital improvements to meet the new and changing regulations in the water industry, replace aged treatment and distribution facilities, and provide quality, reliable water service to its customers have driven and will continue to drive the need for new capital. The additional capital required by the Company has been and will continue to be significant through 2010 due to the KRS II Project. In addition, the Company will be required to replace maturing debt series over the coming years. The Company has included two additional LT debt financings for 2010 to replace short-term debt. It is important that the Company maintain a strong financial position to continue to attract this capital at the lowest possible price and to provide service improvements at the least possible cost to its customers.

18. Q. WHY IS THE LEVEL OF SHORT-TERM DEBT INCLUDED IN THE COMPANY'S FILING APPROPRIATE FOR SETTING RATES IN THIS CASE?

A. The Company uses ST debt to finance capital improvements. This type of financing is used to bridge the gap between permanent financings. This permits the Company to time permanent financings in a cost-effective manner and to take advantage of the optimum permanent debt market conditions as they occur. The Company believes the capital structure used to set rates should reflect the capital components that will be in place to finance the rate base on which rates will be set in this case. The Company has based the level of ST debt used in its proposed capital structure in this case on the thirteen month average capital structure for the forecasted test-year ending September 2011. That level of ST debt is reflective of the level that will be utilized to fund the construction and other cash peaking requirements during the forecasted test-year

19. Q. WHAT PERMANENT DEBT FINANCINGS ARE INCLUDED IN THIS FILING AND DESCRIBE THOSE PROPOSED FINANCINGS AND THE INTEREST RATES EXPECTED?

A. The Company's proposed capital structure includes $26.0 million of new LT debt to be placed in June 2010, and $25.0 million of new LT debt to be placed in November 2010. The Company expects to apply for State Cap Allocation required to issue tax-exempt LT Debt of $26.0 million in the near future and is hopeful that application will be approved. The Company has used a tax-exempt rate of 5.625% for this debt, which is the same rate received on the tax exempt debt received by the Company on its $26.0 million in September 2009. The Company used an expected taxable interest rate of 6.663% for the $25.0 million LT Debt financing scheduled for November 2010.

20. Q. PLEASE EXPLAIN WHY YOU USED A 30-YEAR TERM AND HOW DID YOU ARRIVE AT THE INTEREST RATE OF 6.663%?

A. The Company continually monitors the market spreads for 10-year and 30-year Utility and Corporate Bond rates in comparison with the Treasury Bonds on which permanent debt rates are bid. Attached to this testimony as Exhibit

MAM-5 is a schedule that provides a range of interest rate calculations based on the most recent one, two and four quarter spreads between both “A” and “BBB” rated Utility bonds and 30-year Treasury Bonds, and 10-year A-rated Corporate Bonds to 10-year Treasury Bonds as published by Value Line. Based on the latest information available to the Company, the spreads for 30-Year BBB-rated utility bonds to 30-year T-bonds are very close to the spreads for 10-year Corporate Bonds to 10-year T-bonds. At this time the Company believes it will issue 30 year bonds given the market conditions. I believe the estimate of an interest rate on those issues of 6.663% for 30-year, BBB-rated utility bonds is reasonable based on the information contained in Exhibit MAM-5. Given the volatility and uncertainty of the current bond markets, the Company will continue to monitor available information concerning 2010 interest rates as this case progresses and will update the interest projections once more current forecasted data is available.

21. Q. HOW WAS THE COST RATE FOR SHORT-TERM DEBT DETERMINED?

A. The Company reviewed market forecasts to determine a cost rate for ST debt that will likely be in place during the forecasted rate year. Exhibit MAM-6 indicates that the average ST debt interest rate for the six months ended November 2009 created an average spread over the fed fund rates of 38.47 basis points. That average spread was then applied to the forecasted fed funds rate for 2011 per the Value Line Publication of November 27, 2009. This produced a ST interest rate of 2.0847%, which was used by the Company in its proposed capital structure.

The Company will continue to monitor ST debt rates as the case progresses and will update the ST interest rates as more up to date forecast information becomes available.

22. Q. HOW WAS THE WEIGHTED COST OF LONG-TERM DEBT AND PREFERRED STOCK DETERMINED?

A. The face value of each issue was reduced by the unamortized issuance cost and the result was divided by the interest or dividends to arrive at the effective interest rate that will include recovery of the amortization of the issuance costs. This result was then multiplied by the percentage of each issue to the total capital to arrive at the weighted cost for each series. The weighted cost for each series of LT Debt and Preferred Stock was totaled to arrive at the overall weighted cost of LT Debt and Preferred Stock.

23. Q. HAS THE COMMISSION PREVIOUSLY ADDRESSED THE METHOD BY WHICH THE WEIGHTED COST OF LONG-TERM DEBT AND PREFERRED STOCK IS DETERMINED?

A. Yes. The method used to determine the weighted cost of LT Debt and Preferred Stock was an issue in the Company's case number 2000-00120. The Commission Order indicates the methodology described in the previous answer (and used historically by the Commission) for setting rates of the Company was appropriate and was approved. This Company has continued to utilize this method in subsequent rate filings.

24. Q. WHAT IS THE OVERALL COST OF CAPITAL REQUESTED IN THIS CASE?

A. The overall weighted cost of capital being requested is 8.58%. . The Company is requesting the ROE be set at 11.5%, which is within the range of ROE recommended in the testimony of Dr. Vander Weide.

<u>AMERICAN WATER WORKS SERVICE COMPANY COSTS</u>

25. Q. DESCRIBE THE AMERICAN WATER WORKS SERVICE COMPANY COSTS INCLUDED IN THE COMPANY'S FILING.

A. The Company has included in its forecasted test-year American Water Works Service Company ("AWWSC") costs as determined from the Business Plan. The Company is requesting AWWSC costs of $9.028 million in its filing. I will address the increase in AWWSC costs and offsets that have occurred between fully loaded Company labor and AWWSC costs later in this testimony.

26. Q. HAS AWW UNDERGONE REORGANIZATIONS AND REALIGNMENTS OVER THE LAST SEVERAL YEARS THAT IMPACT THE COMPANY?

A. American Water Works ("AWW") has undertaken reorganizations or realignments in several areas since 2002, including the move to the National Call Center and the Shared Services Center. These two change processes were discussed at length by the Company in Case No. 2004-00103. As described in the

Company's 2004 rate case, AWW consolidated the seven regional offices into four regional offices located in Chula Vista, CA; St. Louis, MO; Hershey, PA; and Haddon Heights, NJ. The Company became part of the SE Region of AWW in early 2004, and changes continued to occur into 2005 and early 2006 to align the operations at the Company and the SE Region Office. The Company, as would any responsible company, continues to modify alignments of the subsidiaries and functions as conditions change to provide the best possible service in the most cost effective manner. In 2007, the SE Region and NE regions of AWW were realigned into the Eastern Region under the leadership of Walter Lynch. Until January 1, 2009 the President of Kentucky American reported to the Senior VP of the Eastern Region. In January 2009, the Eastern Division (as opposed to Region) was created, at which time the former SE Region Companies in KY, WV, TN VA, and MD were combined with the AWW subsidiaries in NY, IN, OH and MI into the new Eastern Division reporting structure. Nick Rowe was promoted to Senior Vice-President of Operations for the Eastern Division, which is headquartered in Lexington, Kentucky.

27. Q. WHAT BENFITS TO THE CUSTOMERS OF THE COMPANY HAVE BEEN ACHIEVED FROM THE REALIGNMENT OF THE REGIONAL OFFICES?

A. These initiatives were and continue to be undertaken to operate as efficiently and cost effectively as possible, while at the same time providing enhanced service to our customers. We believe these realignments have and will continue to permit service improvements through standardization of processes, increased efficiencies, and improvements to the service provided to the customers of the Company. Later is this testimony I will discuss the overall financial benefits that have resulted from the various reorganizations and flow to the benefit of the customers of the Company in this case.

28. Q. THE COMPANY'S CUSTOMER SERVICE AND BILLING FUNCTIONS WERE MOVED TO ALTON, ILLINOIS, AS PART OF AWWSC'S CONSOLIDATED CUSTOMER CALL CENTER IN OCTOBER 2003. PLEASE DESCRIBE THIS MOVE AND ITS BENEFITS.

A. The Company and the other AWW operating companies strive to provide customer service that is highly responsive, provides maximum customer service options, maximizes customer satisfaction, and at the same time generates cost savings wherever possible.

AWW and the Company have as one of its primary goals to be a water industry leader in the service provided to its customers. At the same time, we hope to provide that service at the lowest reasonable cost. The Customer Call Center has helped us meet both of these important goals.

The Customer Call Center provides full customer service on a twenty-four hour, seven days a week basis. There are also enhancements for automated call answering, automated payment options, communications with field operations, and bill editing processes through significant improvements in the various technologies employed. The individual operating companies could not provide this enhanced service on a cost-effective basis. The Customer Call Center has increased the availability of full service to the customers on an around-the-clock basis and provides the additional services that our customers demand in today's environment.

29. Q. HAVE THERE BEEN OTHER CHANGES IN THE NATIONAL CALL CENTER?

A. Yes. In 2006 AWWSC added a second national call center in Pensacola, Florida. The second call center was installed to provide redundancy to the critical customer service functions if a natural disaster or other emergency should occur. The additional cost of the second call center had little impact on the cost to the customers due to the additional customer base added by the integration of the Elizabethtown Water Company that was eventually merged into New Jersey American Water.

30. Q. DOES THIS MEAN THAT THE COMPANY HAS NO LOCAL PRESENCE FOR CUSTOMER SERVICE?

A. No. The Company continues to maintain its Corporate Office in Lexington, which in addition now houses the Eastern Division headquarters. There remains a small clerical staff dedicated to KAWC to coordinate billing and collections for the entities for which we perform those functions. We continue to provide customer contact as required; resolve customer issues, whether relayed from Alton or that come directly to the Lexington office, and respond to Commission inquiries. In addition, the field personnel continue to be available to address the needs of our customers. The local payment locations remain unchanged.

31. Q. THE COMPANY MOVED ITS TRANSACTIONAL ACCOUNTING FUNCTIONS TO THE NATIONAL SHARED SERVICES CENTER LOCATED IN MARLTON, NEW JERSEY, EFFECTIVE JANUARY 2002. PLEASE DESCRIBE THIS MOVE AND ITS BENEFITS.

A. As described in case number 2004-00103, AWW and the Company determined it could improve its transactional accounting functions, take advantage of economies of scale where possible, and improve the uniformity of its software applications at the various operating subsidiaries though the use of a Shared Services Center to perform these functions. AWW determined there were economies of scale savings and operational efficiencies to be derived from providing transactional accounting functions on a national level and decided to move these functions to a Shared Services Center. Prior to this transition, the accounting, budgets, and finance functions were being performed by Kentucky American Water employees and the Regional Service Company located in Charleston, WV.

32. Q. DID THE COMPANY DEMONSTRATE THE FINANCIAL SAVINGS FROM THE REORGANIZATION INITIATIVES MENTIONED ABOVE

IN THE 2004 RATE CASE?

A. Yes. The financial savings were demonstrated in the 2004 rate case as shown on Exhibit MAM-5 attached to my Direct Testimony in that case. The savings from the move to the SE Region office in Hershey, PA, the move to the National Customer Call Center and the Shared Service Center resulted in savings of $232,268, which were passed to the customers of the Company in the 2004 rate case.

33. Q. YOU MENTIONED EARLIER THAT THE NEWLY CREATED EASTERN DIVISION OFFICE IS NOW HEADQUARTERED IN LEXINGTON, KENTUCKY. WOULD YOU GENERALLY DESCRIBE THIS CHANGE IN THE AWWSC REPORTING STRUCTURE?

A. Yes. Prior to this realignment Kentucky-American reported to the SE Region, which included finance, budgeting, engineering, human resources ("HR"), water quality, legal, risk management, field resources coordination, and rate support from offices located in Hershey, PA, Wilkes Barre, PA, and Charleston, WV. The recent movement of the Eastern Division headquarters to Lexington moved the leadership of those functions to the Lexington office, or in some cases placed that AWWSC support at the regulated subsidiary level. The Eastern Division office in Lexington now includes the Divisional Senior VP, the Divisional VP-Finance, the Divisional Director Communications, the Divisional Director of HR, the Divisional Director Customer Relations (who works for the Eastern Division Field Resources Coordination Center or "FRCC") and the Divisional Director

Legal Affairs along with their administrative support staff. This transition also included the creation of the FRCC in Lexington. The FRCC has 33 employees who perform the work previously performed at the Wilkes Barre, PA, and St. Louis, MO FRCC's. The Eastern Division FRCC is responsible for scheduling customer service orders, dispatching and the closing of the service orders in the CIS system for each of the nine states included in the Eastern Division, including KAWC.

34. Q. YOU INDICATED EARLIER YOU WOULD DISCUSS THE INCREASE IN SERVICE COMPANY COSTS REQUESTED IN THIS CASE. WOULD YOU PLEASE ADDRESS THAT?

A. As discussed above, there have been a number of reorganization and realignment initiatives by the Company since 2002, and there have also been the acquisitions of the Elk Lake, Tri-Village and Owenton systems. Because of the significant changes brought on by these activities, it is easy to lose focus on what has driven the costs. To determine the overall impact of the reorganizations that have occurred, I believe we must start with a base period prior to the reorganizations, realignments and acquisitions. We should then bring those costs forward to the forecasted test year in this case and compare those costs to the expense levels in this case to determine the impact and savings resulting from the reorganization, realignment activities. I have performed this analysis as shown on the schedules attached to this testimony and identified as Exhibit MAM-7.

35. Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT MAM-7.

A. Exhibit MAM-7 consists of three pages and the purpose of the Exhibit is to capture the effect of the reorganizations and realignments of AWW, AWWSC and the impact on KAWC operations and costs. I believe the schedules clearly demonstrate there has been an offsetting shift between fully loaded KAWC labor and AWWSC costs. The schedule in column 16 demonstrates that savings from the reorganizations at AWWSC and related changes in processes have resulted in $632,490 of savings over the inflated 2001 combined costs at KAWC prior to the realignments described above.

To properly determine the benefits of the shift in Full Time Equivalents ("FTES") between KAWC and AWWSC costs, the analysis must compare fully loaded costs at KAWC to AWWSC costs because, as described in the "1989 Service Company Agreement" between KAWC and AWWSC, AWWSC costs include labor and all overheads. I started my analysis with the level of fully loaded labor costs included in KAWC case 2000-00120, because that period reflects the costs KAWC experienced prior to the reorganizations and realignments mentioned earlier in this testimony. The costs for KAWC's fully loaded labor costs plus AWWSC costs from case number 2000-00120 are shown on page one of Exhibit MAM-7, page 1 of 3, under the column identified as (1). Column 2 shows adjustments for the labor and benefits at 2001 costs per employee for the 6 employees hired by KAWC in the acquisitions of Elk Lake and Tri-Village.

Column 3 establishes the 2001 base period costs prior to any reorganizations or realignments.

To determine a reasonable expectation of what the total of fully loaded KAWC labor costs plus AWWSC costs would be for the forecasted test-year ended September 2011 if no reorganizations or realignments had occurred, I determined actual cost increase ratios for KAWC in each of the categories of expense. The inflation factors for KAWC labor are shown next to the Labor line on page 1 and reflect the average wage increases granted to salary positions and increases for union employees per the union contracts from 2001 to 2011. The inflation factor for AWWSC costs was determined by using a salary increase ratio of 4% and a calculated increase ratio for benefit costs that are embedded in the AWWSC costs. The calculations of the cost adjustment factors for KAWC and AWWSC group insurance, pensions, payroll taxes and 401(k) are shown on page 2 of Exhibit MAM-7. Exhibit MAM-7 used an inflation factor of 2.5% for the other category of AWWSC costs.

The next step in my analysis was to inflate (or deflate as the case may be) the costs shown on page 1, column (3) for each year through the end of the forecasted test-year in this case for the cost increase ratios applicable to each category of fully loaded KAWC labor costs and AWWSC costs. The result of this analysis produces $19,528,256 for the combination of KAWC fully loaded labor costs plus AWWSC costs as shown in column (14) on page 1 of the Exhibit.

In column (15) I show the various categories of expenses that KAWC included in the forecasted test-year of this filing. Those expenses total $21,673,873. As shown on Exhibit MAM-7, page 1, there are reductions of KAWC fully loaded labor costs of $4.883 million to offset the increase in AWWSC costs.

36. Q. ARE THERE ELEMENTS OF COSTS EMBEDDED IN THE SHIFT OF KAWC COSTS TO AWWSC COSTS THAT HAVE NOT BEEN CONSIDERED AT THIS POINT IN THE ANALYSIS?

A. Yes. I identified four other areas of cost shifts that are not captured by inflating the costs approved in case number 2000-00120. Those four areas and the cost savings or shifts are identified in the following table:

1.	In 2003 the National Procurement function was established at the Shared Services Center and the savings from that function have been annually reported to the Commission in compliance with Condition No. 19 in case number 2002-00317. Those savings are also set forth at Exhibit MAM-7, page 3 of 3.	$ 294,192
2.	Since 2001 Kentucky American has increased its customer base by 17,784. The analysis on Exhibit MAM-7 does not capture add'l employees that would have been added if KAWC continued to provide customer service and billing locally.	$ 298,423

3.	AWWSC capitalized several software programs that are billed through AWWSC as interest and depreciation expense. Those costs would have been captured as capital costs if KAWC had paid for them locally, and, thus, are not accounted for in the analysis.	$1,535,472
4.	Savings resulting from the use of AWCC for cash management and financing activities through 2008. (See Exhibit MAM-4).	$650,000
	Total offsetting adjustments in shift to AWWSC costs	$2,778,107

When the four adjustments included in the table above are considered, the net savings to KAWC and its customers embedded in this case equal $632,490 as shown on Exhibit MAM-7, column 16, page 1 of 3.

37. Q. WHAT CONCLUSION DO YOU REACH FROM THE INFORMATION PROVIDED ON EXHIBIT MAM-7?

A. I believe that the information demonstrates that there has been a savings of at least $632,490 from the reorganizations and realignments of AWW and KAWC and the change in processes associated with those reorganizations and realignments. It is important to note that not only is the Company providing service at a cost lower than it was providing when those services were provided locally, but the level of service has been improved significantly as well. KAWC through AWWSC has access to highly qualified professionals in many areas critical to providing quality water service, including expertise in areas such as: (i) water quality professionals through a nationally recognized central laboratory facility,

(ii) engineering design and construction, (ii) accounting and finance, (iv) income taxes, (v) legal, (vi) employee benefits administration, (vii) procurement through national contracts, (viii) uniform ITS hardware, software and programming support, (ix) operation expertise, (x) access to low cost capital, (xi) regulatory expertise, and many other important functions.

KAWC obtains access to this expertise though the “1989 Service Company Agreement,” which provides that KAWC receives those services by direct charges on an as needed basis, or through allocations of costs from the customer based formulas applicable to each type of function provided on an AWW system-wide or regional basis. I do not believe KAWC could obtain the same level of expertise available through AWWSC cost effectively at the local level. Such services as regulatory and rate cases, highly specialized water quality testing, national procurement, cash management and permanent financings, taxes, engineering, and employee benefits administration require specific expertise. KAWC currently has access to that expertise on an allocated basis. To duplicate those services and expertise locally, KAWC would likely have to obtain employees that had expertise in more than one of those functions to equal the FTE’S obtained through AWWSC. That is not practical because employees with expertise and training in multiple disciplines are not common and likely not available at all.

KAWC could not cost effectively duplicate the level of service provided by the Call Center. As demonstrated in case number 2004-00103, KAWC obtained the services from the Call Center for a cost less than KAWC was able to provide when those services were performed locally. In addition, the Call Center is available to customers on a 24/7, 365 days per year basis. When major service problems or natural disasters occur, there is a much larger base of employees available at the Call Center to deal with those emergencies. KAWC was not equipped to handle those types of issues and call volumes with the staffing locally prior to moving to the Call Center. When KAWC provided customer service and billing locally, the office was open from 8:00 AM to 4:30 PM Monday through Friday only and calls were accepted from 8:00 AM to 8:30 PM Monday through Friday only. Customer calls outside the normal working hours were forwarded to an independent call service and service was limited to emergencies only.

In addition, as explained in the testimony and study provided by Pat Baryenbruch filed in this case, KAWC could not obtain these services provided by AWWSC from third party providers at a lower cost.

RATE BASE

38. Q. HOW DID THE COMPANY DETERMINE THE ALLOWANCE FOR WORKING CAPITAL USED IN ITS RATE BASE REQUESTED IN THIS CASE?

A. The Company prepared a lead/lag study based on revenue and expense information for the twelve months ending November 2009. The Company's calculation of working capital is included in the Company's application as Schedule B-5. The base year and forecasted test year working capital are summarized on Schedule B-5, pages 1 and 2.

39. Q. WHAT LEVEL OF WORKING CAPITAL DID THE COMPANY USE FOR THE FORECASTED TEST-YEAR ENDED SEPTEMBER 2011?

A. The Company is requesting an allowance for working capital of $2,634,000. The detailed calculation of the allowance for working capital for the forecasted test-year is included in the Company's application as Exhibit 37, Schedule B-5.2, pages 4-6.

PENSIONS

40. Q. WOULD YOU DESCRIBE THE COMPANY'S PENSIONS EXPENSE INCLUDED IN THE RATE FILING?

A. Yes. The Kentucky Commission has historically regulated the Company's pension expense under the accrual or FAS 87 basis. The Company has included the forecasted pension expense for the forecasted test-year using the FAS 87 expense. The Company included FAS 87 pension expense for the forecasted test-year of $1,267,732. The pre-capitalized FAS 87 pension expense was obtained from forecasts prepared by AWW's actuary, Towers Perrin, for the years 2010 and 2011. The Company adjusted the Towers Perrin forecasted number to reflect the percentage charged to O&M expense at 82.66%.

The defined pension benefit plan just described applies to all non-union employees hired prior to January 1, 2006 and union employees hired prior to January 1, 2001. For those employees not eligible for the defined benefit plan, AWW has established a defined contribution plan. The defined contribution pension plan costs are shown in account 508101.16. Those costs are determined at 5.25% of qualifying employee's salaries and wages.

<u>OTHER POST EMPLOYMENT BENFITS</u>

41. Q. WOULD YOU DESCRIBE THE COMPANY'S OTHER POST EMPLOYMENT BENEFITS EXPENSE INCLUDED IN THE RATE FILING?

A. Yes. The Kentucky Commission has historically regulated the Company's OPEB expense under the accrual or FAS 106 basis. The Company has included the OPEB expense for the forecasted test year using the FAS 106 expense. The Company included FAS 106 OPEB expense for the forecasted test-year of $910,407. The pre-capitalized FAS 106 OPEB expense was obtained from forecasts prepared by AWW's actuary, Towers Perrin, for the years 2010 and 2011. The Company adjusted the Towers Perrin forecasted numbers to reflect the percentage charged to O&M expense at 82.66%.

The defined OPEB benefit plan just described applies to all employees hired prior to January 1, 2006. For those employees not eligible for the defined benefit plan, AWW and KAWC have established a defined contribution plan. The defined contribution OPEB plan costs are shown in account 508102.16. Those costs are determined at $500 per eligible employee per year.

INCOME TAXES

42. Q. PLEASE EXPLAIN THE COMPANY'S FORECASTED LEVEL OF INCOME TAXES?

A. The Company's filing is based on a calculation of current federal and state income taxes at the statutory income tax rates of 35% and 6%, respectively. The 6% state income tax rate was effective January 1, 2007. The Company has forecasted a level of income taxes for the forecasted test year in the amount of $1,110,888 at present rates. The current provision for federal and state income taxes of $(902,408) and $(164,573) is shown on pages 1 of 2 of Schedules E-1.3 and E-1.4 to Exhibit 37. Deferred federal and state income taxes of $1,859,367 and $318,502 are shown on page 2 of 2 of schedules E-1.3 and E-1.4 of Exhibit 37.

To arrive at the total current provision, forecasted expenses were deducted from operating revenues to arrive at income before income taxes. This was done for both the federal and state tax calculations. From this number statutory add backs and deductions were made to arrive at the taxable income. These statutory adjustments are shown on pages 1 of 2 of Schedule E-1.3 and E-1.4 of Exhibit 37 and are labeled as reconciling items.

43. Q. IS THE CALCULATION OF DEFERRED INCOME TAXES THE SAME METHOD USED IN THE COMPANY'S LAST RATE CASE?

A. Yes. The company has continued to use SFAS 109 in recording deferred income taxes and that method has been recognized for rate recovery in prior Company rate cases.

44. Q. HOW DID THE COMPANY CALCULATE THE DEFERRED TAX LIABILITY THAT IS SHOWN ON EXHIBIT 37, SCHEDULE B-6, PAGE 2 OF 2 THAT IS A RATE BASE DEDUCTION?

A. The deferred tax liabilities for Deferred Debits, and Deferred Maintenance are calculated by applying the statutory federal and state income tax rates to the 13-month average balance included in rate base. This represents the proper method of calculating the deferred tax liability using SFAS 109.

The amount shown on Exhibit 37, Schedule B-6, page 2 of 2 for Deferred Taxes related to Utility Plant in Service entails analyzing and determining the net change in a number of balance sheet accounts both for book and tax basis. This analysis includes UPIS, accumulated depreciation reserve, regulatory assets and regulatory liabilities, and Customer Advances and CIAC's.

SFAS 109 is a balance sheet approach to deferred income taxes that requires the deferred income tax provision be shown in total, but also recognizes the regulatory assets and liabilities that will be recovered in rates in future years.

45. Q. HOW DID THE COMPANY ADJUST THE PER BOOKS DEFERRED TAX EXPENSE TO DETERMINE THE FORECASTED TEST-YEAR EXPENSE?

A. Beginning with the deferred tax expense at November 2009, adjustments were made to reflect calculations of deferred taxes associated with UPIS through the end of the forecasted test period. This was done for both book and tax basis accounts and incorporated all temporary timing differences through the forecasted test-year. The statutory tax rates were applied to these changes between book and tax basis property to calculate each individual month's deferred tax expense or benefit.

COST ALLOCATIONS

46. Q. NOW THAT SINGLE TARIFF PRICING HAS BEEN AUTHORIZED BY THE COMMISSION, WOULD YOU PLEASE EXPLAIN THE

REASONING FOR DISTRIBUTING COSTS AMONG KAWC'S REGULATED AND NON-REGULATED BUSINESSES?

A. Certainly. The adoption of Single Tariff Pricing ("STP") has eliminated a considerable level of work historically required of KAWC to prepare water tariff rate cases. In past cases KAWC was required to allocate a number of corporate costs to sewer operations, non-regulated operations, and among the various divisions of water operations. Those allocations have been greatly simplified now to only allocate costs applicable to sewer operations and non-regulated activities. Those entities to which the cost allocations in this case have been applied include:

- Rockwell Village Sewer – regulated and operating in Clark County under a separate tariff, which is included in the Company's general tariffs.
- City of Owenton Sewer – regulated and operating in Owen County under a separate tariff, which is included in the Company's general tariffs.
- Bluegrass Station Division Operation and Maintenance Contract – non-regulated.

KAWC's corporate business units, for which expenses are allocated, include Administration & General (includes Customer Accounting), Information Systems, Legal, Human Resources, Loss Control, Communications and Government Relations. Other corporate services including finance, audit, regulatory, laboratory, customer relations and various administrative services are provided by

AWWSC and, as such, are included in the AWWSC costs included in this filing. Costs assigned to the above KAWC business units and AWWSC costs are some of the common costs of KAWC. In most cases, these costs are either not specifically identifiable with a particular business unit or are of joint benefit to two or more business units.

47. Q. HOW WERE THESE COSTS ALLOCATED?

A. Where applicable, corporate costs for the forecasted test year were distributed among the various business units within KAWC on the basis of the average number of customers within each business unit to the total average number of customers of all business units during the forecasted test year. This method of allocation is easily understandable and reasonable. A similar methodology is used by AWWSC to allocate its costs to the individual operating units that it serves, including KAWC. However, certain costs were not allocated to all business units.

Each cost or cost group to be allocated was analyzed and assigned to prevent, to the extent practicable, redundancy or overlap. As mentioned earlier, KAWC accounts for expenses using a series of business units. These business units are incorporated in the General Ledger account number. Most expenses are directly charged to these business units and generally need no further allocation. It is largely the KAWC Corporate business unit costs that are allocated.

The first step taken in preparing the allocation schedule was to conduct a review of Company employees and select for allocation those employees whose efforts benefit more than just the customers of the regulated water operations of KAWC.

Those employees selected for allocation include:

- Peggy Slone – Executive Assistant to the President
- John-Mark Hack – Manager of Governmental & Regulatory Affairs
- Mary Money – Manager of Finance
- Rachel Cole – Supervisor /Business Processes
- David Shehee – Supervisor Water Quality
- Shana Carr – Lab Analyst
- Production Manager
- Kenny Roney – Specialist Water Quality/Cross Connections
- Mary Ellen Pugh – Administrative Assistant
- Pamela Buehler – Specialist Human Resources
- Donna Braxton - Manager Human Resources
- Michael Shryock – Sr. Specialist, IT
- Keith Cartier – VP Operations
- Paula Squires – Administrative Assistant
- Manager of External Affairs

Along with the labor forecasted to be charged to operations and maintenance by each of these employees, the cost of office space, and employee benefit payroll overheads were allocated.

Next, other operations and maintenance expenses were analyzed and those that benefit more than the water tariff customers were selected for allocation. These expenses include: customer accounting expenses, including postage, forms, and collection expenses; AWWSC costs; and other operations and maintenance expenses, including company dues and memberships, employee travel, telephone expense, software licensing, training, insurance other than group, customer education expense, and other miscellaneous and general expenses. A detailed list of the expenses allocated can be found on attached Exhibit MAM-8.

48. Q. PLEASE EXPLAIN THE DESIGN OF THE SPREADSHEET THAT IS EXHIBIT MAM-8?

A. This schedule is designed to allocate a series of forecasted test year common expense totals among the individual business units within KAWC that derive a benefit from those expenses. These expense totals are contained in the column headed "Test Year Amount." These expenses are allocated among the appropriate business units. For example, Bluegrass Station Division does not derive a benefit from the Customer Service Center. We provide only operations and maintenance services for the water, wastewater and storm water systems at Bluegrass Station Division. Bluegrass Station Division personnel handle all customer relationships within the development. Accordingly, these expenses are allocated to the water operations and sewer operations that derive a direct benefit from the Customer Service Center. An example of an expense that is allocated to all business units within KAWC is the payroll expense and related cost of Supervisor Business Process Rachel Cole, who is involved in accounting and finance activities for all business units.

49. Q. AS A RESULT OF YOUR ANALYSIS REDARDING COST ALLOCATONS, HOW MUCH OF THE TOTAL COMMON COSTS WERE ALLOCATED TO EACH BUSINESS UNIT WITHIN KENTUCKY AMERICAN WATER?

A. The results are included on Exhibit MAM-8. Total costs allocated were $14,889,755 These costs have been allocated to the various business units within KAWC as follows:

- Water operations - $14,799,214 or 99.4%
- Bluegrass Station Division - $1,783
- Owenton Sewer - $77,595 or .5%
- Rock Lake Village Sewer - $11,160 or .1%

<u>OTHER TARIFF ISSUES</u>

50. Q. OTHER THAN A CHANGE TO METERED TARIFFS, WHAT NEW TARIFFS OR ADJUSTMENT TO TARIFFS IS THE COMPANY

PROPOSING?

A. The Company is proposing revisions to its tap fee tariff that are addressed by Ms. Bridwell. It is also proposing revisions to its fire service tariff that are addressed by Mr. Cartier.

51. Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Kentucky American Water
Analysis of Earnings History

Exhibit MAM-1

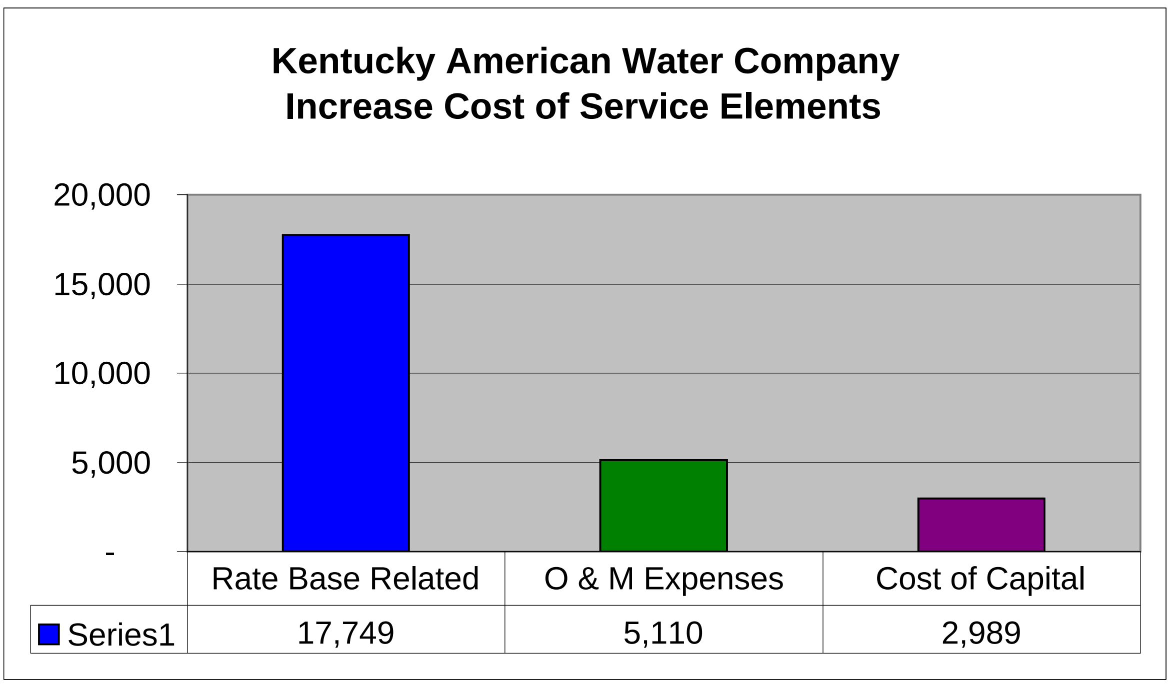
(In Thousands)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Forcasted 2010	Forcasted 2011
Net Income Available for Common Stock	5,119	6,473	5,488	4,528	(893)	5,133	3,271	5,679	8,930	10,536	8,363	1,830
Common Equity	59,320	60,997	61,768	62,904	60,271	63,706	72,972	74,484	93,482	128,444	154,722	162,680
ROE Achieved	8.63%	10.61%	8.88%	7.20%	-1.48%	8.06%	4.48%	7.62%	9.55%	8.20%	5.41%	1.12%
Authorized ROE by KY PSC	11.00%	11.00%	11.00%	11.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
% of Auth. ROE Achieved	78.45%	96.47%	80.77%	65.44%	-14.82%	80.57%	44.83%	76.24%	95.53%	82.03%	54.05%	11.25%

Note: Forecast for 2010/2011 does not include projection of current rate case result.

Kentucky-American Water Company
Increase In Cost of Service Elements From Current Rates

Exhbit MAM-2

Rate Base and Related Items (in million dollars):					Increase Related to KRS II
Increase in rate base of $61.343 million	$	13.343		$	18.001
Property taxes on add'l rate base	$	1.433		$	1.337
Depreciation expense on add'l rate bas	$	2.973		$	3.884
Total increase attibutable to rate base and related items	$	17.749	69% of total increase	$	23.222
O & M Expense	$	5.110	20% of total increase	$	0.357
Increase in cost of capital	$	2.989	11% of total increase	$	-
TOTAL INCREASE	$	25.848		$	23.579



Increase %	69%	20%	11%	100%

KENTUCKY-AMERICAN WATER COMPANY
CASE NO: 2010-00036
COST OF CAPITAL SUMMARY AT CURRENT AND PROPOSED RATES
13 MONTH AVERAGE

Exhibit MAM-3

DATA: ___ BASE PERIOD _X_ FORECASTED PERIOD
DATE OF CAPITAL STRUCTURE: AVERAGE FOR FORECASTED PERIOD
TYPE OF FILING: _X_ ORIGINAL __ UPDATED __ REVISED
WORKPAPER REFERENCE NO(S).: W/P-7

SCHEDULE J-1.1/J-1.2
PAGE 1 of 1
Witness Responsible: M.A. Miller

Line No.	Class of Capital		13 Month Average Amount	% of Total	Add (1)	Adjusted Capital	Cost Rate	Average Weighted Cost
1								
2	Short-Term Debt		$8,319,538	2.315%	$ 20,031	$8,339,569	2.085%	0.05%
3								
4	Long-Term Debt		187,073,668	52.060%	450,463	187,524,131	6.410%	3.34%
5								
6	Preferred Stock		5,935,810	1.652%	14,294	5,950,104	7.750%	0.13%
7								
8	Common Equity		158,013,385	43.973%	380,488	158,393,873	11.500%	5.06%
9								
10	Total Capital		$359,342,402	100.000%	$ 865,276	$360,207,678		8.58%
11								
12								
13								
14								
15								
16	(1) JDITC:	$ 865,276						
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KENTUCKY-AMERICAN WATER COMPANY
CONSTS/SAVINGS INFORMATION THRU US OF AWCC
SAVINGS ON THE COST OF LONG-TERM DEBT

Exhibit MAM-4

Debt Security	Date Issued	Interest Rate	Amount Issued	Term of the Loan	Basis Point Savings	Annual Interest Savings	Avoided Issuance Costs	Avoided Annual Issuance Costs	Net Annual Savings	Cumulative Saving	
2002	06/12/2002	5.65%	$24,000,000	5 Years	20	$48,000	$177,000	$35,400	$83,400		**Note 1**
CumulativeTotal Savings - 2002						$48,000		$35,400	$83,400	$83,400	
2003											
CumulativeTotal Savings - 2003						$48,000		$35,400	$83,400	$166,800	
2004	3/1/2004	4.75%	$14,000,000	10 Years	20	$28,000	$105,000	$10,500	$38,500		**Note 1**
CumulativeTotal Savings - 2004						$76,000		$45,900	$121,900	$288,700	
2005											
CumulativeTotal Savings - 2005						$76,000		$45,900	$121,900	$410,600	
2006											
CumulativeTotal Savings - 2006						$76,000		$45,900	$121,900	$532,500	
2007	10/15/2007	6.59%	$47,000,000	30 Years	10	$47,000	$352,500	$11,750	$58,750		**Note 1**
CumulativeTotal Savings - 2007						$47,000		$11,750	$58,750	$591,250	
2008											
CumulativeTotal Savings - 2008						$47,000		$11,750	$58,750	$650,000	
2009	6/23/2009	6.25%	$45,390,000	30 Years (Tax Exempt)	129	$585,531		$0	$585,531		**Note 2**
2009	9/10/2009	5.63%	$26,000,000	30 Years (Tax Exempt)	52	$135,200		$0	$135,200		**Note 3**
CumulativeTotal Savings - 2009						$767,731		$11,750	$779,481	$1,429,481	

Note 1: The $47.0 million LT Debt Notes issued on October 15, 2007 included the refinancing of the $24.0 & $14.0 AWCC notes issued in 2004 and 2002, respectively. Any savings associated with the $24.0 & $14.0 million refinanced Notes are now embedded in the 2007 LT Debt Note.

Note 2: The BBB rated (taxable) utility bond rate per the Value Line of June 26, 2009 (as of June 17,2009), about the time of the bond issuance, is quoted as 7.54%. The Company was able to issue the tax exempt bonds at 119 basis points savings over the taxable bond rates.

Note 3: The BBB rated (taxable) utility bondrate per Value Line of Sept. 1, 2009 (as of Sept. 2, 2009), about the time of the bond issuance, is quoted as 6.14%. The Company was able to issue the tax exempt bonds at a 52 basis point saving over the taxable bond rates.

Kentucky-American Water Company
Analysis of Interest Rates

Value Line Publication Date	As of Market Date	"A" Rated Utility Bonds	30-year Treasury Bonds	Spread	"BBB Rated Utility Bonds	30-year Treasury Bonds	Spread	10-year Corporate Bonds	10-year Treasury Bonds	Spread	13-Week Treasury Bills	Federal Reserve Rate
1/16/2009	1/7/2009	6.070%	3.040%	3.030%	6.720%	3.040%	3.680%	7.560%	2.490%	5.070%	0.090%	0.250%
1/23/2009	1/14/2009	5.880%	2.890%	2.990%	6.600%	2.890%	3.710%	7.150%	2.200%	4.950%	0.090%	0.250%
1/30/2009	1/21/2009	6.030%	3.160%	2.870%	6.660%	3.160%	3.500%	7.970%	2.540%	5.430%	0.110%	0.250%
2/6/2009	1/28/2009	6.100%	3.420%	2.680%	7.040%	3.420%	3.620%	7.960%	2.670%	5.290%	0.180%	0.250%
2/13/2009	2/4/2009	6.000%	3.680%	2.320%	7.270%	3.680%	3.590%	8.030%	2.940%	5.090%	0.290%	0.250%
2/20/2009	2/11/2009	5.600%	3.440%	2.160%	7.000%	3.440%	3.560%	8.090%	2.750%	5.340%	0.290%	0.250%
2/27/2008	2/18/2008	5.740%	3.550%	2.190%	7.070%	3.550%	3.520%	8.330%	2.760%	5.570%	0.300%	0.250%
3/6/2009	2/25/2009	5.950%	3.590%	2.360%	7.120%	3.590%	3.530%	8.780%	2.930%	5.850%	0.300%	0.250%
3/13/2009	3/4/2009	5.930%	3.670%	2.260%	7.160%	3.670%	3.490%	8.500%	2.970%	5.530%	0.250%	0.250%
3/20/2009	3/11/2009	6.050%	3.660%	2.390%	7.500%	3.660%	3.840%	7.380%	2.910%	4.470%	0.220%	0.250%
3/27/2009	3/18/2009	5.900%	3.530%	2.370%	7.510%	3.530%	3.980%	7.520%	2.530%	4.990%	0.200%	0.250%
4/3/2009	3/25/2009	6.280%	3.740%	2.540%	7.710%	3.740%	3.970%	7.510%	2.780%	4.730%	0.180%	0.250%
4/10/2009	4/1/2009	5.990%	3.500%	2.490%	7.410%	3.500%	3.910%	7.490%	2.650%	4.840%	0.200%	0.250%
Quarterly Average		5.963%	3.452%	2.512%	7.136%	3.452%	3.685%	7.867%	2.702%	5.165%	0.208%	0.250%
4/17/2009	4/8/2009	6.200%	3.670%	2.530%	7.630%	3.670%	3.960%	7.850%	2.860%	4.990%	0.180%	0.250%
4/24/2009	4/15/2009	6.170%	3.660%	2.510%	7.590%	3.660%	3.930%	7.610%	2.760%	4.850%	0.140%	0.250%
5/1/2009	4/22/2009	6.190%	3.800%	2.390%	7.410%	3.800%	3.610%	7.710%	2.940%	4.770%	0.130%	0.250%
5/8/2009	4/29/2009	6.330%	4.030%	2.300%	7.580%	4.030%	3.550%	7.840%	3.110%	4.730%	0.090%	0.250%
5/15/2009	5/6/2009	6.100%	4.100%	2.000%	7.540%	4.100%	3.440%	7.190%	3.160%	4.030%	0.180%	0.250%
5/22/2009	5/13/2009	6.010%	4.100%	1.910%	7.570%	4.100%	3.470%	6.940%	3.120%	3.820%	0.170%	0.250%
5/29/2009	5/20/2009	6.010%	4.140%	1.870%	7.590%	4.140%	3.450%	6.660%	3.190%	3.470%	0.170%	0.250%
6/5/2009	5/27/2009	6.410%	4.630%	1.780%	8.010%	4.630%	3.380%	7.000%	3.740%	3.260%	0.160%	0.250%
6/12/2009	6/3/2009	6.170%	4.450%	1.720%	7.830%	4.450%	3.380%	6.820%	3.540%	3.280%	0.120%	0.250%
6/19/2009	6/10/2009	6.280%	4.760%	1.520%	7.760%	4.760%	3.000%	6.820%	3.950%	2.870%	0.017%	0.250%
6/26/2009	6/17/2009	5.950%	4.510%	1.440%	7.540%	4.510%	3.030%	6.700%	3.690%	3.010%	0.160%	0.250%
7/3/2009	6/24/2009	5.890%	4.430%	1.460%	7.300%	4.430%	2.870%	6.750%	3.690%	3.060%	0.180%	0.250%
7/10/2009	6/30/2009	5.790%	4.330%	1.460%	6.880%	4.330%	2.550%	6.870%	3.530%	3.340%	0.180%	0.250%
Quarterly Average		6.115%	4.201%	1.915%	7.556%	4.201%	3.355%	7.135%	3.329%	3.806%	0.144%	0.250%
7/17/2009	7/8/2009	5.710%	4.190%	1.520%	6.850%	4.190%	2.660%	6.530%	3.310%	3.220%	0.180%	0.250%
7/24/2009	7/15/2009	5.970%	4.490%	1.480%	7.190%	4.490%	2.700%	6.620%	3.600%	3.020%	0.180%	0.250%
7/31/2009	7/22/2009	5.810%	4.450%	1.360%	6.970%	4.450%	2.520%	6.580%	3.540%	3.040%	0.180%	0.250%
8/7/2009	7/29/2009	5.790%	4.510%	1.280%	7.140%	4.510%	2.630%	6.950%	3.660%	3.290%	0.180%	0.250%
8/14/2009	8/5/2009	5.700%	4.550%	1.150%	6.700%	4.550%	2.150%	6.850%	3.750%	3.100%	0.180%	0.250%
8/21/2009	8/12/2009	5.790%	4.540%	1.250%	6.620%	4.550%	2.070%	6.450%	3.720%	2.730%	0.170%	0.250%
8/28/2009	8/19/2009	5.640%	4.290%	1.350%	6.230%	4.290%	1.940%	6.230%	3.450%	2.780%	0.160%	0.250%
9/4/2009	8/26/2009	5.530%	4.200%	1.330%	6.170%	4.200%	1.970%	6.130%	3.430%	2.700%	0.150%	0.250%
9/11/2009	9/2/2009	5.450%	4.120%	1.330%	6.140%	4.120%	2.020%	5.790%	3.310%	2.480%	0.130%	0.250%
9/18/2009	9/9/2009	5.650%	4.330%	1.320%	6.400%	4.330%	2.070%	6.040%	3.470%	2.570%	0.140%	0.250%
9/25/2009	9/16/2009	5.590%	4.260%	1.330%	6.210%	4.260%	1.950%	5.740%	3.470%	2.270%	0.100%	0.250%
10/2/2009	9/23/2009	5.580%	4.200%	1.380%	6.140%	4.200%	1.940%	5.680%	3.420%	2.260%	0.090%	0.250%
10/9/2009	9/30/2009	5.400%	4.050%	1.350%	5.730%	4.050%	1.680%	5.610%	3.310%	2.300%	0.100%	0.250%
Quarterly Average		5.662%	4.322%	1.341%	6.499%	4.322%	2.177%	6.246%	3.495%	2.751%	0.149%	0.250%

10/16/2009	10/7/2009	5.440%	4.000%	1.440%	5.950%	4.000%	1.950%	5.460%	3.180%	2.280%	0.060%	0.250%
10/23/2009	10/14/2009	5.650%	4.260%	1.390%	6.220%	4.260%	1.960%	5.450%	3.410%	2.040%	0.070%	0.250%
10/30/2009	10/21/2009	5.530%	4.210%	1.320%	6.160%	4.210%	1.950%	5.480%	3.390%	2.090%	0.060%	0.250%
11/6/2009	10/21/2009	5.530%	4.260%	1.270%	6.200%	4.260%	1.940%	5.450%	3.420%	2.030%	0.060%	0.250%
11/13/2009	11/4/2009	5.710%	4.400%	1.310%	6.390%	4.400%	1.990%	5.350%	3.520%	1.830%	0.040%	0.250%
11/20/2009	11/10/2009	5.640%	4.410%	1.230%	6.320%	4.410%	1.910%	5.260%	3.470%	1.790%	0.060%	0.250%
11/27/2009	11/18/2009	5.510%	4.300%	1.210%	6.240%	4.300%	1.940%	5.210%	3.360%	1.850%	0.020%	0.250%
12/4/2009	11/24/2009	5.520%	4.250%	1.270%	6.220%	4.250%	1.970%	5.190%	3.300%	1.890%	0.030%	0.250%
12/11/2009	12/2/2009	5.580%	4.250%	1.330%	6.250%	4.250%	2.000%	5.260%	3.310%	1.950%	0.040%	0.250%
12/18/2009	12/2/2009	5.710%	4.420%	1.290%	6.320%	4.420%	1.900%	5.340%	3.430%	1.910%	0.020%	0.250%
12/25/2008	12/16/2009	5.740%	4.520%	1.220%	6.450%	4.520%	1.930%	5.320%	3.600%	1.720%	0.030%	0.250%
Quarterly Average		5.596%	4.298%	1.298%	6.247%	4.298%	1.949%	5.343%	3.399%	1.944%	0.045%	0.250%
Latest 4 Quarter Average		5.834%	4.068%	1.766%	6.860%	4.068%	2.792%	6.648%	3.231%	3.416%	0.136%	0.250%
Latest 2 Quarter Average		5.629%	4.310%	1.319%	6.373%	4.310%	2.063%	5.794%	3.447%	2.347%	0.097%	0.250%
Latest 1 Quarter Average		5.596%	4.298%	1.298%	6.247%	4.298%	1.949%	5.343%	3.399%	1.944%	0.045%	0.250%

2010 Forecast of Interest Rates:

Note: Value Line Publication of 11-27-2009

	Forecasted 30-year, BBB rated VAWC Bond	Value Line 30-yr. T-bond forecast for Nov-10	Avg. Spread
Based on Latest 4 Quarter Avg. Spread	7.392%	4.600%	2.792%
Based on Latest 2 Quarter Avg. Spread	6.663%	4.600%	2.063%
Based on Latest 1 Quarter Avg. Spread	6.549%	4.600%	1.949%

Kentucky - American Water Company
Analysis of Short-term Interest Rates **Exhibit MAM-6**
Six Months ended November 2009

Month	Avg. ST Int. Rate Paid by KAWC	Avg. Fed Funds Rate	Spread
June	0.8020%	0.2500%	0.5520%
July	0.6727%	0.2000%	0.4727%
August	0.5341%	0.1500%	0.3841%
September	0.4634%	0.1000%	0.3634%
October	0.3922%	0.1000%	0.2922%
November	0.3437%	0.1000%	0.2437%

Average Spread	0.3847%
Value Line Forecast for 2011 Fed Funds Rate Publication Date - 11-27-2009	1.7000%
ST Interest Rate Forecast Used in case	2.0847%

Kentucky American Water
Labor & AWWSC Costs Analysis That Demonstrates the Shift From
Fully Loaded Company Labor to AWWSC Costs

Exhibit MAM-7
Page 1 of 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Labor Cost As Approved in KAWC Case No. 2000-00120 Attrition Yr. 11/30/2001 plus actual 2001 overhead costs & AWWSC	Add emp. cost for 6 emp. EL, TV	2001 Base Cost	2002 Labor Cost Inflated	2003 Labor Cost Inflated	2004 Labor Cost Inflated	Add emp. cost for 8 emp. Owenton	2005 Labor Cost Inflated	2006 Labor Cost Inflated	2007 Labor Cost Inflated	2008 Labor Cost Inflated	2009 Labor Cost Inflated	2010 Labor Cost Inflated	Attrition Yr. Sept. 2011 Labor Cost Inflated	Current Case Attrition Year Request by Company	Net Savings Variance Column 15 to Column 14
				Note 2			Note 3		Note 4	Note 5	Note 6		Note 7			
KAWC Costs:																
Labor (Avg. Pay Incr.3.5% 02-03, 4% for 04-09, 2.5% 2010	6,004,634	250,193	6,254,827	6,514,837	6,742,856	7,012,571	473,103	7,766,176	8,284,074	8,743,248	9,790,017	10,181,618	10,698,333	11,126,266	8,039,623	(3,086,643)
Group Insurance	1,303,786	54,324	1,358,110	1,559,146	1,857,663	2,000,138	134,939	2,215,083	2,206,524	2,114,466	2,203,038	2,801,836	3,064,019	3,212,683	2,313,543	(899,140)
Pensions	356,713	14,863	371,576	451,264	940,976	915,419	61,759	1,013,794	946,558	683,844	770,879	1,689,407	1,547,747	1,479,518	1,237,732	(241,786)
Payroll Taxes	443,276	18,470	461,746	468,378	504,644	495,797	33,449	549,078	568,161	802,710	1,214,353	1,198,006	1,308,893	1,386,674	762,065	(624,609)
401(K) & Defined Contribution Plan beg. In 2006	85,232	3,551	88,783	98,733	96,842	92,530	6,243	106,960	159,096	171,354	241,811	269,120	300,814	323,201	292,789	(30,412)
Fully Loaded Labor Cost	8,193,641	341,402	8,535,043	9,092,359	10,142,982	10,516,454	709,493	11,651,091	12,164,412	12,515,622	14,220,098	16,139,988	16,919,805	17,528,342	12,645,752	(4,882,590)
AWWSC costs:																
Labor	871,980		871,980	906,859	943,134	980,859		1,020,093	1,060,897	1,103,333	1,147,466	1,193,365	1,241,099	1,290,743	5,148,284	3,857,541
Pensions	0		0	18,708	26,145	12,067		31,407	99,903	114,649	107,575	181,162	138,623	138,372	505,028	366,656
OPEB's	35,671		35,671	23,368	29,563	19,268		18,837	20,501	12,533	15,669	20,304	15,143	15,494	117,085	101,591
Group Insurance	63,053		63,053	69,949	75,854	78,193		85,382	85,358	84,465	83,742	80,707	77,705	102,285	841,216	738,931
Other Expenses	350,479		350,479	359,241	368,222	377,428		390,638	400,403	410,414	420,674	431,191	441,970	453,020	2,416,508	1,963,488
Service Company Costs	1,321,183	0	1,321,183	1,378,125	1,442,918	1,467,814	0	1,546,356	1,667,062	1,725,393	1,775,126	1,906,728	1,914,540	1,999,914	9,028,121	7,028,207
Total Labor & AWWSC Costs	9,514,824	341,402	9,856,226	10,470,484	11,585,900	11,984,268	709,493	13,197,447	13,831,474	14,241,015	15,995,223	18,046,716	18,834,345	19,528,256	21,673,873	2,145,617

Adjustments: 1. Initiation of Procurement Center in 2003 which has resulted in average savings to KAWC as demonstrated on the synergy statements filed at the PSC as part of the conditions in case no. 2002-00018	(294,192)
2. Customer Growth at KAWC handled by the CCC & SCC is not accounted for in the analysis above. In 2001 KAWC had 26 employees serving 103,172 customers or 3,968 customer per employee. Based on the forecasted test-year customer base of 120,956 KAWC would have had to add 4.48 FTE's or 9,860 hours @ an average cost or $19.23 per hour * OH at 1.574 =	(298,443)
3. Deprec. & interest for equipment & software purchased by AWWSC for use by all subsidiaries of AWW that would have been capitalized if KAWC had purchased it directly or been allocated a portion of the asset. In addition, KAWC would have required a return on that rate base if it had been purchased locally, versus the at cost basis at which AWWSC makes the software available to KAWC.	(1,535,472)
4. Initiation of the use of AWCC in 2001 which has resulted in average savings to KAWC (as demonstrated on Exhibit MAM-4) as part of the conditions in case no. 2002-00018. These savings are the result of consoldidating of the cash mananagement and financing activities at AWCC. These savings could not have bee realized without the reorganizations and are not captured in the analysis above.	(650,000)
Estimated Savings From Reorganization Activites	**(632,490)**

FOOTNOTES RELATED TO KAWC COSTS:

Note 1: The calculation of inflation factors used to determining the attrition-year costs shown in column 14 above are included on page 2 of this Exhibit.
Note 2: Added one meter reader in 2002 to handle increases in customers due to growth
Note 3: Added 8 employees from Owenton acquisition
Note 4: Added 4 utility field employees to handle additional hydrant and valve maintenance work related to customer growth and one Administrative employee to handle sewer billing in 2006
Note 5: Added 1 utility person and one Admin to handle additional requirements for cross connections and 1 production tech for additional water treatment processes
Note 6: Added 7 employees: VP operations, operations spec., Dir. Eng., Project Mgr., Dir. Govt. Affairs, Mgr. Loss Control, and Mgr. Communications
Note 7: Added 7 employees at KRS II, 1 production supervisor and 6 production technicians

FOOTNOTES RELATED TO AWWSC COSTS:

Footnote 1: Labor is inflated 4% per year; Other Expenses are inflated at 2.5% per year; and pensions, OPEB's, and group insurance are inflated by the factors on page 2 of this Exhibit.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	Budget 2010	Budget 2011
KAWC Actual Benefit Labor Costs										153.00	153.00
AVG. # Employees	145	143.25	129.42	118.58	117.92	124.75	134.08	135.42	137.58	146.00	146.00
Group Insurance	1,303,786	1,468,185	1,580,403	1,559,089	1,608,346	1,644,303	1,664,541	1,682,452	2,173,882	2,460,692	2,580,083
Pensions	356,713	424,938	800,534	713,561	782,335	748,274	570,713	622,650	1,386,324	1,311,804	1,253,976
Payroll Taxes	443,276	441,053	429,325	386,469	379,691	403,803	604,374	652,361	653,845	779,568	825,894
401(K)	85,232	92,973	82,388	72,126	78,071	157,540	162,327	189,995	214,985	259,038	278,316
Fully Loaded Cost	2,103,920	1,893,123	2,380,937	2,272,650	2,390,681	2,392,577	2,235,254	2,305,102	3,560,206	3,772,496	3,834,059
Cost per Employee											
Group Insurance	8,987	10,249	12,211	13,148	13,639	13,181	12,415	12,424	15,801	16,854	17,672
Pensions	2,459	2,966	6,186	6,018	6,634	5,998	4,257	4,598	10,076	8,985	8,589
Payroll Taxes	3,055	3,079	3,317	3,259	3,220	3,237	4,508	4,817	4,752	5,095	5,398
401(K)	587	649	637	608	662	1,263	1,211	1,403	1,563	1,693	1,819
Fully Loaded Cost per employee	15,088	16,943	22,351	23,033	24,156	23,679	22,389	23,242	32,192	32,627	33,478
		% Increase	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**			
Group Insurance		1.140	1.191	1.077	1.037	0.966	0.942	1.001	1.272	1.067	1.049
Pensions		1.206	2.085	0.973	1.103	0.904	0.710	1.080	2.192	0.892	0.956
Payroll Taxes		1.008	1.077	0.982	0.988	1.005	1.393	1.069	0.987	1.072	1.059
401(K)		1.105	0.981	0.955	1.088	1.907	0.959	1.159	1.114	1.083	1.074
Fully Loaded Cost per customer		1.123	1.319	1.031	1.049	0.980	0.946	1.038	1.385	1.014	1.026

	2001	2002	2003	2004	2005	2006	2007	2008	2009	Budget 2010	Budget 2011
AWWSC Benefit Costs:											
AVG. # Employees	9.17	16.36	22.12	37.10	42.25	47.75	55.45	54.40	55.09	63.78	63.71
Pension	0	18,708	35,350	27,364	81,108	291,587	388,586	357,706	610,036	540,425	538,856
OPEB's	38,276	44,735	76,521	83,647	93,126	114,547	81,319	99,744	130,885	113,015	115,507
Group Insurance	63,053	124,794	182,977	316,352	393,390	444,475	510,752	496,789	484,857	540,460	710,643
Cost per Employee											
Pension	0	1,144	1,598	738	1,920	6,107	7,008	6,575	11,073	8,473	8,458
OPEB's	4,174	2,734	3,459	2,255	2,204	2,399	1,467	1,834	2,376	1,772	1,813
Group Insurance	6,876	7,628	8,272	8,527	9,311	9,308	9,211	9,132	8,801	8,474	11,154
		% Increase	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**	**% Increase**
Pensions		#DIV/0!	1.398	0.462	2.603	3.181	1.148	0.938	1.684	0.765	0.998
OPEB's		0.655	1.265	0.652	0.978	1.088	0.611	1.250	1.296	0.746	1.023
Group Insurance		1.109	1.084	1.031	1.092	1.000	0.990	0.991	0.964	0.963	1.316

TABLE 1A OF 2007 REPORT KENTUCKY-AMERICAN WATER COMPANY
OPERATING EXPENSE SAVINGS FROM RWE PROCUREMENT INITIATIVE

	2003	2004	2005	2006	2007	TOTAL
Accounts Payable Audit Advertising		1,000			13,817	14,817
Bill inserts & CCR Chemicals		9,000		25,960	2,449	37,409
Field Op's Equipment Facility		30,000		38,338	6,196	74,534
Plumbing Supplies/ Plumbing Supplies		72,000	121,000	151,220	2,505	346,725
Courier Services		2,000	2,000			4,000
Fleet		1,000		984	1,275	3,259
Instrumentation 7 process Control						0
Information Technology (IT)		7,000	2,000	319	18,549	27,868
Laboratory supplies		12,000	20,000	9,859	35	41,894
Maintenance, Repair & Operations (MRO)	200	13,000	17,000	8,031	29,323	67,554
Equipment		3,000		874	2,236	6,110
Office Supplies	2,400	7,000	6,000	7,688	20,396	43,484
P-Card Rebate	7,000	3,000				10,000
Professional Services		7,000	6,000	272	353	13,625
Professional Services - Lock box		40,000	29,000		29,148	98,148
Tank Rehabilitation					3,092	3,092
Telecommunications		20,000	36,000	3,674	12,580	72,254
Temporary Labor		31,000	40,000	14,894	36,525	122,419
Tires	800	9,000	8,000	15,742		33,542
Travel		7,000	12,000			19,000
Uniforms		5,000	3,000	1,318	17,424	26,742
Chemicals				91,003	29,688	120,691
TOTAL	$10,400	$279,000	$302,000	$370,176	$225,591	$1,187,167
Average Annual Savings					$294,192	

Kentucky American Water
Distribution of Costs

Number of Customers (average)				
Water	Owenton Sewer	Rockwell	BGS	Total
118,681	622	90	75	119,467

OPERATIONS AND MAINTENANCE LABOR:

Name/account	Title	Office Cost	O&M Labor	Pension Grp Insurance & Payroll taxes 57.40%	Incentive	Test Year Amount	AMOUNT ALLOCATED Water	Owenton Sewer	Rockwell	BGS	Total
							-	-	-	-	-
Peggy Slone - 120105.501200	Executive Assistant to the President	3,471	63,803	36,623	-	103,897	103,213	541	78	65	103,897
Keith Cartier - 120205.501200	VP of Operations	3,636	125,070	71,790	37,524	238,020	236,453	1,240	178	149	238,020
Paula Squires - 120121.501200	Administrative Assistant	1,219	46,922	26,933	-	75,074	74,627	391	56	-	75,074
Ray Golden - 120121.501200	Mgr External Affairs	2,169	92,284	52,971	13,844	161,268	160,206	840	121	101	161,268
John Mark Hack - 120122.501200	Manager of Governmental & Regulatory Affairs	3,037	119,079	68,351	23,814	214,281	212,870	1,116	161	135	214,281
Mary Money - 120105.501200	Manager Finance	2,603	98,436	56,502	14,766	172,307	171,280	898	129	-	172,307
Rachel Cole - 120105.501200	Supervisor Business Process	3,120	76,749	44,054	7,675	131,598	130,732	685	99	83	131,598
David Shehee - 120217.501200	Supervisor Water Quality	2,603	75,225	43,179	7,519	128,526	127,680	669	96	81	128,526
Shana Carr - 120217.501200	Lab Analyst	2,603	56,244	32,284	2,812	93,943	93,324	489	70	59	93,943
Vacant- 120201.501200	Production Manager	3,264	113,229	64,993	22,645	204,131	202,787	1,063	153	128	204,131
Kenny Roney - 120201.501200	Specialist Water Quality/Cross Connections	2,603	56,410	32,380	-	91,393	90,849	476	69	-	91,393
Mary Ellen Pugh - 120201.501200	Administrative Assistant	2,169	52,078	29,893	-	84,140	83,586	438	63	53	84,140
Pamela Buehler - 120118.501200	Specialist Human Resources	2,169	52,730	30,267	-	85,166	84,605	444	64	53	85,166
Donna Braxton	Mgr Human Resources	2,872	98,443	56,506	14,766	172,587	171,450	899	129	108	172,587
Michael Shryock	Sr Specialist IT	2,603	80,658	46,298	-	129,559	128,706	675	97	81	129,559
Total to be distributed		$ 40,141	$ 1,207,360	$ 693,024	$ 145,365	$ 2,085,890	2,072,365	10,866	1,563	1,097	2,085,890

OPERATIONS AND MAINTENANCE EXPENSE:

120105 CORP - Admin & Gen

	Account/Description		Test Year Amount	Water	Owenton Sewer	Rockwell	BGS	Total
Customer Accounting:	570100.15	Uncollectib	507,403	504,378	2,644	380	-	507,403
	575100.15	Bank Servic	213,000	211,730	1,110	160	-	213,000
	575200.15	Collection	71,502	71,076	373	54	-	71,502
	575420.15	Forms CA	217,371	216,075	1,133	163	-	217,371
	575660.15	Postage CA	597,072	593,513	3,112	448	-	597,072
	Total		1,624,520	1,596,772	8,372	1,204	-	1,606,348

120105 CORP - Admin & Gen

	Account/Description	Test Year Amount	Water	Owenton Sewer	Rockwell	BGS	Total
Management Fees:	Contract Svc-Mgmt Fe						
DETAIL	534600.16 Belleville Lab	209,499	208,119	1,091	157	132	209,499
	534600.16 Call Center	1,804,958	1,794,198	9,407	1,353	-	1,804,958
	534600.16 Corporate	3,548,417	3,527,264	18,494	2,660	-	3,548,417
	534600.16 ITS	1,662,733	1,652,821	8,666	1,246	-	1,662,733
	534600.16 Shared Services	849,414	843,820	4,424	636	533	849,414
	534700.16 Eastern Division	1,007,908	1,001,899	5,253	756	-	1,007,908
	Total	9,082,929	9,028,121	47,335	6,808	665	9,082,929

	Account	Description	Test Year Amount	Water	Owenton Sewer	Rockwell	BGS	Total
General Office:	520100.16	M&S Oper	17,439	17,324	91	13	11	17,439
	575620.16	Office & Admin Supp	14,724	14,627	77	11	9	14,724
	575741.16	Cell phone	0	-	-	-	-	-
	575350.16	Meals & Tra	877	871	5	1	1	877
	575351.16	Meals & Tra	804	799	4	1	1	804
	Total		33,844	33,621	176	25	21	33,844
Miscellaneous:								
	575240.16	Co Dues/Mem	5,500	5,467	29	4	-	5,500
	575242.16	Co Dues Ded	28,788	28,616	150	22	-	28,788
	575244.16	Co Dues Ded	40,000	39,762	208	30	-	40,000
	575270.16	Directors Fees	18,000	17,893	94	13	-	18,000
	Total		92,288	91,738	481	69	-	92,288

120113 CORP-Info System								
Customer Accounting:	575740.15	Telephone C	98,160	97,575	512	74	-	98,160
Miscellaneous:	535000.16	Contr Svc-O	7,362	7,318	38	6	-	7,362
	575715.16	Software Li	28,630	28,459	149	21	-	28,630
			35,992	35,777	188	27	-	35,992
Maintenance Expense:	620000.26	Mat and Sup	26,994	26,833	141	20	-	26,994
120115 CORP - Legal								
General Office:	575002.16	Misc Genera	1,570	1,561	8	1	-	1,570
	575340.16	Empl Exp	1,483	1,474	8	1	-	1,483
	575342.16	Empl Exp Conf	927	921	5	1	-	927
	575350.16	Meals & Tra	93	92	1	0	-	94
	575620.16	Office & Ad	88	87	1	0	-	89
			4,254	4,136	23	3	-	4,162
Miscellaneous:	533000.16	Contr Svc-L	178,311	177,248	929	134	-	178,311
	575240.16	Co Dues/Mem	-	-	-	-	-	-
	Total		178,311	177,248	929	134	-	178,311
120118 CORP-Human Resou								
General Office:	575280.16	Dues/Member	299	297	2	0	-	299
	575340.16	Employee Ex	2,766	2,750	14	2	-	2,766
	575242.16	Empl Exp Co	1,854	1,843	10	1	-	1,854
	575350.16	Meals & Tra	920	915	5	1	-	920
	575351.16	Meals & Tra	920	915	5	1	-	920
	Total		6,759	6,719	35	5	-	6,759
Miscellaneous:	504500.16	Other Welfare	25,070	24,921	131	19	-	25,070
	504610.16	Employee Aw	15,682	15,589	82	12	-	15,682
	504620.16	Employee Physicals	3,681	3,659	19	3	-	3,681
	504660.16	Tuition Aid	26,675	26,516	139	20	-	26,675
	504670.16	Training AG	7,725	7,679	40	6	-	7,725
	535000.16	Contr Svc-O	4,635	4,607	24	3	-	4,635
	575000.16	Misc Oper A	13,418	13,338	70	10	-	13,418
	575030.16	Advertising	-	-	-	-	-	-
	Total		96,886	96,308	505	73	-	96,886
120119 CORP-Loss Control								
Ins Other Than Group:	557000.16	Ins Gen Lia	417,204	414,716	2,174	313	-	417,204
	556000.16	Ins Vehicle	37,644	37,420	196	28	-	37,644
	559000.16	Ins Other O	191,625	190,482	999	144	-	191,625
	Total		646,472	642,618	3,369	485	-	646,472
Miscellaneous:	504620.16	Employee Ph	4,047	4,023	21	3	-	4,047
	575490.16	Injuries an	2,030	2,018	11	2	-	2,030
	Total		10,132	6,041	32	5	-	6,077
120121 CORP-Communciati								
General Office:	575280.16	Dues/Member	13,593	13,512	71	10	-	13,593
	575340.16	Employee Ex	12,270	12,197	64	9	-	12,270
	575342.16	Empl Exp Co	3,726	3,704	19	3	-	3,726
	575350.16	Meals & Tra	2,251	2,238	12	2	-	2,251
	575351.16	Meals & Tra	543	540	3	0	-	543
	Total		32,383	32,190	169	24	-	32,383
Miscellaneous:	568010.16	Water Res C	186,684	185,571	973	140	-	186,684

	575030.16	Advertising		6,180	6,143	32	5	-	6,180
	575130.16	Brochures a		28,315	28,146	148	21	-	28,315
	575220.16	Community R		23,411	23,271	122	18	-	23,411
	Total			244,590	243,132	1,275	183	-	244,590
	550000	Transportation		589,349	585,836	3,072	442	-	589,349
Total Company			**Total**	**$ 14,889,753**	$ 14,799,217	$ 77,595	$ 11,160	$ 1,783	**$ 14,889,755**
					99.4%	0.5%	0.1%	0.0%	100.0%

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES ON AND AFTER MARCH 28, 2010	)	**CASE NO. 2010-00036**
	)	
	)	
	)	

DIRECT TESTIMONY OF SHEILA A. MILER

February 26, 2010

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2010-00036
Direct Testimony
Sheila A. Miller

1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Sheila A. Miller and my business address is 1600 Pennsylvania Avenue, Charleston, West Virginia 25302.

2. Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the American Water Service Company, Inc. ("Service Company") as Manager of Rates and Regulation for the Eastern Regional Service Company Office.

3. Q. PLEASE ELABORATE UPON YOUR DUTIES AS MANAGER OF RATES AND REGULATION FOR THE EASTERN REGIONAL SERVICE COMPANY.

A. My responsibilities include the preparation and presentation of rate filings requested by three operating companies comprising a portion of the Eastern Region of American Water. I am also responsible for various accounting duties including account reconciliation and financial statement analysis.

4. Q. HAVE YOU PREVIOUSLY PARTICIPATED IN REGULATORY MATTERS?

A. Yes, I have prepared rate cases and presented testimony before the Kentucky Public Service Commission, Tennessee Regulatory Authority and the State Corporation Commission of Virginia. I have also worked on the preparation of exhibits and data requests for West Virginia American.

5. Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE?

A. Yes. In 1983, I graduated Summa Cum Laude with a Bachelor of Arts degree from Glenville State College with a major in Accounting and Management, and a minor in Economics. In 1988, I received my Certified Public Accountant license.

I have worked in the American System for 25 years and began my career in December 1984 as a Junior Accountant. In that capacity I worked in the Construction Accounting Department for the Service Company.

I assisted with the system-wide acquisition integration of Citizens Water by serving on the Acquisition Team. I also participated in the set up of the system-wide conversion process for the Shared Services Center by assisting Information Services with reporting processes.

Throughout the years, I have moved through the ranks of the financial side of the business from Accountant in 1985, Construction Accounting Supervisor for the Southeast Region in 1988, Construction Accounting Superintendent for West Virginia American Water Company in 1992, Assistant Director of Accounting for West Virginia American in 1995, Director of Accounting for West Virginia American in 1997, Director of Accounting for the Southeast Region in 2000, and due to the reorganization of the Shared Services Center, I was transferred to Senior Financial Analyst for the Southeast Region in 2002. In 2008 I was promoted to Manager of Rates and Regulation. I have significant knowledge and expertise in accounting and other financial aspects of American Water, including Kentucky American Water.

6. Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

The purpose of my testimony is to support the Company's adjustments to forecasted Labor, Purchased Water, Group Insurance, Regulatory Expense, Insurance Other than Group, Customer Accounting, Rents, General Office Expense, Miscellaneous Expense, and General Taxes and Revenues. I will discuss the Rate Base for rate recovery and I will also address the Filing Requirements and the General Rate Case Structure.

7. Q. WHAT IS THE AMOUNT OF THE REVENUE INCREASE THAT THE COMPANY IS REQUESTING?

A. The Company is requesting an overall revenue increase of $25,848,286 or 37.7%.

8. Q. WHAT IS THE TEST PERIOD REFLECTED IN THIS CASE?

A. The Company has used a forecasted test period of the twelve months ending September 30, 2011 and a base period of twelve months ended May 31, 2010. The base period data reflects six months of actual data and six months of forecasted data.

9. Q. MRS. MILLER, WHAT GUIDELINES HAS THE COMPANY FOLLOWED IN ADJUSTING THE BASE PERIOD DATA?

A. The Company has adjusted its base period revenues, expenses, rate base and capitalization to reflect these items based on a forecasted test period ending September 30, 2011. The Company has utilized the same guidelines in developing its forecasted test period as it uses in its budgeting process. These guidelines are designed to reflect, as accurately as possible, the Company's need to operate and maintain its assets, provide quality service to its customers and provide a reasonable return to its stockholder.

10. Q. MRS. MILLER, WOULD YOU PLEASE SUMMARIZE THE COMPANY'S RATE FILING?

A. Yes. As noted earlier, the Company is filing this application for an increase in rates based upon a fully forecasted test period of 12 months ending September 30, 2011, as currently allowed by 807 KAR 5:001 Section 10(1)(b). The Commission has outlined various filing requirements concerning a forecasted test period. The Company's filing is supported by a series of 37 exhibits. We have allocated direct and indirect costs between the water and sewer operations, which will be discussed in the testimony of Michael Miller.

11. Q. MRS. MILLER, ARE THERE ANY EXHIBITS YOU WISH TO COMMENT ON BEFORE YOU CONTINUE?

A. Yes. I would like to briefly discuss Exhibit 37. Exhibit 37 represents the standard schedules required by the Commission when a utility files a general adjustment in rates supported by a forecasted test period. This exhibit contains 14 schedules identified as Schedules A through N. I would like to identify each schedule.

<u>Schedule A</u> is a jurisdictional financial summary for both the base period and the forecasted period, which details how the utility derived the amount of the requested revenue increase.

<u>Schedule B</u> is a jurisdictional rate base summary for the base period and the forecasted period with the supporting schedules, which include detailed analysis of each component of rate base.

<u>Schedule C</u> is a jurisdictional operating income summary for the base period and the forecasted period with supporting schedules that are broken down by major account group and by individual account.

<u>Schedule D</u> is a summary of jurisdictional adjustments to operating income by major account with supporting schedules for individual adjustments and jurisdictional factors.

<u>Schedule E</u> is the jurisdictional federal and state income tax summary for the base period and the forecasted period with supporting schedules of the various components of jurisdictional income taxes.

<u>Schedule F</u> contains summary schedules for the base period and the forecasted period of organization membership dues, initiation fees, expenditures at country clubs, charitable contributions, marketing, sales, and advertising expenditures, professional service expenses, civic and political expenses, expenditures for employee awards functions and outings, employee gift expenses, and rate case expenses.

<u>Schedule G</u> is an analysis of payroll costs including schedules for wages and salaries, employee benefits, payroll taxes, straight time and overtime hours, and executive compensation.

<u>Schedule H</u> is a computation of the gross revenue conversion factor for the forecasted period.

Schedule I provides comparative income statements, revenue statistics and sales statistics for the five most recent calendar years from the application filing date, the base period, the forecasted period, and two calendar years beyond the forecast period.

Schedule J provides a cost of capital summary for both the base period and forecasted period and supporting schedules providing detail on each component of the capital structure.

Schedule K provides comparative financial data and earnings measures with the 10 most recent calendar years, the base period and the forecasted period.

Schedule L provides a narrative explanation of all proposed tariff changes.

Schedule M provides a revenue summary for both the base period and forecasted period with supporting schedules, which provide detailed billing analyses for all customer classes.

Schedule N provides a typical bill comparison of the present and proposed rates for all customer classes.

12. Q. WHAT IS THE SOURCE OF THE INFORMATION CONTAINED ON THE EXHIBITS 1 THROUGH 37 AND SCHEDULES MARKED A THROUGH N UNDER EXHIBIT 37?

A. The information utilized in all exhibits and schedules was taken from the books and records of the Company or from information provided to me and other Company witnesses and by management of the Company. Where appropriate, each schedule refers to a supplementary schedule or work paper, which was used to develop Exhibit 37. Each schedule also identifies a witness or witnesses who will be responsible for responding to questions concerning information on the schedule.

OPERATION & MAINTENANCE EXPENSES

13. Q. HOW DID THE COMPANY CALCULATE THE FORECASTED LABOR EXPENSE?

The Company calculated the labor expense by individual employee. Each employee's wages were adjusted to the wage level that would be paid during the forecasted test period beginning with the actual 2010 wages. Hours were budgeted to O & M and Capital for a total of 2088 hours and a forecasted number of overtime hours. The hours that employees devote to the sewer operations were eliminated from the filing. A capitalized percentage of 17.34% was calculated based on the budgeted wages between O & M and capital. As a result this amount was excluded from O & M labor expense. Labor expense for the forecasted period is $8,039,622.

14. Q. PLEASE EXPLAIN THE CALCULATIONS OF THE FORECASTED LEVEL OF PURCHASED WATER EXPENSE.

The Company purchases water from Winchester Municipal Utilities (WMU) for Central Division customers in Clark County. The Agreement with WMU to purchase water expires October 13, 2021. The Company also purchases water from Georgetown Municipal Water and Sewer System (GMWSS) for water sold in Owen County. Additional purchases for the Northern Division are made from Carroll and Gallatin Counties. The forecasted Purchased Water Expense was estimated based on the actual usage during the twelve months ending November 2009 and applying the appropriate cost rate per cubic feet. Purchased water expense for the forecasted test year is $120,655.

15. Q. HOW DID THE COMPANY CALCULATE ITS GROUP INSURANCE EXPENSE?

A. The total group insurance expense for the forecasted test year is $2,313,543. This expense is comprised of 1) current group insurance costs for current associates and 2) post retirement employee benefits costs (OPEBs) for both its current employees and its retired employees.

The OPEBs expense is based on projections provided by the actuarial firm of Towers Perrin.

The current group insurance costs reflect the use of the Company's current group insurance premium statement rates in effect as of January 1, 2010. These rates were then applied to the current coverage levels for the full time employees included in the Company's case. The group insurance expense was then reduced by the employees share of the premium cost. Since 17.34% of the labor expense is capitalized, this same percentage of group insurance expense was eliminated from O & M.

The Company provides its current associates with life insurance, group medical insurance, prescription drug, accidental death, accident, sickness and disability coverage.

16. Q. WHAT ARE REGULATORY COMMISSION EXPENSES?

A. Regulatory expenses are estimated costs incurred for preparing and litigating this case, including studies and investigations. We are requesting a three-year amortization of rate case expense and cost of service study expense and a five-year amortization of the depreciation study expense.

17. Q. HOW WAS KENTUCKY AMERICAN WATER'S LEVEL OF INSURANCE OTHER THAN GROUP EXPENSE CALCULATED?

A. KAW's level of insurance other than group is based on the Company's actual premiums for 2010 and an estimated cost for the 2011 premiums. Insurance other than group includes payments for insurance to cover such items as excess general liability, property liability, fiduciary liability, commercial crime coverage, flood liability and worker's compensation. The insurance other than group for the forecasted period is $742,262.

18. Q. PLEASE DISCUSS KENTUCKY AMERICAN WATER'S FORECASTED LEVEL OF CUSTOMER ACCOUNTING EXPENSE.

A. KAW's customer accounting expense includes costs for such items as postage, telephone, forms utilized for customer service and billings, uncollectible accounts and collection agencies. This is not a complete listing but it does represent most of the larger dollar items in this expense. The forecast reflects an expense of $1,712,517 for customer accounting costs. The uncollectible percentage was calculated by applying the uncollectible account balance for the twelve months ending December 2009 to the total billed revenues for 2009. That percentage was applied to forecasted revenues at present rates.

19. Q. CAN YOU PLEASE DESCRIBE WHAT ITEMS ARE INCLUDED IN RENT EXPENSE?

A. KAW's forecast for rent expense is based upon signed agreements and anticipated agreements. These agreements cover such items as copiers and a postage machine. These items were all included in KAW's previous rate case. The rent expense included in the forecast is $27,654.

20. Q. PLEASE EXPLAIN WHAT ITEMS ARE INCLUDED IN THE GENERAL OFFICE CATEGORY.

A. Items in this category include dues and memberships, employee travel and meal expenses, office supplies, and general office utility costs. The Company's forecasted expense is $639,778.

21. Q. WHAT IS INCLUDED IN THE CATEGORY OF MISCELLANEOUS EXPENSES?

A. Included in this category are various expense items that are incurred throughout the year that are a part of carrying out of normal business functions. Included in this category are costs for services such as janitorial, legal, contract services, advertising, employee training programs, uniforms, telephone and some amortizations. Also included are expenditures related to conservation and security services. The Company's forecast for miscellaneous expense is $3,440,139.

<u>GENERAL TAXES</u>

22. Q. PLEASE DISCUSS EACH COMPONENT OF THE COMPANY'S FORECASTED LEVEL FOR GENERAL TAXES.

A. The first component that I will discuss is property taxes. The Company's forecasted level of property tax is $4,429,174. It is based upon a ratio of the actual 2008 tax payments to the applicable total tax base as of December 31, 2007. The rate of $.9799 per $100 of property was applied to the projected tax base of December 31, 2009 and to the projected tax base of December 31, 2010 to arrive at a forecasted property tax expense for the 12-months ended September 30, 2011.

The second component of General Taxes is the Public Service Commission Fee. The Company has forecasted its Public Service Commission (PSC) fee for the forecasted test period by arriving at an average PSC fee rate of .1618%. The percent was calculated by dividing the actual tax payments for 2007-2009 by their associated revenues and then calculating a three-year average PSC fee rate. By applying this three-year average PSC fee rate to the total forecasted revenues, less AFUDC, the Company's forecasted level of PSC fee is $109,826 at present rates.

The final component of General Taxes is payroll taxes. The Company has forecasted its payroll tax expense based upon the forecasted level of labor costs. For FICA taxes, the rate used was 6.2% on a base of $109,564 and a Medicare tax rate of 1.45% on all wages. Federal unemployment is calculated based upon a tax rate of .8% and a base of $7,000. State unemployment tax of .5% is calculated on a base of $8,000. These tax rates and bases were then applied to the total forecasted level of labor cost with amounts being expensed and capitalized. The Company's total forecasted level of payroll tax expense is $621,307.

Total forecasted General Taxes is $5,160,307 at present rates.

RATE BASE

23. Q. MRS. MILLER, HOW DID THE COMPANY DEVELOP ITS FORECASTED LEVEL OF RATE BASE OF $362.672 MILLION AS SHOWN ON SCHEDULE B-1, PAGE 2 OF 2?

A. The Company developed its rate base by using a 13-month average for most of the items shown on Schedule B-1, page 2 of 2. Some of the elements were calculated using a 24-month average based on the Commission's final order in Case No. 1997-034. Many of the rate base elements shown on this schedule, including utility plant in service, accumulated depreciation, customer advances, etc. were analyzed from actual per books data as of November 30, 2009. Using data and projections for each of the rate base elements, the Company developed a 13-month average for the forecasted test period ending September 30, 2011.

24. Q. PLEASE DESCRIBE HOW THE 13-MONTH AVERAGE FOR THE UTILITY PLANT IN SERVICE (UPIS) WAS CALCULATED?

A. The starting point for the calculation of the 13-month average for utility plant in service was the actual level as of November 30, 2009. From that point through the end of the test period, the Company has forecasted capital expenditures by month for investment projects DV through S (normal recurring plant investment) and for special Investment Projects (IP) that are related to larger, specific capital investment projects. These capital expenditures have been approved by the Company's Board of Directors. The forecasted expenditures for all projects were slotted by month based upon the expected cash flow of each project. When the project is complete, all expenditures related to that project will be placed into service. Therefore, the 13-month average of forecasted utility plant in service only reflects the inclusion of projects when they are complete and in service.

The Company also projects utility plant retirements by month. These retirements were deducted from the balance of utility plant in service in the month in which the retirement is expected to occur. Mr. Williams will be discussing in further detail in his testimony the Company's planned capital investment program for 2010 and 2011. Ms. Bridwell will be discussing the details of the source of supply project in her testimony. The total 13-month average forecasted level of Utility Plant in Service is $566.014 million.

25. Q. PLEASE DISCUSS THE REMAINING RATE BASE ELEMENTS ON SCHEDULE B-1, PAGE 2 OF 2.

A. Rate Base - Utility Plant Acquisition Adjustment (UPAA)

The next rate base element as shown on Schedule B-1, page 2 of 2 is utility plant acquisition adjustments. The actual balance in the account as of November 30, 2009 was $18,488. The UPAA relates to the Acquisition of the Boonesboro Water Association. The Company is using a 10-year amortization based on prior Commission treatment of UPAA for Boonesboro. The level included in the 13-month average rate base calculation (net of amortizations) for the UPAA in rate base is $2,342, which includes only Boonesboro. This acquisition adjustment is fully amortized as of April 30, 2011.

Rate Base - Accumulated Depreciation

The next rate base element as shown on Schedule B-1, page 2 of 2 is accumulated depreciation. The accumulated depreciation was developed in the same manner as the utility plant in service. The actual balance as of November, 2009 was used as a starting point. This balance was adjusted for forecasted depreciation expense by month and forecasted retirements by month. The depreciation rates used to develop this item of rate base were those approved in Case Number 2007-00143 through September 2010. The depreciation rates proposed by John Spanos were used in the calculations from October 2010 through September 2011. The accumulated reserve for depreciation was developed by month by account from September 2010 through September 2011, with a 13-month average balance of $110.085 million being deducted from rate base. The accumulated depreciation includes an annual amount of unrecovered reserve that KAWC is seeking to amortize over a five year period. The annual amortization totals $436,492. Mr. Spanos will discuss this adjustment in more detail in his direct testimony.

Rate Base - Construction Work in Progress

The next rate base element as shown on Schedule B-1, page 2 of 2 is Construction Work in Progress (CWIP). The Company is proposing to include in its 13-month average rate base a level of CWIP for the forecasted test period. The 13-month average is $9.464 million. This amount is based on the actual balance as of November 2009, adding forecasted expenditures by month and then deducting amounts transferred to Utility Plant in Service. The forecasted expenditures for all projects were taken from the approved capital expenditures plan and were slotted by month based on expected cash flow. When a project (work order) is complete and in service, the dollars are transferred from CWIP to UPIS.

26. Q. MRS. MILLER, THE RATE BASE ELEMENT AS SHOWN ON SCHEDULE B-5, PAGE 2 OF 2 IS THE WORKING CAPITAL ALLOWANCE. WHAT IS WORKING CAPITAL AND WHAT METHOD DID THE COMPANY USE IN CALCULATING ITS WORKING CAPITAL ALLOWANCE IN THE CASE?

A. Working capital is a rate base element that recognizes the amount of investor supplied funds that are used to fund the day to day operations of the Company and to recognize the delay in the recovery of certain expenses from the customers. The Company is using a lead/lag study that was prepared in this case and is proposing a working capital allowance of $2.634 million. Mr. Miller will discuss the details of the lead/lag study in his direct testimony.

27. Q. PLEASE CONTINUE WITH YOUR DISCUSSION OF RATE BASE.

A. <u>Rate Base - Contributions in Aid of Construction</u>

The next rate base element as shown on Schedule B-1, page 2 of 2 is Contributions In Aid of Construction (CIAC). Again, this element was developed by starting with the actual balance as of November, 2009. The Company has forecasted an increase in these contributions based upon either:

1) Direct contributions from developers, businesses or government agencies.
2) Increases in CIAC as a result of transfers from Customer Advances after 10-year agreements expire.

The 13-month average balance was developed by analyzing the forecasted activity in the CIAC accounts beginning with September, 2010 through

September, 2011 resulting in a forecasted 13-month average balance of $48.866 million.

The Company's forecasted CIAC balance includes the impact of the Company's proposed revision to the tap fee tariff. The revised tap fee tariff is found under Exhibit 2 of the Company's filing.

The revised tap fee tariff indicates the Company will collect from developers or other parties $817 for residential service, $1,569 for 1" service, and $3,536 for 2" service. The tap fee for services over 2" is based on the actual cost of installation.

The Company forecasts collection of CIAC from the revised tap fee tariff of $1.264 million with the new tap fee becoming effective September 28, 2010. Linda Bridwell will discuss the calculation of the proposed revision to the tap fee tariff in her direct testimony.

Rate Base - Customer Advances

The next rate base element is customer advances. The 13-month balance for customer advances was developed in the same manner as were CIACs. The Company forecasted receipts and refunds of customer advances and transfer of customer advances to the contributions account by month through the end of the forecasted test period, thus resulting in a 13-month average balance of $19.089 million for the forecasted test period. These forecasted receipts are based on management discussions with local developers and refunds are based on a review of historical trends in this category.

Rate Base - Deferred Income Taxes

Deferred Income Taxes are included in rate base as a reduction to the forecasted 13-month average rate base. The forecasted amount in rate base is $40.027 million. The forecasted amount is shown on Schedule B-1, page 2 of 2 and further detailed on B-6, page 2 of 2 and in the workpapers. There are Deferred Taxes associated with UPIS, Deferred Maintenance, and Deferred Debits. All of these items have been recognized by the Commission in prior cases.

In this rate case the Company has incorporated SFAS 109 – Accounting for Income Taxes. Both the rate base reduction for income taxes and the calculation of forecasted federal and state income tax expense is based on SFAS 109.

Rate Base - Deferred Investment Tax Credit

The next rate base element is deferred investment tax credit. The Company is currently amortizing its 3% deferred investment tax credit (pre-1971). The actual balance of the 3% deferred investment tax credit as of the end of November 2009 was $87,160. The forecasted monthly amortization is applied, producing a forecasted test-year, 13-month average balance of $76,952, which is being deducted from rate base.

Rate Base-Deferred Maintenance

The next rate base element is deferred maintenance. The Company has developed a 13-month average of deferred maintenance projects based upon both actual projects deferred and projects forecasted to be deferred.

These projects include the repainting and repairs of system water storage tanks, and other major repairs of pumps and traveling screens as shown in the workpapers that support Schedule B. New deferred maintenance items include three tank paintings scheduled for completion by September, 2011, one hydrotreator painting, and the KRS I clearwell painting at a total cost of $1,850,000. These types of deferred maintenance expenses have been afforded rate base treatment by the Commission in past proceedings. Based upon these actual expenditures and the forecasted expenditures for 2010 thru September 2011, as adjusted for amortizations, the Company has developed a 13-month average of these deferred maintenance items totaling $2.708 million.

Rate Base - Deferred Debits

The Company is requesting a rate base addition of $1.700 million for various deferred debit items. These amounts are offset by their applicable deferred taxes discussed earlier. The Company developed its 13-month average addition to rate base for items both deferred and recognized in prior cases by the Commission.

28. Q. MRS. MILLER, PLEASE CONTINUE WITH THE NEXT RATE BASE ELEMENT SHOWN ON SCHEDULE B-1, PAGE 2 OF 2.

A. The next Rate Base element is titled Other Rate Base elements, which is comprised of five items as discussed below:

Rate Base – Other Rate Base Elements

In Case No. 2004-00103, the Commission reduced rate base for Contract Retentions, Unclaimed Extension Deposit Refunds, Retirement Work in Progress, Deferred Compensation and Accrued Pension. The Company has calculated a rate base reduction of $2.350 million for these items consistent with the Commission's Order in Case No. 2004-00103.

REVENUES

29. Q. HOW DID THE COMPANY ARRIVE AT THE LEVEL OF REVENUES REFLECTED AT PRESENT RATES IN THE FORECASTED PERIOD?

A. Exhibit 37, Schedule M of the Company's filing contains the bill analysis utilized to determine the level of revenues for the base year and the bill analysis containing the adjustments for customer growth, to reflect a 365 day billing period, and to normalize the forecasted test year for the impacts of weather and usage trends. These adjustments to the forecasted test-year develop the billing determinants used to determine the billed revenue at present and proposed rates for the forecasted test-year period.

Residential

As stated previously, a bill analysis based upon the twelve months ended May 31, 2010 was utilized as a basis to project forward. The base period was adjusted to reflect 1,440 customers for normal growth through the end of the forecast period. A three year average was utilized to determine the growth for the forecast period. The consumption in the residential class has been adjusted to reflect the recommendations included in the study that was prepared by Dr. Edward Spitznagel. Dr. Spitznagel is recommending a weather normalized level of residential usage per customer of 155.67 gallons per customer per day for the forecast period. This level of usage per customer per day was applied to the level of customer bills that were reflected in the forecasted period to arrive at gross sales. Current tariffs were then applied to the net billing determinants to arrive at revenues at present rates.

Commercial

The base period was increased by 46 customers for normal growth through the end of the forecast period. A three year average was utilized to determine customer growth. The consumption in the commercial class has been adjusted to reflect the recommendations included in the study that was prepared by Dr. Spitznagel. Dr. Spitznagel is recommending a weather normalized level of commercial usage per customer of 1,205.1 gallons per customer per day for the forecast period. This level of usage per customer per day was applied to the level of customer bills that were reflected in the forecasted period to arrive at gross sales. Current tariffs were then applied to the associated net billing determinants to arrive at revenue at present rates.

Industrial

The Company used a bill analysis based upon the twelve months ending December 31, 2009. Using the most current billing information available, the Company believes that there would be no significant changes in the consumption for these customers during the forecast period. Current tariffs were then applied to the billing determinants to arrive at revenues at present rates.

Other Public Authority

The Company used a bill analysis based upon the twelve months ended December 31, 2009. The Company reviewed the base period data and does not believe there will be any significant changes in the consumption for these customers during the forecast period. Current tariffs were then applied to the billing determinants to arrive at revenues at present rates.

Sale For Resale

The Company used a bill analysis based upon the twelve months ended December 31, 2009. The Company reviewed the base period data and does not believe there will be any significant changes in the consumption for these customers during the forecast period. Current tariffs were then applied to the billing determinants to arrive at revenues at present rates.

Fire Service

Fire service billing determinants for the twelve months ending December 31, 2009 were utilized to calculate growth for the base period through May 31, 2010, as well as, growth for the forecast period. A 13-month average of those billing determinants was used for the forecast period ending September 30, 2011.

29. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	

DIRECT TESTIMONY OF NICK O. ROWE

February 26, 2010

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1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Nick O. Rowe, 2300 Richmond Road, Lexington, Kentucky 40502.

2. Q. WHAT IS YOUR POSITION WITH KENTUCKY-AMERICAN WATER COMPANY ("KENTUCKY AMERICAN WATER")?

A. I am President of Kentucky American Water and responsible for its operations in the Commonwealth of Kentucky and Senior Vice-President for the Eastern Division of American Water Works Company, Inc.

3. Q. WHO ARE THE OFFICERS OF KENTUCKY AMERICAN WATER?

A.

President	Nick O. Rowe
Vice President, Corporate Counsel and Secretary	A. W. Turner, Jr.
Vice President, Operations	Keith Cartier
Treasurer and Comptroller	Deborah A. Degillio
Assistant Treasurer	Mark Chierici
Assistant Treasurer	Michael A. Miller
Assistant Secretary	John Romeo
Assistant Comptroller and Assistant Secretary	Rachel S. Cole
Assistant Comptroller	Sue Cole
Assistant Comptroller	Charles A. Gilbert
Assistant Comptroller	Doneen S. Hobbs
Assistant Comptroller	Donna Grosser

4. Q. WHAT ARE YOUR RESPONSIBILITIES AS PRESIDENT OF KENTUCKY AMERICAN WATER?

A. I am responsible for the development, management and operations of Kentucky American Water's system in the Commonwealth of Kentucky. I am responsible for establishing and maintaining the standards of service, directing the preparation of the investment, revenue, operations and maintenance budgets, establishing controls to assure the accomplishment of the approved budgets, assuring that necessary funding is available to carry out all plans, and insuring the safety and integrity of the systems for the protection of the customers, employees and operations.

5. Q. PLEASE DESCRIBE YOUR PROFESSIONAL EDUCATION AND EXPERIENCE.

A. I joined the American Water system in 1987 as Management Assistant at West Virginia American Water. Subsequently I was promoted into various management positions with responsibility for the day-to-day operations of American Water facilities in several states, giving me experience in numerous fields of the water industry. My wide variety of involvement in several southeastern states, Virginia, West Virginia, Maryland, Pennsylvania, Kentucky, Tennessee, North Carolina, Georgia, and Florida, has created an array of expertise in small and large water systems. From the fall of 2003 until the summer of 2005 I served as Vice President Business Change and a member of American Water's executive management team. This role was designed to coordinate a set of major business initiatives that were implemented throughout American Water to deliver the vision and strategic objectives, re-engineer the business, and bring about cultural change. From July 2005 through July 2006 I served as the vice president of service delivery operations for the Southeast Region of American Water. My responsibilities included oversight of engineering, network, production, maintenance, risk management, customer relations, environmental management, and contract operations that spanned thirteen states. I became President of Kentucky American Water in August of 2006. Since January 2009 I have had the additional responsibility as Senior Vice-President for the Eastern Division of American Water Works Company, Inc. (KY, IN, MD, MI, NY, OH, TN, VA, WV). My educational background includes a B.S. in Civil Engineering from Western Kentucky University and a Master of Business Administration from Lebanon Valley College. I am also an alumnus of Thames Water's Oxford Leadership Program (April, 2003) and the RWE International Leadership Program, Lausanne, Switzerland (May, 2004). A copy of my resume is attached.

6. Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE STATE UTILITY REGULATORY BODIES?

A. Yes. I have previously testified before the Kentucky Public Service Commission (Cases No. 2000-120 and 2006-00197), have filed direct testimony in Case Nos.

2007-00134, 2007-00143 and 2008-00427, and I have previously testified before the Pennsylvania Public Utility Commission.

7. Q. ARE YOU FAMILIAR WITH THE GENERAL FINANCIAL CONDITION OF KENTUCKY AMERICAN WATER?

A. Yes, I am, and its general financial condition is the reason Kentucky American Water has filed this Application to increase its rates.

8. Q. PLEASE DESCRIBE THE ACTION SOUGHT BY KENTUCKY AMERICAN WATER IN ITS APPLICATION.

A. Kentucky American Water seeks a rate increase that will produce $25,848,286 of additional revenue on an annual basis, or an overall increase of 37.7%.

9. Q. DID YOU PARTICIPATE IN THE COMPANY'S DECISION TO SEEK A RATE ADJUSTMENT?

A. Yes. I reviewed the Application and actively participated by leading discussions in preparation for this filing.

10. Q. WHAT ARE THE BASIC FACTORS THAT CAUSE KENTUCKY AMERICAN WATER TO SEEK A RATE INCREASE AT THIS TIME?

A. The last general rate adjustment approved by this Commission for Kentucky American Water was in Case No. 2008-00427. The rate adjustment resulting from that case was effective June 1, 2009. Since that time, Kentucky American Water has continued to invest substantial capital to maintain and upgrade its facilities, including the significant investment required for the construction of Kentucky River Station II and associated facilities that were the subject of Case No. 2007-00134. Without an increase in rates, our forecasted return to common equity for the forecasted test year in this case will clearly be deficient. If Kentucky American Water is to continue to adequately meet its service obligations, construct needed capital improvements, and obtain capital at a reasonable cost, it must have an increase in its revenues. The integrity of service to our customers must be maintained and that simply cannot be done without adequate capital.

11. Q. DOES KENTUCKY AMERICAN WATER ANTICIPATE SIGNIFICANT EXPENDITURES OF CAPITAL IN THE NEAR FUTURE?

A. Yes. We propose to spend $19,368,756 for system improvements in 2010 (net of customer advances, contributions and refunds), not including the Kentucky River Station II project. As for that project, we have made remarkable progress with the construction of Kentucky River Station II and the associated facilities that were approved by the Commission in Case No. 2007-00134. Ms. Linda Bridwell has detailed information about the project cost estimates and expenditures to date in her testimony. The project continues to be on schedule and is approximately 82% complete. Construction is expected to be complete in September 2010. The Commission has already determined that construction of Kentucky River Station II facilities is necessary for Kentucky American Water to meet the needs of our customers (Case 2007-00134).

12. Q. DOES KENTUCKY AMERICAN WATER OBTAIN BENEFITS BY VIRTUE OF BEING A PART OF THE AMERICAN WATER WORKS COMPANY SYSTEM?

A. Absolutely. As a part of the American Water Works System, the services of our nationally recognized Belleville Laboratory are available to us as well as the services of our Shared Services Center and Customer Service Center. Our allocated costs for these services have increased, but it is important to remember that those services are provided without any profit. I do not believe those services could be obtained in the open market at the same or lower cost. The comparable costs in the open market are addressed in the testimony of Patrick Baryenbruch.

13. Q. IS CUSTOMER SERVICE A HIGH PRIORITY FOR KENTUCKY AMERICAN WATER?

A. Absolutely. The Commission's approval of our efforts to augment our source of supply and treatment plant capacity allows us to continue to provide the excellent customer service to which our customers are accustomed. At the present time, we anticipate completion of main replacements on South Limestone, Newtown Pike, North Broadway, and Highland Park Drive in 2010. We will begin and complete main replacements on Maxwell Street, Hanover Court, and New Circle Road @ Eastland Park Drive, and KY 22 in Owen County in 2010. We also will begin main replacement projects on US 25/Georgetown Road in 2010. We will complete the process of flushing our distribution system as a part of our annual effort to maintain excellent water quality for our customers. More details of our capital improvement program are included in the direct testimony of Lance Williams.

Our focus on customer service has not diminished. Our primary objective is to provide excellent customer service and we take pride in meeting that objective.

14. Q. WHAT IS THE STATUS OF KENTUCKY AMERICAN WATER'S PARTICIPATION IN THE PARTNERSHIP FOR SAFE WATER ("PARTNERSHIP")?

A. As this Commission is aware, we voluntarily joined this Partnership in 1996.

It was created by the United States Environmental Protection Agency, the American Water Works Association, the National Council of Water Companies, the Association of Safe Drinking Water Administrators, the American Water Works Research Foundation and the Association of Metropolitan Water Agencies. The purpose of the Partnership is to encourage participants to identify processes that will enhance the quality of potable water and to voluntarily implement those processes with minimum capital investment. As an example, Kentucky American Water set as one of its goals filtered water turbidity less than the current regulatory requirement. Through a process of extensive data collection, evaluation and correction, we have met our self-imposed goal, which we believe increases the microbial safety of our water for all of our customers.

In 1998, Kentucky American Water was one of only 20 utilities nationally recognized for completion of the Phase III self-assessment of the Partnership. In 2003 our facilities were recognized as one of only 17 nationally to receive five-year awards for ongoing plant performance excellence. From 2004 through 2006, Kentucky American Water continued to meet Partnership Goals and remains in good standing at both of our Central Division treatment facilities. In 2006, Kentucky American began the Partnership program for our Northern Division. In 2008, Kentucky American Water was awarded the Partnership for Safe Water Ten-Year Directors Award for its commitment to superior water quality at both plants in the Central Division.

As a result of our voluntary participation in the Partnership, we have improved the quality of our potable water and are better prepared to meet new, more stringent water quality regulations as they are adopted.

15. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

Nick O. Rowe
President, Kentucky American Water
Senior Vice President, Eastern Division, American Water

PROFESSIONAL SUMMARY

Profession: Water Utility Management

Position in firm: President, Kentucky American Water
Senior Vice President, Eastern Division, American Water

Nick Rowe joined the American Water system in 1987 as Management Assistant at West Virginia American Water. He was subsequently promoted into various management positions with responsibility for the day-to-day operations of American facilities in several states, giving him experience in numerous fields of the water industry. His wide variety of involvement in Virginia, West Virginia, Maryland, Pennsylvania, Kentucky, Tennessee, North Carolina, Georgia and Florida has created an array of expertise in water systems from small to large facilities. Mr. Rowe's involvement with various regulatory agencies, civic organizations and professional associations provides a broad overview of operations and the industry as a whole.

EMPLOYMENT HISTORY

2009 - present **American Water, Eastern Division**
Senior Vice President

This position has responsibility for driving operational and financial performance of regulated operations within American Water's Eastern Division, establish consistent best practices, reinforce and strengthen customer, regulatory and local government relationships. The Eastern Division includes regulated operations in nine states: Indiana, Michigan, Kentucky, Ohio, Tennessee, New York, Virginia, Maryland and West Virginia. Rowe also maintains the dual position of president of Kentucky American Water.

2006 – present **Kentucky American Water, Lexington, KY**
President

As president, Mr. Rowe has direct responsibility for production and distribution operations of the company in addition to indirect oversight of other functional areas, including engineering, water quality, security and human resources. Directs the planning and delivery of the operating, maintenance and capital expenditure budgets for the company, and monitors financial performance to ensure that business plan goals are met. Takes the lead in establishing rapport with civic, political and key stakeholders in the community, interfacing with regulatory entities, and representing company positions at regulatory proceedings and hearings. Supports the business development function in the integration of water and wastewater business opportunities in both the regulated and non-regulated markets. Has oversight of business processes to ensure that American Water policies are followed, best practices are implemented, and internal/external reporting requirements are met.

2005 - 2006 **American Water, Southeast Region,**
Vice President, Service Delivery – Operations

As a member of the regional executive management team, Mr. Rowe had responsibility of overall operations and growing the business in a region that spans 13 states and Puerto Rico. His responsibility included oversight of engineering and network, production and maintenance, risk management, customer relations, environmental management and compliance, and contract operations. During this time, Mr. Rowe also served as interim president of Kentucky American Water from August 2004 until being named president in August 2006.

2003 – 2005 **American Water, Voorhees, NJ**
Vice President Business Change

The Business Change Program played a key role in shaping American Water after its merger with RWE Thames Water in 2003. The Business Change Program designed a coordinated set of major business initiatives inclusive of organization redesign, process re-engineering, and initiative tracking while enabling delivery, all with the purpose of creating sustainable value to the business. In this role, Mr. Rowe served as a member of RWE Thames Water's executive management team for North America.

Mr. Rowe was named Diversity Officer for American Water in March 2005 and served in that capacity to advise the executive management team on strategies for implementing processes and practices to build a business culture that supports diversity and drives their effective implementation.

1998 – 2003 **Kentucky American Water, Lexington, KY**
Vice President Operations

Management responsibility for all operational functions of the company which served 325,000 people in ten counties. Oversight responsibility included production, distribution, water quality and engineering in addition to providing direction in the areas of finance, accounting and information systems, security and risk management.

1995 – 1997 **Pennsylvania American Water, Hershey, PA**
Manager, Eastern Operations

Managed the water operations of a 16-county area of eastern Pennsylvania. Responsible for providing reliable, safe and environmentally responsible water service for over 500,000 people. This service was provided by managing over 205 employees in 11 division offices, 11 water treatment plants, various well stations and over 1,700 miles of distribution system. Responsible for reporting the financial, accounting, safety, water quality and engineering aspects of the company to the company President and Vice President of Operations to help provide an adequate and fair rate of return for investors. Involved in managing the areas of labor and employee relations, and customer service areas.

1992 – 1995 **Pennsylvania American Water, Hershey, PA**
Director, Corporate Operations Services

Managed the day-to-day operations of Pennsylvania American Water with direct reporting to the Vice President of Operations. Responsible for managing over 150 million dollars in construction over three years. Oversaw and directed specific technical areas for more than 20 district offices within Pennsylvania. This included planning, budgeting, forecasting and work force management. Personal involvement with the implementation and development of new policies and procedures for human resources, loss control and operations. Also involvement in the financial review of income statements, balance sheets, and cash forecasting to ensure a solid rate of return for a five hundred million dollar private water utility. Oversaw the engineering, water quality, loss control/risk management, fleet and materials, regulatory studies, and the building management departments.

1988 – 1992 **Virginia American Water, Hopewell District, Richmond, VA**
Operations Manager

Upper level management position with responsibilities which included management of maintenance and capital investment budgets ranging from three million to five million dollars annually, respectively. Accountable for bottom line (profit/loss) margin. Oversaw and directed the five year and fifteen year planning forecast for major improvements at Virginia-American Water Company, Hopewell facility. Responsible for maintaining community, employee, Virginia Department of Health and State Corporation Commission relations. Assisted in labor negotiations of union contract. Promoted the development of service territory through acquisition proposals.

1987 – 1988 **West Virginia American Water, Huntington Division, Huntington, WV**
Management Assistant

Assisted in the day-to-day development, management, and operation of the plant and personnel of the company. Responsibilities included: planning, acquisition, or construction of new facilities; planning and preparing the company budget which ranged from five hundred thousand to one million dollars; controlling construction, operations and maintenance within established budget limitations; maintenance of community and customer relations; employee relations, including labor negotiations; assisted management in the attainment of financial and accounting objectives that related to direct business relations with existing and/or new customers.

1981 – 1987 **CSX Railroad Corporation, Huntington, WV**
Senior Resident Engineer

Responsible for design of mining/rail facilities for various major coal operations throughout West Virginia and Eastern Kentucky. Managed track and survey crews to oversee construction of facilities to serve expansion of various companies.

EDUCATION

Western Kentucky University - B.S., Civil Engineering, 1981
Lebanon Valley College, Annville, PA – Master of Business Administration, 1994

PROFESSIONAL AFFILIATIONS / CIVIC INVOLVEMENT

- Kentucky Chamber of Commerce – Board of Directors & Executive Committee
- Lexington Industrial Foundation – Board of Directors 2007-2009
- Central Bank Advisory Board – 2007-2009
- Commerce Lexington – Board of Directors 2008
- Commerce Lexington – Winners Circle Chairman 2007
- New Century Lexington – Board of Directors
- Greater Lexington Chamber of Commerce – Past Chair/Current Trustee
- American Water Works Association – Member
- National Association of Water Companies – Member
- U.S. Magistrate Judge Selection Panel – Fall 2005
- RWE International Leadership Program, Lausanne, Switzerland – May 2004
- Thames Water Oxford Leadership Program – April 2003
- Leadership Bluegrass – Class of 1998
- First Security Bank – Former Board Member
- United Way of the Bluegrass – Former Board Member
- Governor's Higher Education Nominating Committee – Former Chairman
- YMCA, Beaumont Branch – Former Board Member

PROFESSIONAL PRESENTATIONS

- Served as expert witness on various operational/finance issues before the Kentucky and Pennsylvania Public Service Commissions.
- Served on various AWWA (American Water Works Association) state committees and panels discussing water-related issues.
- Presented updates on "Water Supply" to numerous city councils and officials at weekly and monthly meetings.
- "Drought Management" – presented updates to various city council members, civic and large user groups, police and fire officials during the 1999 Central Kentucky drought.
- Liaison to Pennsylvania Governor's office on "Emergency Power Management" of Pennsylvania-American facilities during rolling blackout period (1996).

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	)	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	)	
RATES ON AND AFTER MARCH 28, 2010	)	

DIRECT TESTIMONY OF JOHN J. SPANOS

February 26, 2010

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INTRODUCTION

1. Q. Please state your name and address.

A. John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

2. Q. With what firm are you associated?

A. I am associated with the firm of Gannett Fleming, Inc.

3. Q. How long have you been associated with Gannett Fleming?

A. I have been associated with the firm since college graduation in June 1986.

4. Q. What is your position in the firm?

A. I am Vice President of the Valuation and Rate Division.

5. Q. What is your educational background?

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College of Pennsylvania.

6. Q. Are you a member of any professional societies?

A. Yes. I am a member of the Society of Depreciation Professionals and the American Gas Association/Edison Electric Institute Industry Accounting Committee.

7. Q. Have you taken the certification examination for depreciation professionals?

A. Yes. I passed the certification examination of the Society of Depreciation Professionals in September 1997 and was recertified in August 2003 and February 2008.

8. Q. Will you outline your experience in the field of depreciation?

A. In June 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June 1986 to December 1995, I took part in the preparation of numerous depreciation and original cost studies for utility companies in various industries. Depreciation studies of telephone companies were performed for United Telephone of Pennsylvania, United Telephone of New Jersey and Anchorage Telephone Utility. My work in the railroad industry included depreciation studies for Union Pacific Railroad, Burlington Northern Railroad and Wisconsin Central Transportation Corporation.

Assignments in the electric industry included depreciation studies for Chugach Electric Association, The Cincinnati Gas and Electric Company, The Union Light, Heat & Power Company, Northwest Territories Power Corporation and the City of Calgary - Electric System. Pipeline industry assignments included studies for TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

My work for the gas industry included depreciation studies for Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, The Cincinnati Gas and Electric Company, The Union Light, Heat & Power Company, Lawrenceburg Gas Company and Penn Fuel Gas, Inc. Assignments in the water industry included depreciation studies for Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia

Suburban Water Company and Pennsylvania-American Water Company.

My participation in each of the above studies included assembly and analysis of historical and simulated data, field reviews, the development of preliminary estimates of service life and net salvage, calculations of annual depreciation, and the preparation of reports for submission to state or provincial public utility commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E., the President of Gannett Fleming Valuation and Rate Consultants, Inc.

In January 1996, I was assigned to the position of Supervisor of Depreciation Studies. In July 1999, I was promoted to the position of Manager, Depreciation and Valuation Studies. In December 2000, I was promoted to my current position as Vice President of Gannett Fleming Valuation and Rate Consultants, Inc., now the Valuation and Rate Division of Gannett Fleming, Inc. I am responsible for all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate regulatory body.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of

Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; SCANA, Inc.; Idaho Power Company; El Paso Electric Company; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Northern Indiana Public Service Company; Tennessee-American Water Company; Columbia Gas of Maryland; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana and Entergy Gulf States Louisiana. My additional duties include determining final life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

9. Q. Have you submitted testimony to any regulatory commissions on the subject of utility plant depreciation?

A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; the Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; the Illinois Commerce Commission; the Indiana Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission ("FERC"); the Arkansas Public Service Commission; the Public Utility Commission of Texas; the Maryland Public Service Commission; the Washington Utilities and Transportation Commission; the Tennessee Regulatory Commission; the District of Columbia Public Service Commission;

the Mississippi Public Service Commission; the Regulatory Commission of Alaska; and the North Carolina Utilities Commission.

10. Q. What is the extent of your formal instruction with respect to utility plant depreciation?

A. I have completed the “Techniques of Life Analysis”, “Techniques of Salvage and Depreciation Analysis”, “Forecasting Life and Salvage”, “Modeling and Life Analysis Using Simulation” and “Managing a Depreciation Study” programs conducted by Depreciation Programs, Inc. Also, I have completed the “Introduction to Public Utility Accounting” program conducted by the American Gas Association.

11. Q. What is the purpose of your testimony?

A. My testimony is in support of the depreciation study conducted under my direction and supervision for Kentucky American Water Company (the “Company”). Based upon that study, I am recommending that new depreciation accrual rates be adopted by the Company.

OVERVIEW

12. Q. Please describe what you mean by the term “depreciation”.

A. “Depreciation” refers to the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which can be reasonably anticipated or contemplated, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities. Depreciation accrual rates are used to allocate, for accounting purposes, the cost of assets over their service lives.

In the study that I performed and that is the basis for my testimony, I used the straight line whole life method of depreciation, with the average service life procedure to develop recommended depreciation accrual rates. In addition, I calculated the amount required to amortize the variance between the book depreciation reserve and the calculated accrued depreciation. The total annual depreciation is based on a system of depreciation accounting which aims to distribute the cost of fixed capital assets over the estimated useful life of the unit, or group of assets, in a systematic and rational manner.

For General Plant Accounts 340.1, 340.21, 340.22, 340.23, 340.3, 340.32. 340.33, 340.5, 342, 343, 344, 346.1, 346.19, 346.2, 347 and 348; I used the straight line method of amortization. The annual amortization is based on amortization accounting which distributes the unrecovered cost of fixed capital assets over the remaining amortization period selected for each account and vintage.

13. Q. Have you prepared an exhibit presenting the results of your study?

A. Yes. The report titled, “Depreciation Study – Calculated Annual Depreciation Accruals Related to Utility Plant as of November 30, 2009” which has been marked Exhibit No. JJS-1 sets forth the results of my study.

14. Q. How did you determine the recommended annual depreciation accrual rates?

A. The determination of annual depreciation accrual rates consists of two phases. In the first phase, service life and net salvage characteristics are estimated for each depreciable group, that is, each plant account or subaccount identified as having similar characteristics. In the second phase, the annual depreciation accrual rates are calculated based on the service life and net salvage estimates determined in the first phase.

ESTIMATION OF SERVICE LIFE AND NET SALVAGE

15. Q. Please describe the first phase of the study, that is, the manner in which you estimated the service life and net salvage characteristics for each depreciable group.

A. The service life and net salvage study consisted of compiling historical data from records related to the Company's plant; analyzing these data to obtain historical trends of survivor and salvage characteristics; obtaining supplementary information from management and operating personnel concerning the Company's practices and plans as they relate to plant operations; and interpreting the above data to form judgments of average service life and net salvage characteristics.

16. Q. What historical data did you analyze for the purpose of estimating the service life characteristics of the Company's plant?

A. The data consisted of the entries made by the Company to record plant transactions from 1995 through November 2009. The transactions included additions, retirements, transfers and the related balances. The Company, in accordance with my instructions, classified the data by depreciable group, type of transaction, the year in which the transaction took place, and the year in which the plant was installed. The data included surviving plant balances as of December 31, 1994.

17. Q. What method did you use to analyze this service life data?

A. I used the retirement rate method. That method is the most appropriate when aged retirement data are available, because it develops the average rates of retirement actually experienced during the period of study. Other methods of life analysis infer the rates of retirement based on a selected type survivor curve.

18. Q. Please describe the results of your use of the retirement rate method.

A. Each retirement rate analysis resulted in a life table which, when plotted, formed an original survivor curve. Each original survivor curve as plotted from the life table represents the average survivor pattern experienced by the several vintage groups during the experience band studied. Inasmuch as this survivor pattern does not necessarily describe the life characteristics of the property group, interpretation of the original curves is required in order to use them as valid considerations in service life estimation. Iowa type survivor curves were used in these interpretations.

19. Q. Please explain briefly what an "Iowa-type survivor curve" is and how you use it in estimating service life characteristics for each depreciable group.

A. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired.

Iowa type curves are used to smooth and extrapolate original survivor curves determined by the retirement rate method. The Iowa curves and truncated Iowa curves were used in this study to describe the forecasted rates of retirement based on the observed rates of retirement and the outlook for future retirements.

The estimated survivor curve designations for each depreciable group indicate the average service life, the family within the Iowa system and the relative height of the mode. For example, the Iowa 75-R3 indicates an average service life of seventy-five years; a right-moded, or R, type curve (the mode occurs after average life for right-moded curves); and a moderate height, 3, for the mode (possible modes for R type curves range from 1 to 5).

20. Q. What historical data did you analyze for the purpose of estimating net salvage characteristics?

A. The data consisted of the entries made by the Company to record retirements, cost of removal and gross salvage during the period 1980 through November 2009.

21. Q. What method did you use to analyze this net salvage data?

A. The net salvage data were analyzed by expressing the net salvage and its two components, cost of removal and gross salvage, as percents of the original cost retired on annual, three-year moving average and most recent five-year average bases. The use of averages smooth the annual fluctuations and assists in identifying underlying trends.

22. Q. Please describe the manner in which you used the analyses of net salvage to estimate net salvage percents.

A. The results of the net salvage analyses provided indications of historical net salvage levels. The judgments of net salvage incorporated these historical indications and consideration of estimates made for other water companies.

CALCULATION OF DEPRECIATION

23. Q. Please describe the second phase of the process that you used, that is, the calculation of annual depreciation accrual rates.

A. After I estimated the service life and net salvage characteristics for each depreciable group, I calculated annual depreciation accrual rates for each group in accordance with the straight line remaining life method, using the average service life procedure.

24. Q. What group procedure is being used in this proceeding for depreciable accounts?

A. The average service life procedure is used in the current proceeding for all depreciable accounts and installation years. The average service procedure also was used in the Company's last rate proceeding.

25. Q. Please describe briefly the amortization of certain General Plant accounts.

A. General Plant Accounts 340.1, 340.21, 340.22, 340.23, 340.3, 340.32, 340.33, 340.5, 342, 343, 344, 346.1, 346.19, 346.2, 347 and 348 include a very large number of units, but represent approximately four percent of depreciable utility plant. Depreciation accounting is difficult for these assets, inasmuch as periodic inventories are required to properly reflect plant in service. In amortization accounting, units of property are capitalized in the same manner as they are in depreciation accounting. However, retirements are recorded when a vintage is fully amortized rather than as the units are removed from service. That is, there is no dispersion of retirement. All units are retired when the age of the vintage reaches the amortization period.

DESCRIPTION OF REPORT

26. Q. Please outline the contents of your report.

A. My report is presented in three parts. Introduction includes statements related to the scope and basis of the depreciation study. Methods Used in the Estimation of Depreciation includes descriptions of the estimation of survivor curves and net salvage and the calculation of annual depreciation accrual rates.

Results of Study presents a description of the results, summaries of the depreciation calculations, graphs and tables which relate to the service life and net salvage studies, and the detailed depreciation calculations.

The table on pages III-4 through III-8 presents the estimated survivor curve, the net salvage percent, the original cost as of November 30, 2009, the calculated annual depreciation accrual amount and rate, book reserve, future accruals and the composite remaining life for each account or subaccount. The section beginning on page III-9 presents the results of the retirement rate analyses prepared as the historical bases for the service life estimates. The section beginning on page III-83 presents the results of the analyses of historical net salvage data. The section beginning on page III-121 presents the depreciation calculations related to surviving original cost as of November 30, 2009.

27. Q. Please use an example to illustrate the manner in which the study is presented in the report.

A. I will use Account 331, Mains and Accessories, as my example, inasmuch as it is a large depreciable group and is representative of the presentation.

The retirement rate method was used to analyze the survivor characteristics of this group. The life table for the 1995-2009 experience band is presented on pages III-59 through III-61 of the report. The life table, or original survivor curve, is plotted along with the estimated smooth survivor curve, the 75-R3 on page III-58. The net salvage analysis for the period 1980 through November 2009 is presented on pages III-104 and III-105.

The calculation of the annual depreciation accrual rate related to the original cost at November 30, 2009, for each subaccount of utility plant is presented on pages III-153 through III-155. The calculation is based on the 75-R3 survivor curve, negative fifteen percent net salvage and the attained age. The tabulation sets forth the installation year, the original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual amount. The totals are brought forward to the table on page III-5.

RECOMMENDATION

28. Q. What is your recommendation regarding annual depreciation accrual rates for the Company?

A. I recommend that the Company use a composite annual depreciation accrual rate for each account or subaccount. My recommended depreciation accrual rates, based on the depreciation study, are set forth for each account in column 8 of Table 1 on pages III-4 through III-8 of Exhibit JJS-1. In my opinion, these are reasonable and appropriate depreciation accrual rates for the Company.

29. Q. Are your recommended depreciation accrual rates reasonable for plant added subsequent to November 30, 2009?

A. Yes. The annual depreciation accrual rates calculated as of November 30, 2009, can reasonably be applied to the total balance including new plant additions during the next several years.

30. Does this complete your direct testimony?

A. Yes, it does.

KENTUCKY AMERICAN WATER COMPANY

Lexington, Kentucky

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO UTILITY PLANT

AT NOVEMBER 30, 2009

GANNETT FLEMING, INC. - VALUATION AND RATE DIVISION

Harrisburg, Pennsylvania

Gannett Fleming
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www.gannettfleming.com

February 18, 2010

Kentucky American Water Company
2300 Richmond Road
Lexington, KY 40502

Attention Mr. Nick O. Rowe, President

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the utility plant of Kentucky American Water Company as of November 30, 2009. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual and accrued depreciation, the statistical support for the life and net salvage estimates and the detailed tabulations of annual and accrued depreciation.

Respectfully submitted,

GANNETT FLEMING, INC.

John J. Spanos
JOHN J. SPANOS
Vice President
Valuation and Rate Division

JJS:krm

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PART I. INTRODUCTION

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

PART III. RESULTS OF STUDY

CONTENTS, cont.

PART III. RESULTS OF STUDY, cont.

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PART I. INTRODUCTION

KENTUCKY AMERICAN WATER COMPANY

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO UTILITY PLANT
AT NOVEMBER 30, 2009

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for the Kentucky American Water Company as applied to utility plant in service as of November 30, 2009. It relates to the concepts, methods, and basic judgments which underlie recommended annual depreciation accrual rates related to current utility plant in service.

The service life and net salvage estimates resulting from the study were based on informed judgment which incorporated analyses of historical plant retirement data as recorded through November 2009; a review of Company practice and outlook as they relate to plant operation and retirement; and consideration of current practice in the water industry, including knowledge of service life and salvage estimates used for other water properties.

PLAN OF REPORT

Part I, Introduction, includes brief statements of the scope and basis of the study. Part II presents descriptions of the methods used in the service life and salvage studies and the methods and procedures used in the calculation of depreciation. Part III presents the results of the study, including summary tables, survivor curve charts and life tables resulting from the retirement rate method of analysis, tabular results of the historical net salvage analyses, and detailed tabulations of the calculated remaining lives and annual accruals.

BASIS OF STUDY

Depreciation

For most accounts, the annual depreciation was calculated by the straight line method, using the average service life procedure and the remaining life basis. For certain General Plant accounts, the annual depreciation was based on amortization accounting. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group.

Survivor Curve Estimates

The procedure for estimating survivor curves, which define service lives and remaining lives, consisted of compiling historical service life data for the plant accounts or other depreciable groups, analyzing the historical data base through the use of accepted techniques, and forecasting the survivor characteristics for each depreciable account or group. These forecasts were based on interpretations of the historical data analyses and the probable future. The combination of the historical data and the estimated future trend yields a complete pattern of life characteristics, i.e., a survivor curve, from which the average service life and remaining service life are derived.

The historical data analyzed for life estimation purposes were compiled through November 2009 from the Company's plant accounting records. Such data included plant additions, retirements, transfers and other activity recorded by the Company for each of its plant accounts and subaccounts.

The estimates of net salvage incorporated a review of experienced costs of removal and salvage related to plant retirements, and considerations of trends exhibited by the historical data. Each component of net salvage, i.e., cost of removal and salvage was stated in dollars and as a percent of retirement for purposes of estimating average future levels of the components, as well as of net salvage.

An understanding of the function of the plant and information with respect to the reasons for past retirements and the expected causes of future retirements was obtained through field trips and discussions with operating and management personnel. The supplemental information obtained in this manner was considered in the interpretation and extrapolation of the statistical analyses.

Calculation of Depreciation

The depreciation accrual rates were calculated using the straight line method, the remaining life basis, and the average service life depreciation procedure. The life span technique was used for major structures. In this technique, an average date of final retirement was estimated for each plant location, and the estimated survivor curves applied to each vintage were truncated at ages coinciding with the dates of final retirement.

The change to amortization accounting for certain accounts is recommended because of the disproportionate plant accounting effort required when compared to the minimal original cost of the large number of items in these accounts. An explanation of the calculation of annual and accrued amortization is presented on page II-28 of the report.

PART II. METHODS USED IN

-1

THE ESTIMATION OF DEPRECIATION

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

DEPRECIATION

Depreciation, in public utility regulation, is the loss in service value not restored by current repairs or covered by insurance.

Depreciation as used in accounting is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the straight line method of depreciation.

The calculation of annual depreciation based on the straight line method requires the estimation of average life and salvage. These subjects are discussed in the sections which follow.

SERVICE LIFE AND NET SALVAGE ESTIMATION

Average Service Life

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages. A discussion of the general concept of survivor curves is presented. Also, the Iowa type survivor curves are reviewed.

Survivor Curves

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1 a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1 the remaining life at age 30 years is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval and is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

Iowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves,

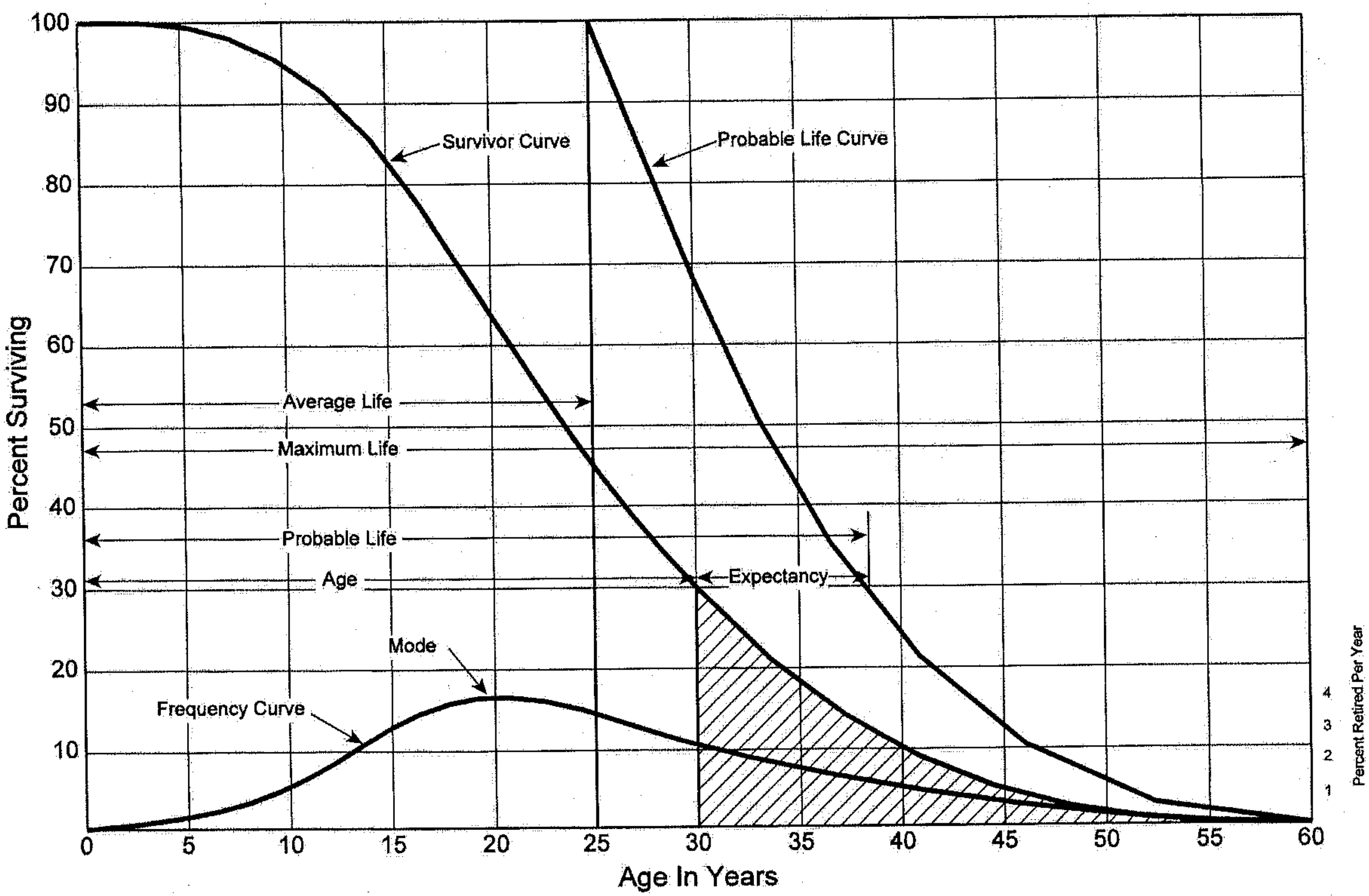

Figure 1. A Typical Survivor Curve and Derived Curves

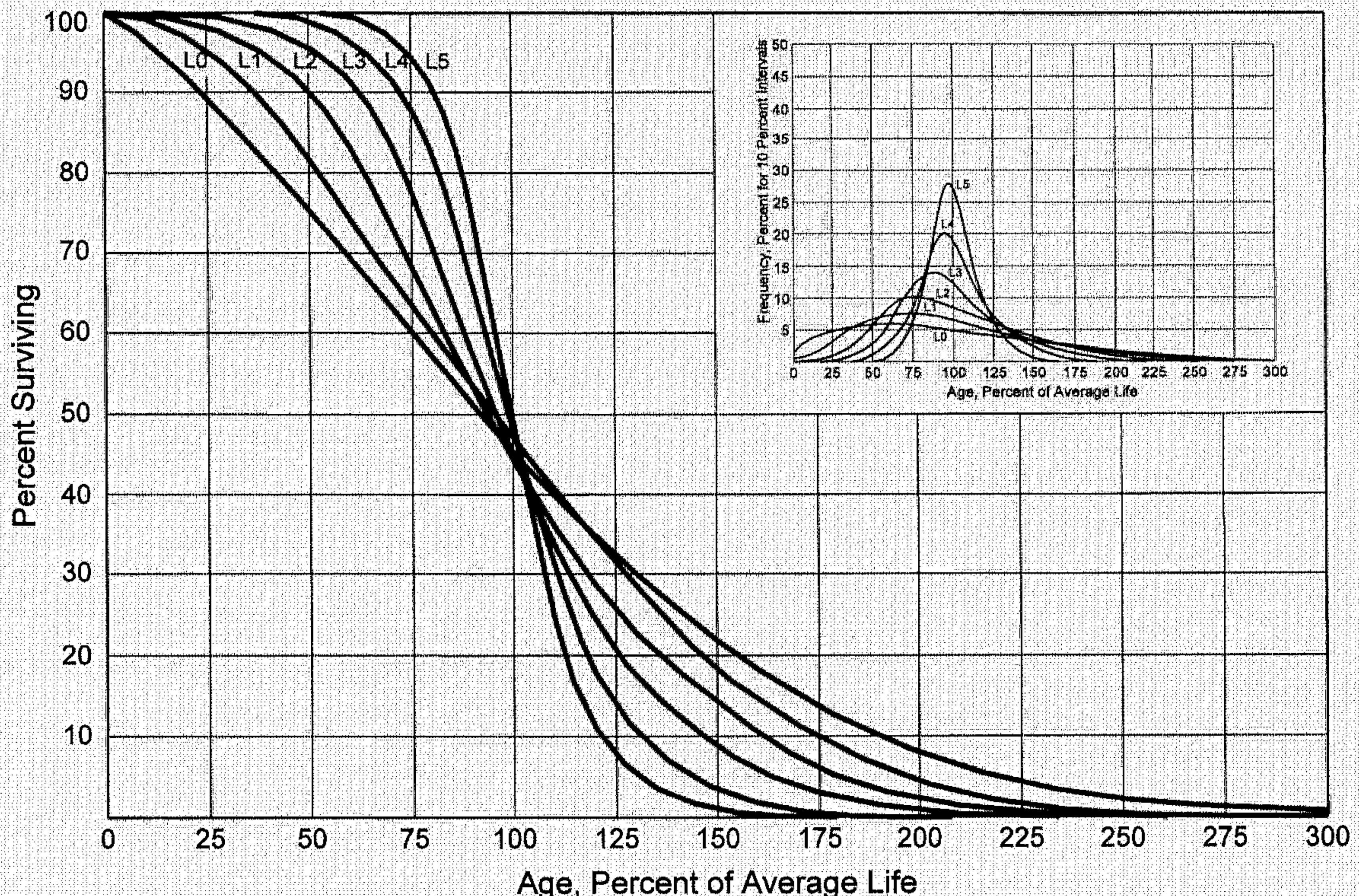

Figure 2. Left Modal or "L" Iowa Type Survivor Curves

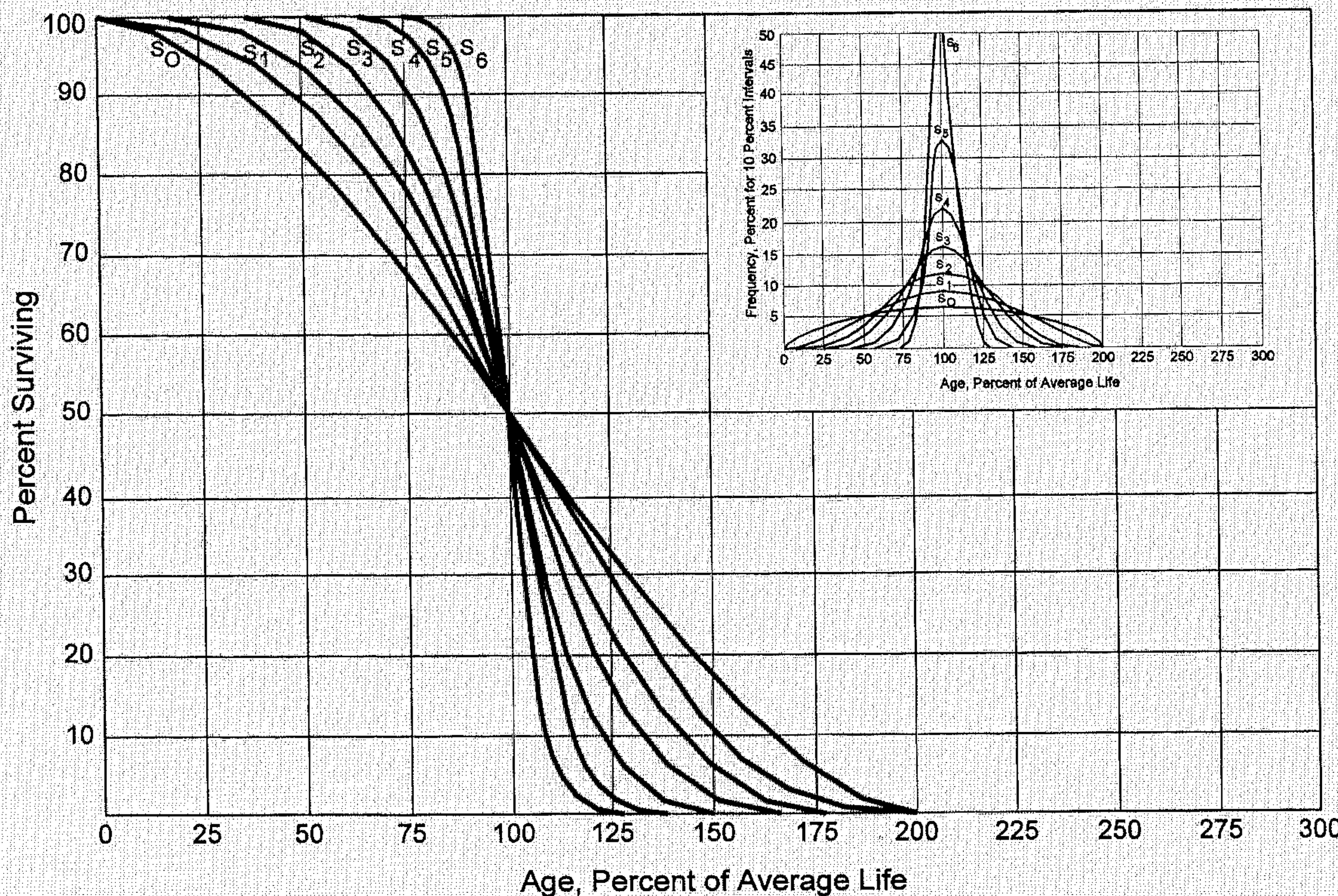

Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.[1] These type curves have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."[2] In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis[3] presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to

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[1]Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

[2]Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

[3]Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.

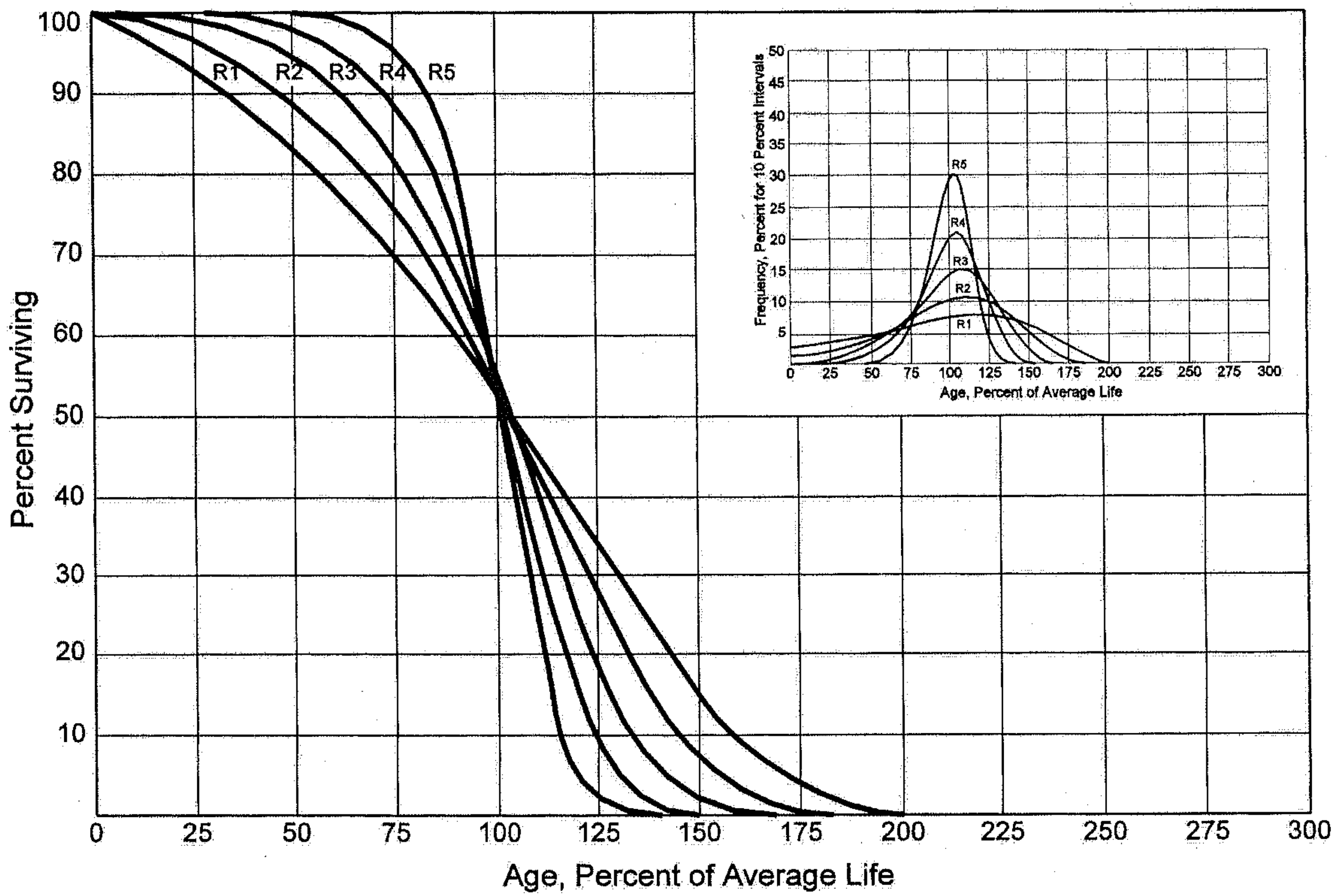

Figure 4. Right Modal or "R" Iowa Type Survivor Curves

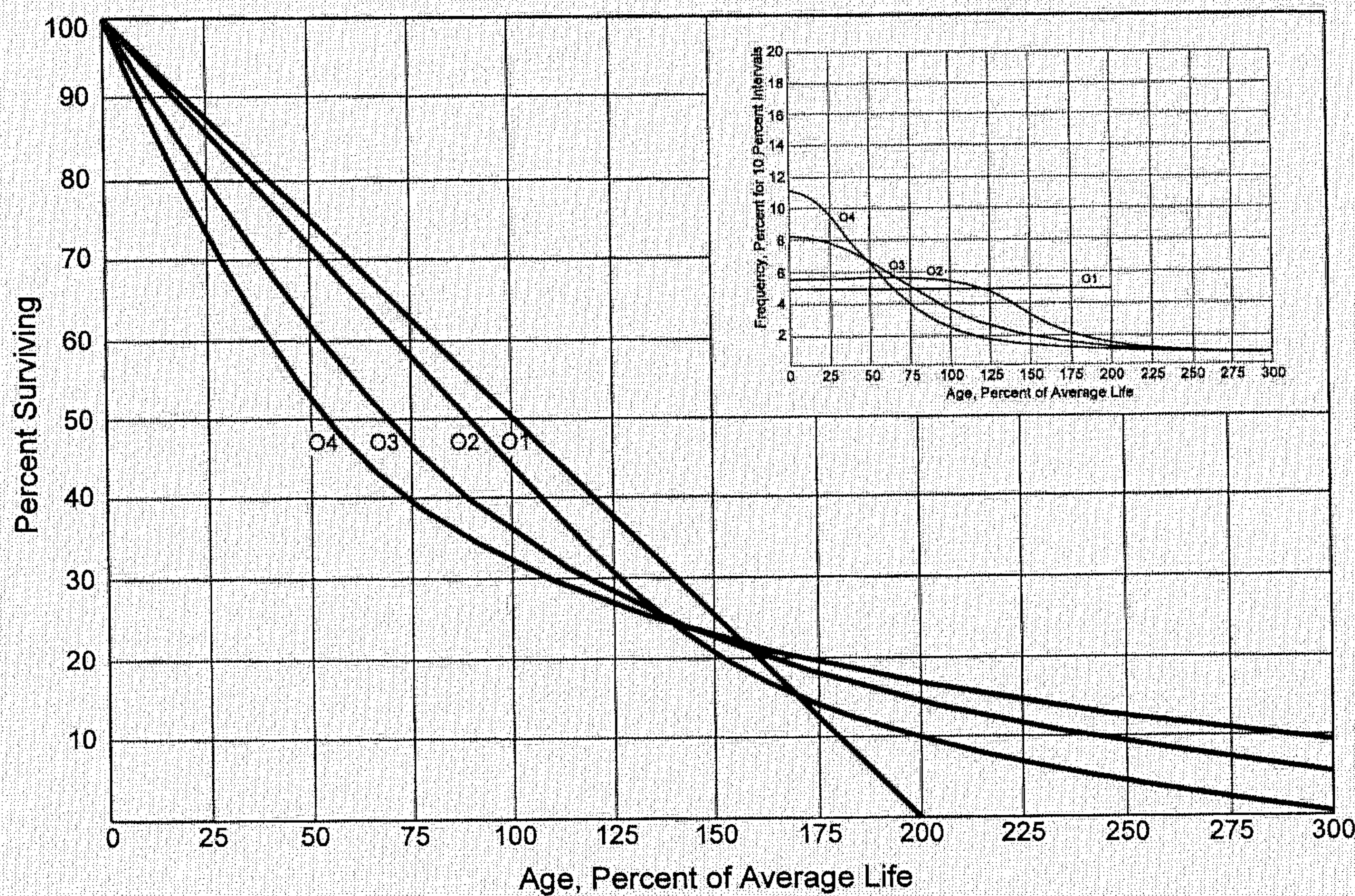

Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

property groups for which aged accounting experience is available or for which aged accounting experience is developed by statistically aging unaged amounts and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"[4] "Engineering Valuation and Depreciation,"[5] and "Depreciation Systems."[6]

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginnings of the age intervals during the same period. The period of observation is referred to as the <u>experience band</u>, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the <u>placement band</u>. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table, and illustrations of smoothing the stub survivor curve.

<u>Schedules of Annual Transactions in Plant Records</u>. The property group used to illustrate the retirement rate method is observed for the experience band 2000-2009 during which there were placements during the years 1995-2009. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner

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[4]Winfrey, Robley, Supra Note 1.

[5]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

[6]Wolf, Frank K. and W. Chester Fitch. <u>Depreciation Systems</u>. Iowa State University Press. 1994

presented in Tables 1 and 2 on pages II-12 and II-13. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $10,000 of the dollars invested in 1995 were retired in 2000. The $10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Table 1 immediately above the stairstep line drawn on the table beginning with the 2000 retirements of 1995 installations and ending with the 2009 retirements of the 2004 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$

In Table 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are

TABLE 1. RETIREMENTS FOR EACH YEAR 2000-2009
SUMMARIZED BY AGE INTERVAL

Experience Band 2000-2009 | Placement Band 1995-2009

Year Placed	Retirements, Thousands of Dollars During Year										Total During Age Interval	Age Interval
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1995	10	11	12	13	14	16	23	24	25	26	26	13½-14½
1996	11	12	13	15	16	18	20	21	22	19	44	12½-13½
1997	11	12	13	14	16	17	19	21	22	18	64	11½-12½
1998	8	9	10	11	11	13	14	15	16	17	83	10½-11½
1999	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2000	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2001		5	11	12	13	14	15	16	18	20	113	7½-8½
2002			6	12	13	15	16	17	19	19	124	6½-7½
2003				6	13	15	16	17	19	19	131	5½-6½
2004					7	14	16	17	19	20	143	4½-5½
2005						8	18	20	22	23	146	3½-4½
2006							9	20	22	25	150	2½-3½
2007								11	23	25	151	1½-2½
2008									11	24	153	½-1½
2009	—	—	—	—	—	—	—	—	—	13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 2000-2009
SUMMARIZED BY AGE INTERVAL

Experience Band 2000-2009 | Placement Band 1995-2009

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars During Year 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total During Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1995	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
1996	-	-	-	-	-	-	-	-	-	-	-	12½-13½
1997	-	-	-	-	-	-	-	-	-	-	-	11½-12½
1998	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
1999	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2000		-	-	-	-	-	-	-	-	-	(5)	8½-9½
2001		-	-	-	-	-	-	-	-	-	6	7½-8½
2002			-	-	-	-	-	-	-	-	-	6½-7½
2003				-	-	-	-	(12)[b]	-	-	-	5½-6½
2004					-	-	-	-	22[a]	-	-	4½-5½
2005						-	-	(19)[b]	-	-	10	3½-4½
2006							-	-	-	-	-	2½-3½
2007								-	-	(102)[c]	(121)	1½-2½
2008									-	-	-	½-1½
2009											-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

[a] Transfer Affecting Exposures at Beginning of Year
[b] Transfer Affecting Exposures at End of Year
[c] Sale with Continued Use
Parentheses denote Credit amount.

not totaled with the retirements but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15.

The surviving plant at the beginning of each year from 2000 through 2009 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2005 are calculated in the following manner:

Exposures at age 0 = amount of addition	= \$750,000
Exposures at age ½ = \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½ = \$742,000 - \$18,000	= \$724,000
Exposures at age 2½ = \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½ = \$685,000 - \$22,000	= \$663,000

For the entire experience band 2000-2009, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing

TABLE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2000-2009
SUMMARIZED BY AGE INTERVAL

Experience Band 2000-2009 — Placement Band 1995-2009

	Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year											
Year Placed (1)	2000 (2)	2001 (3)	2002 (4)	2003 (5)	2004 (6)	2005 (7)	2006 (8)	2007 (9)	2008 (10)	2009 (11)	Total at Beginning of Age Interval (12)	Age Interval (13)
1995	255	245	234	222	209	195	239	216	192	167	167	13½-14½
1996	279	268	256	243	228	212	194	174	153	131	323	12½-13½
1997	307	296	284	271	257	241	224	205	184	162	531	11½-12½
1998	338	330	321	311	300	289	276	262	242	226	823	10½-11½
1999	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2000	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2001		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2002			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2003				580[a]	574	561	546	530	501	482	3,057	5½-6½
2004					660[a]	653	639	623	628	609	3,789	4½-5½
2005						750[a]	742	724	685	663	4,332	3½-4½
2006							850[a]	841	821	799	4,955	2½-3½
2007								960[a]	949	926	5,719	1½-2½
2008									1,080[a]	1,069	6,579	½-1½
2009										1,220[a]	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

[a] Additions during the year.

of the retirements during an age interval (Table 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

Original Life Table. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15				
Exposures at age 4½	=	3,789,000				
Retirements from age 4½ to 5½	=	143,000				
Retirement Ratio	=	143,000	÷	3,789,000	=	0.0377
Survivor Ratio	=	1.000	-	0.0377	=	0.9623
Percent surviving at age 5½	=	(88.15)	x	(0.9623)	=	84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

TABLE 4. ORIGINAL LIFE TABLE
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2000-2009

Placement Band 1995-2009

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval (1)	Exposures at Beginning of Age Interval (2)	Retirements During Age Interval (3)	Retirement Ratio (4)	Survivor Ratio (5)	Percent Surviving at Beginning of Age Interval (6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
					35.66
Total	44,780	1,606			

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 divided by Column 2.
Column 5 = 1.0000 minus Column 4.
Column 6 = Column 5 multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve. The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8 the original curve developed in Table 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6 the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7 the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8 the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0. In Figure 9 the three fittings, 12-L1, 12-S0, and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group, assuming no contrary relevant factors external to the analysis of historical data.

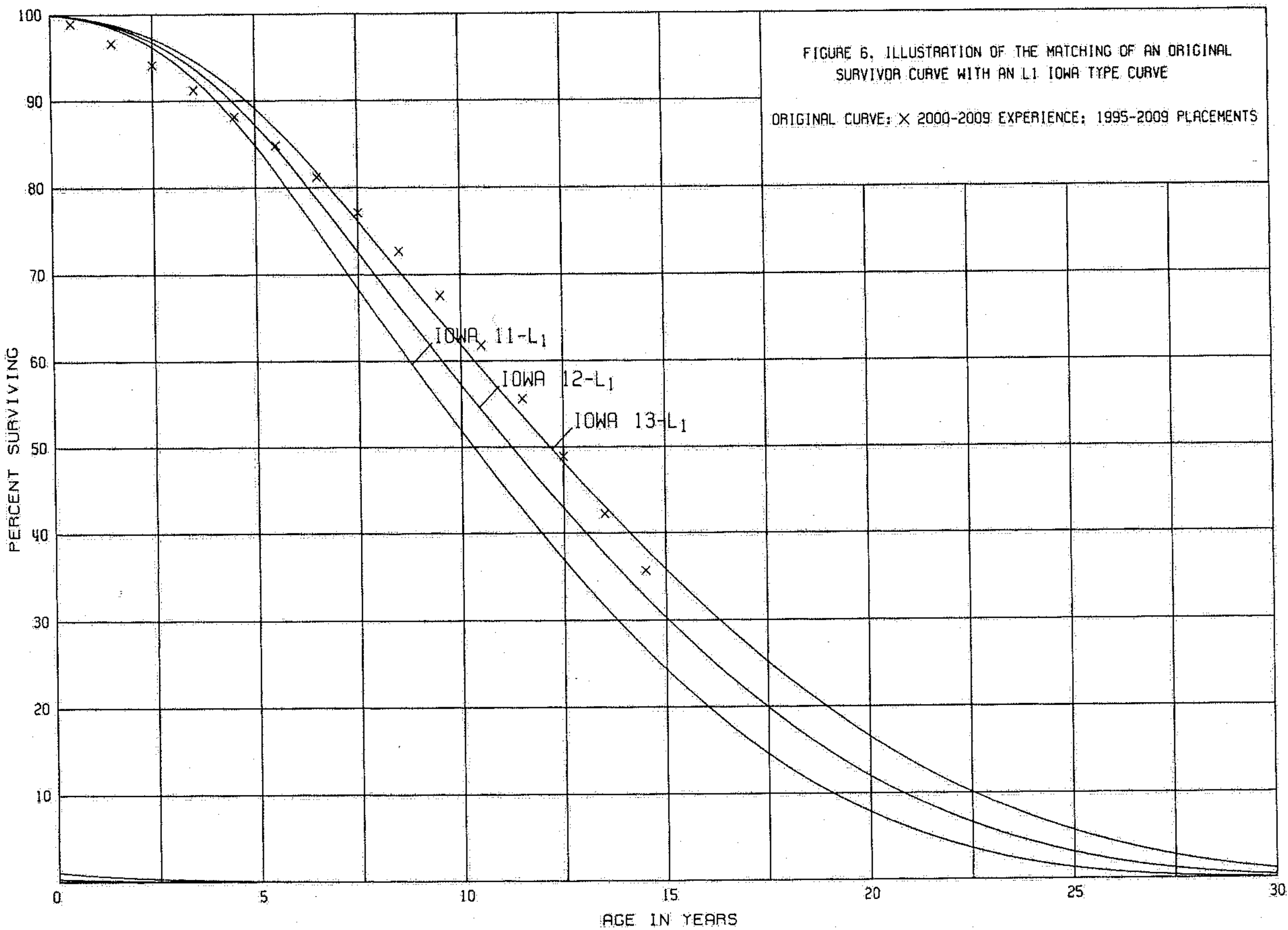


FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE

ORIGINAL CURVE: × 2000-2009 EXPERIENCE; 1995-2009 PLACEMENTS

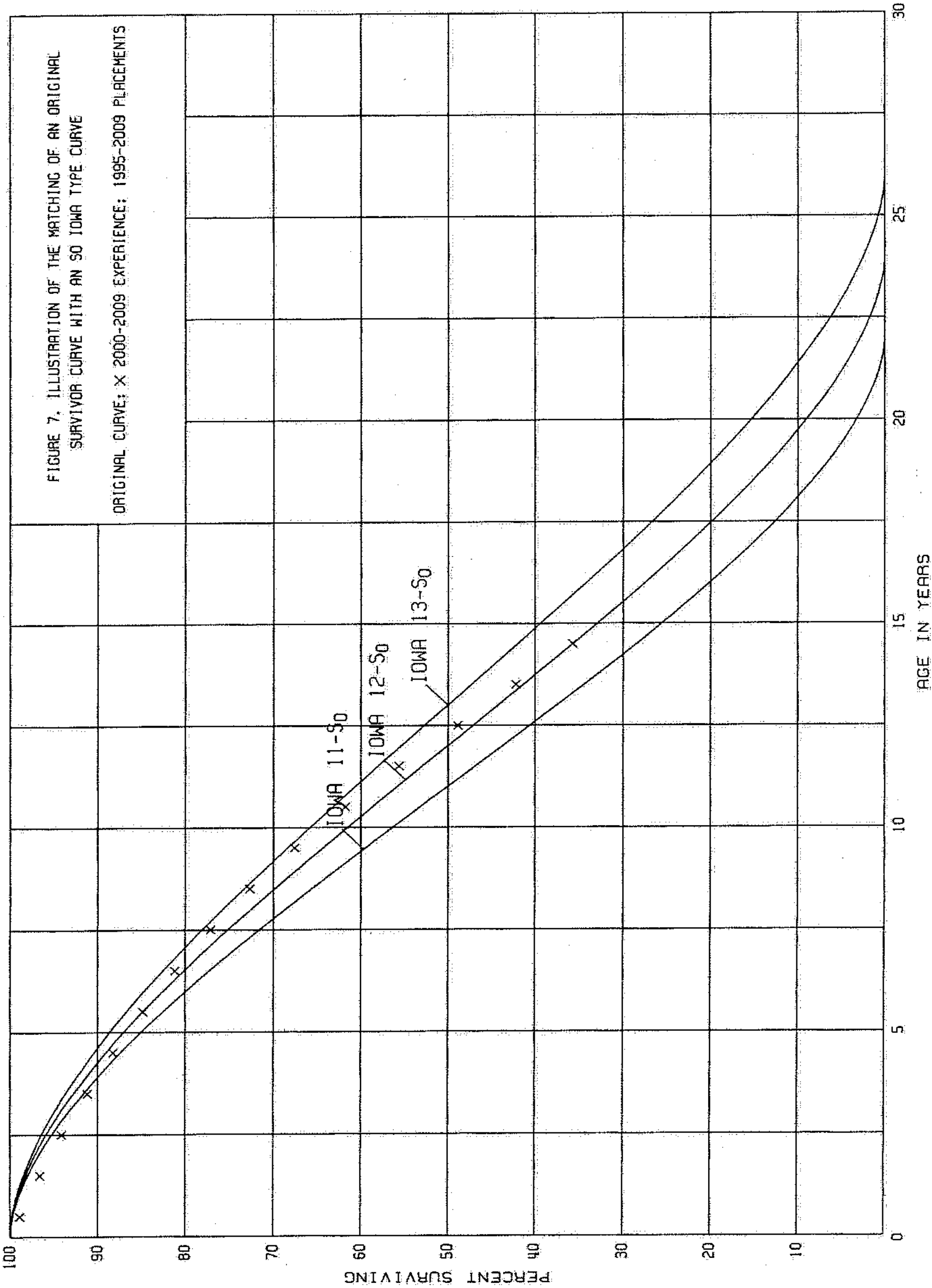


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN SO IOWA TYPE CURVE

ORIGINAL CURVE: × 2000-2009 EXPERIENCE; 1995-2009 PLACEMENTS

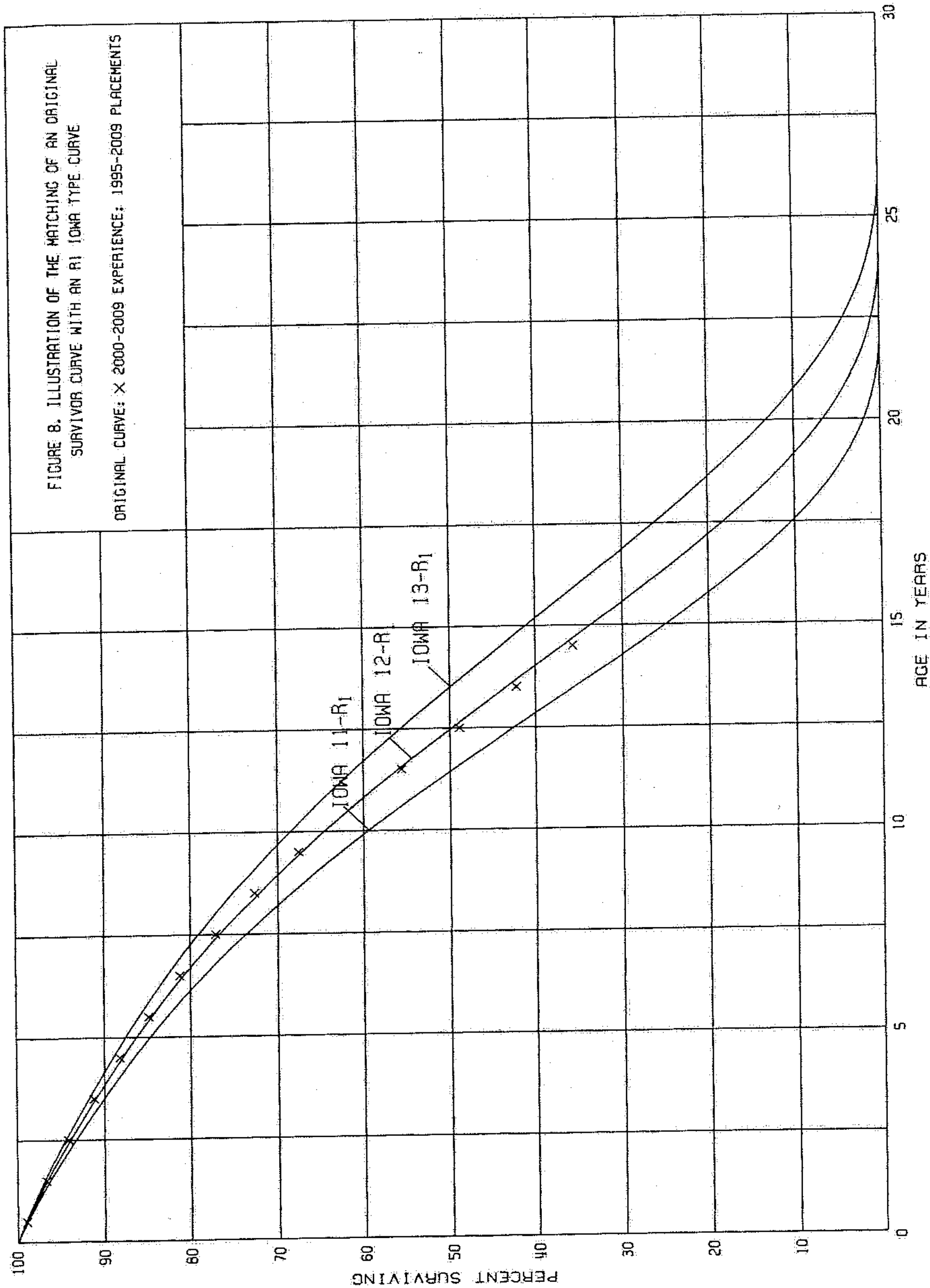


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE

ORIGINAL CURVE: × 2000-2009 EXPERIENCE; 1995-2009 PLACEMENTS

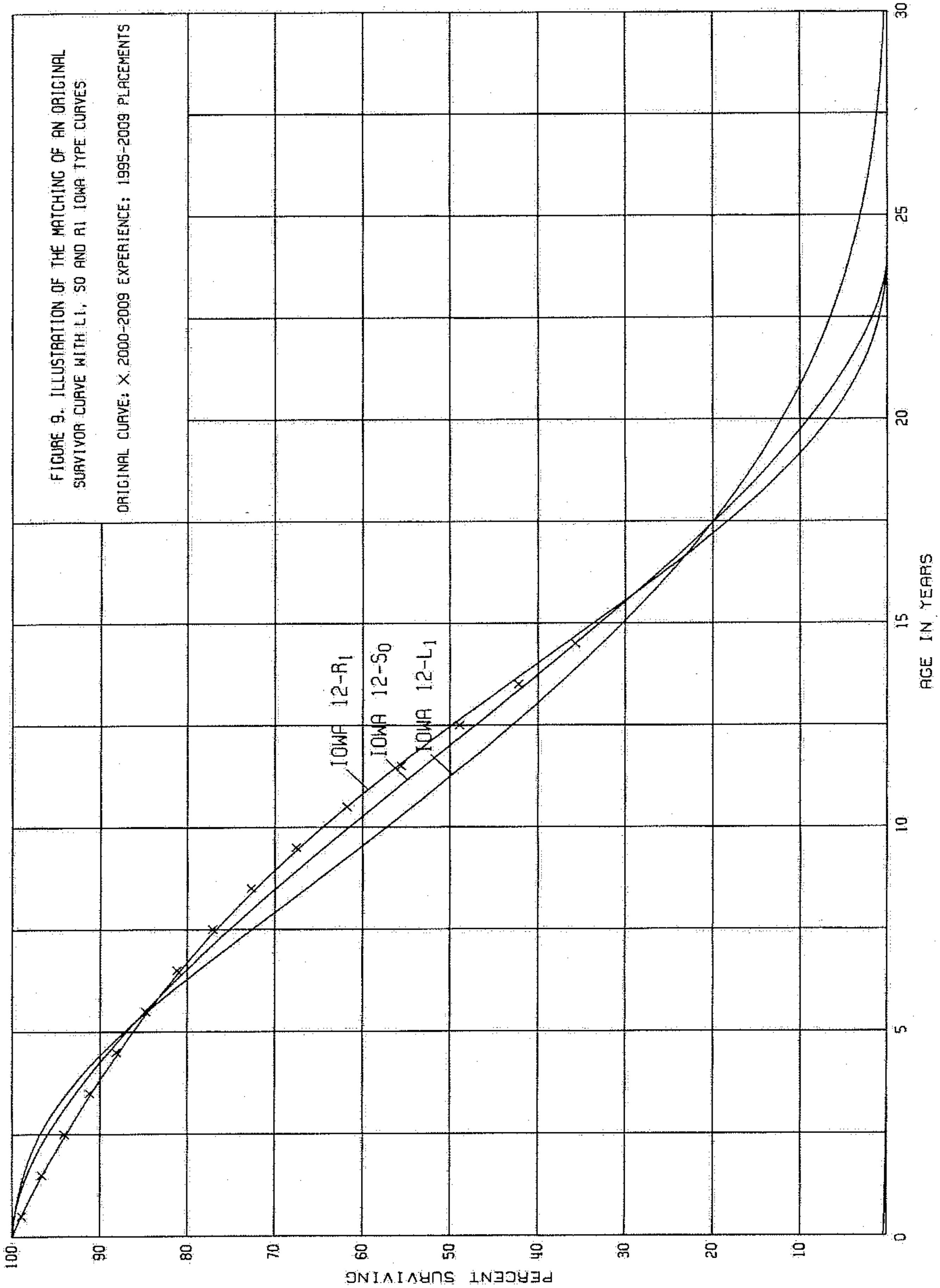


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH L1, S0 AND R1 IOWA TYPE CURVES

ORIGINAL CURVE: X 2000-2009 EXPERIENCE; 1995-2009 PLACEMENTS

Service Life Considerations

The service life estimates were based on judgment which considered a number of factors. The primary factors were the statistical analyses of data; current company policies and outlook as determined during field reviews of the property and other conversations with management; and the survivor curve estimates from previous studies of this company and other water companies.

For most of the mass plant accounts and subaccounts, the statistical analyses resulted in good to excellent indications of significant survivor patterns. These accounts represent 69 percent of depreciable plant. Generally, the information external to the statistics led to no significant departure from the indicated survivor curves for the accounts listed below.

Account No.	Account Description
304.2 & 304.3	Structures and Improvements
311.2, 311.3, 311.4 311.52, & 311.54	Pumping Equipment
320.11	Purification System - Equipment
331	Mains and Accessories - All Mains
333	Services
335	Fire Hydrants
341.1	Transportation Equipment - Light Duty Trucks
341.2	Transportation Equipment - Heavy Duty Trucks
341.3	Transportation Equipment - Autos
341.4	Transportation Equipment - Other

Accounts 331, Mains and Accessories, is used to illustrate the manner in which the study was conducted for the accounts in the preceding list. Aged plant accounting data have been compiled for the years through November 2009. These data have been coded according to account or property group, type of transaction, year in which the transaction took place, and year in which the utility plant was placed in service. The retirements, other plant transactions and plant additions were analyzed by the retirement rate method.

The survivor curve estimate for this account is the 75-R3 and is based on the statistical indication for the period 1995 through 2009. The 75-R3 is a good fit of the significant portion of the original survivor curve as set forth on page III-58, is consistent with management outlook for a continuation of the historical experience and is within the typical service life range of 75 to 100 years for water mains.

Amortization accounting is proposed for certain General Plant accounts that represent numerous units of property, but a small portion of the depreciable plant in service. These accounts represent approximately 4 percent of total utility plant. A discussion of the basis for the amortization periods is presented in the section "Calculation of Annual and Accrued Amortization".

Generally, the estimates for the remaining accounts which comprise 27 percent of the total depreciable plant in service were based on judgments which considered the nature of the plant and equipment, the previous estimate for this company and a general knowledge of service lives for similar equipment in other water companies.

Salvage Analysis

The estimates of net salvage were based in part on historical data compiled for the years 1980 through 2009. Cost of removal and salvage were expressed as percents of the original cost of plant retired, both on annual and three-year moving average bases. The most recent five-year average also was calculated for consideration. The net salvage estimates are expressed as a percent of the original cost of plant retired.

Net Salvage Considerations

The estimates of salvage were based primarily on judgment which considered a number of factors. The primary factors were the analyses of historical data; a knowledge of management's plans and operating policies; and net salvage estimates from previous studies of this company and other water companies. The accounts for which the historical analyses were representative of expectations for future net salvage levels represent 93 percent of the depreciable plant balance and are presented below:

304.2 & 304.3	Structures and Improvements
304.4	Structures and Improvements - Trans. & Dist.
304.6	Structures and Improvements - Office Buildings
304.8	Structures and Improvements - Miscellaneous
309	Supply Mains
311.2, 311.3, 311.4, 311.52 & 311.54	Pumping Equipment
320.1 & 320.11	Purification System
330.1	Elevated Tanks and Standpipes
331	Mains and Accessories - All Mains
333	Services
334.1, 334.11, 334.12, 334.13, 334.2 & 334.3	Meters and Meter Installations
335	Fire Hydrants
341.1	Transportation Equipment - Light Duty Trucks
341.2	Transportation Equipment - Heavy Duty Trucks
341.3	Transportation Equipment - Autos
345	Power Operated Equipment

Account 335, Fire Hydrants, is used to illustrate the manner in which the study was conducted for the accounts in the preceding list. Depreciation reserve accounting data were compiled for the years 1980 through 2009. These data include the retirements, cost of removal and gross salvage.

The net salvage estimate for this account is negative 25 percent and is based on the trends in cost of removal and salvage percents as shown in the tabulation on pages III-110 and III-111. Cost of removal as a percent of the original cost retired has fluctuated during the experience and most recently decreased as a percentage of plant retired. The overall and most recent five-year bands averaged 27 and 15 percent removal cost, respectively. Gross salvage has been sporadic, averaging 26 percent for the 30-year period, but trending to 0 percent in recent years. The negative 25 percent net salvage estimate is based primarily on the overall cost of removal and gross salvage percent.

Amortization accounting is proposed for certain General Plant accounts which represent 4 percent of depreciable property. Future gross salvage and removal cost for these accounts will be recorded against the oldest vintage being retired. Inasmuch as there will be minimal to no depreciation reserve entries related to salvage, the estimate of net salvage for accounts subject to amortization is zero percent.

Generally, the net salvage estimates for the remaining accounts, which comprise 3 percent of the total depreciable plant in service, were based on judgments which considered the nature of the plant and equipment, reviews of available historical data, and a general knowledge of net salvage percents for similar equipment in other water companies.

CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

After the survivor curve and salvage are estimated, the annual depreciation accrual rate can be calculated. In the average service life procedure, the annual accrual rate is computed by the following equation:

$$\textit{Annual Accrual Rate, Percent} = \frac{(100\% - \textit{Net Salvage, Percent})}{\textit{Average Service Life}}.$$

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which will not be allocated to expense through future depreciation accruals, if current forecasts of life characteristics are used as a basis for straight line depreciation accounting.

The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account, based upon the attained age and the estimated survivor curve. The accrued depreciation ratios are calculated as follows:

$$\textit{Ratio} = \left(1 - \frac{\textit{Average Remaining Life Expectancy}}{\textit{Average Service Life}}\right)(1 - \textit{Net Salvage, Percent}).$$

The application of these procedures is described for a single unit of property and a group of property units. Salvage is omitted from the description for ease of application.

Single Unit of Property

The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a $1,000 unit of property attains an age of four years and has a life expectancy of six years, the annual accrual over the total life is:

$$\frac{\$1,000}{(4 + 6)} = \$100 \textit{ per year.}$$

The accrued depreciation is:

$$\$1,000 \left(1 - \frac{6}{10}\right) = \$400.$$

Group Depreciation Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. There are two primary group procedures, namely, average service life and equal life group.

Remaining Life Annual Accruals. For the purpose of calculating remaining life accruals as of November 30, 2009, the depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation follow. The detailed calculations as of November 30, 2009, are set forth in the Results of Study section of the report.

Average Service Life Procedure. In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals, if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account, based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$Ratio = 1 - \frac{Average\ Remaining\ Life}{Average\ Service\ Life}.$$

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

Amortization is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is proposed for certain General Plant accounts that represent numerous units of property, but a very small portion of depreciable utility plant in service. The accounts and their amortization periods are as follows:

	Account	Amortization Period, Years
	Office Furniture and Equipment	
340.10	Furniture	20
340.21	Mainframe	5
340.22	Personal Computers	5
340.23	Peripheral - Other	5
340.30	Computer Software	5
340.32	Computer Software - Personal	5
340.33	Computer Software - Other	5
340.50	Other	15
342.00	Stores Equipment	25
343.00	Tools, Shop & Garage Equipment	20
344.00	Laboratory Equipment	15
346.10	Communication Equip. - Non-Telephone	15
346.19	Communication Equip. - Remote Control and Instrumentation	15
346.20	Communication Equip. - Telephone	15
347.00	Miscellaneous Equipment	20
348.00	Other Tangible Property	20

The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the original cost by the period of amortization for the account.

III-1

PART III. RESULTS OF STUDY

PART III. RESULTS OF STUDY

QUALIFICATION OF RESULTS

The calculated annual depreciation accrual rates are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage and for the change of the composition of property in service. The annual accrual rates were calculated in accordance with the straight line remaining life method of depreciation using the average service life procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

The annual depreciation accrual rates are applicable specifically to the water plant in service as of November 30, 2009. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to November 30, 2009, is reasonable for a period of three to five years.

DESCRIPTION OF STATISTICAL SUPPORT

The service life and salvage estimates were based on judgment which incorporated statistical analyses of retirement data, discussions with management and consideration of estimates made for other water utility companies. The results of the statistical analyses of service life are presented in the section titled "Service Life Statistics".

The estimated survivor curves for each account are presented in graphical form. The charts depict the estimated smooth survivor curve and original survivor curve(s), when applicable, related to each specific group. For groups where the original survivor curve was plotted, the calculation of the original life table is also presented.

The analyses of salvage data are presented in the section titled, "Net Salvage Statistics". The tabulations present annual cost of removal and salvage data, three-year moving averages and the most recent five-year average. Data are shown in dollars and as percentages of original costs retired.

DESCRIPTION OF DEPRECIATION TABULATIONS

A summary of the results of the study, as applied to the original cost of utility plant at November 30, 2009, is presented on pages III-4 through III-8 of this report. The schedule sets forth the original cost, the book depreciation reserve, future accruals, the calculated annual depreciation rate and amount, and the composite remaining life related to utility plant.

The tables of the calculated annual depreciation accruals are presented in account sequence in the section titled "Depreciation Calculations." The tables indicate the estimated survivor curve and salvage percent for the account and set forth for each installation year the original cost, the calculated accrued depreciation, the allocated book reserve, future accruals, the remaining life and the calculated annual accrual amount.

KENTUCKY AMERICAN WATER COMPANY

ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED
ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AT NOVEMBER 30, 2009

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)		NET SALVAGE (3)	ORIGINAL COST AT NOVEMBER 30, 2009 (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)	COMPOSITE REMAINING LIFE (9)
	STRUCTURES AND IMPROVEMENTS									
304.10	SOURCE OF SUPPLY	35-S1.5		(5)	2,673,341.00	177,274	2,529,735	88,670	3.32	29.7
304.20	POWER AND PUMPING STRUCTURES									
	KENTUCKY RIVER STATION	60-R2.5	*	(20)	3,312,283.48	1,078,367	2,896,374	114,704	3.46	25.3
	OTHER STRUCTURES	60-R2.5		(20)	1,903,638.58	427,693	1,856,672	41,774	2.19	44.4
	TOTAL ACCOUNT 304.20				5,215,922.06	1,506,060	4,753,046	156,478	3.00	30.4
304.30	WATER TREATMENT									
	KENTUCKY RIVER STATION	60-R2.5	*	(20)	4,737,792.59	680,519	5,004,832	195,273	4.12	25.6
	RICHMOND ROAD STATION TREATMENT PLANT	60-R2.5	*	(20)	3,155,429.37	492,400	3,294,115	126,486	4.01	26.0
	OTHER STRUCTURES	60-R2.5		(20)	2,003,710.24	115,428	2,289,024	44,112	2.20	51.9
	TOTAL ACCOUNT 304.30				9,896,932.20	1,288,347	10,587,971	365,871	3.70	28.9
304.40	TRANSMISSION AND DISTRIBUTION	30-S2		(5)	1,029,339.68	498,903	581,904	26,670	2.59	21.8
304.60	OFFICE BUILDINGS									
	MAIN OFFICE	55-R2.5	*	(5)	3,023,405.01	590,924	2,583,651	88,796	2.94	29.1
	OTHER STRUCTURES	55-R2.5		(5)	3,166,549.16	454,608	2,870,269	63,286	2.00	45.4
	TOTAL ACCOUNT 304.60				6,189,954.17	1,045,532	5,453,920	152,082	2.46	35.9
304.70	STORE, SHOP AND GARAGE STRUCTURES	50-R2.5		0	1,729,151.96	271,636	1,457,514	35,188	2.03	41.4
304.80	MISCELLANEOUS STRUCTURES	25-R2		(10)	1,923,367.34	309,708	1,805,997	95,698	4.98	18.9
	TOTAL ACCOUNT 304				28,658,008.41	5,097,460	27,270,087	920,657	3.21	29.6
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	75-R4		0	1,005,085.91	351,752	653,334	13,198	1.31	49.5
306.00	LAKE, RIVER AND OTHER INTAKES	50-S1		0	537,097.97	51,660	485,438	14,096	2.62	34.4
309.00	SUPPLY MAINS	65-S2.5		(10)	5,143,914.92	1,152,774	4,505,535	116,345	2.26	38.7
310.10	OTHER POWER GENERATION EQUIPMENT	35-S2.5		0	935,700.43	272,615	663,085	28,081	3.00	23.6
	PUMPING EQUIPMENT									
311.20	ELECTRIC	50-R3		(20)	9,389,884.23	4,830,584	6,437,280	190,371	2.03	33.8
311.30	DIESEL	50-R3		(20)	718,476.09	333,440	528,733	16,088	2.24	32.9
311.40	HYDRAULIC	50-R3		(20)	8,405.01	1,557	8,529	191	2.27	44.7
311.52	SOURCE OF SUPPLY	50-R3		(20)	8,386,157.45	144,165	9,919,225	202,786	2.42	48.9
311.54	TRANS. AND DISTR. PUMPING EQUIPMENT	50-R3		(20)	176,341.11	8,997	202,612	4,258	2.41	47.6
	TOTAL ACCOUNT 311				18,679,263.89	5,318,743	17,096,379	413,694	2.21	41.3
320.10	PURIFICATION SYSTEM - STRUCTURES									
	KENTUCKY RIVER STATION	60-R3	*	(20)	8,568,723.98	6,274,344	4,008,127	179,106	2.09	22.4
	RICHMOND ROAD STATION TREATMENT PLANT	60-R3	*	(20)	7,492,819.99	3,004,727	5,986,662	221,237	2.95	27.1
	OTHER STRUCTURES	60-R3		(20)	2,286,435.90	636,270	2,107,453	44,720	1.96	47.1
	TOTAL ACCOUNT 320.10				18,347,979.87	9,915,341	12,102,242	445,063	2.43	27.2

KENTUCKY AMERICAN WATER COMPANY

ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED
ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AT NOVEMBER 30, 2009

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	ORIGINAL COST AT NOVEMBER 30, 2009 (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)	COMPOSITE REMAINING LIFE (9)
320.11	PURIFICATION SYSTEM - EQUIPMENT	45-R2.5	(20)	12,053,944.26	4,601,199	9,863,533	307,662	2.55	32.1
320.20	PURIFICATION SYSTEM - FILTER MEDIA	5-L2.5	0	168,568.93	2,214	166,355	40,357	23.94	4.1
	TOTAL ACCOUNT 320			30,570,493.06	14,518,754	22,132,130	793,082	2.59	27.9
330.00	DISTRIBUTION RESERVOIRS AND STANDPIPES	60-S2.5	0	1,668,616.27	192,926	475,691	27,023	1.62	17.6
330.10	ELEVATED TANKS AND STANDPIPES	60-S2.5	(25)	10,270,432.02	3,184,474	9,653,566	206,894	2.01	46.7
330.20	GROUND LEVEL FACILITIES	60-S2.5	0	112,146.89	23,342	88,805	1,542	1.37	57.6
330.40	CLEARWELLS	60-S2.5	0	581.91	278	304	5	0.86	60.8
	TOTAL ACCOUNT 330			12,051,777.09	3,401,020	10,218,366	235,464	1.95	43.4
331.00	MAINS AND ACCESSORIES	75-R3	(15)	138,948,436.68	22,270,577	137,520,127	2,326,436	1.67	59.1
333.00	SERVICES	60-R2.5	(100)	19,613,861.46	9,689,944	29,537,782	591,287	3.01	50.0
	METERS								
334.10	METERS	40-R1	(10)	1,677,849.26	74,199	1,771,434	45,022	2.68	39.3
334.11	BRONZE CASE	40-R1	(10)	3,646,975.94	146,118	3,865,555	99,463	2.73	38.9
334.12	PLASTIC CASE	40-R1	(10)	910,481.94	275,743	725,787	25,113	2.76	28.9
334.13	OTHER	40-R1	(10)	7,171,179.83	595,307	7,292,992	208,465	2.91	35.0
	TOTAL ACCOUNT 334.1			13,406,486.97	1,091,367	13,655,768	378,063	2.82	36.1
334.20	METER INSTALLATIONS	40-R1	(10)	16,560,341.65	4,623,607	13,592,768	463,756	2.80	29.3
334.30	METER VAULTS	40-R1	(10)	142,281.28	4,949	151,561	3,840	2.70	39.5
335.00	FIRE HYDRANTS	80-R3	(25)	9,832,929.03	2,719,721	9,571,441	143,307	1.46	66.8
339.10	OTHER SOURCE OF SUPPLY PLANT	5-SQ	0	8,374.81	5,059	3,316	1,285	15.34	2.6
339.60	OTHER P/E COMPANY PLANNING STUDY	10-SQ	0	235,535.45	30,321	205,214	23,066	9.79	8.9
	OFFICE FURNITURE AND EQUIPMENT								
340.10	FURNITURE								
	FULLY ACCRUED			195,029.63	195,030	0	0	-	-
	AMORTIZED	20-SQ	0	538,323.53	297,074	241,248	26,931	5.00	9.0
	TOTAL ACCOUNT 340.10			733,353.16	492,104	241,248	26,931	3.67	9.0
340.21	MAINFRAME								
	FULLY ACCRUED			27,295.52	27,296	0	0	-	-
	AMORTIZED	5-SQ	0	61,986.23	32,423	29,563	12,395	20.00	2.4
	TOTAL ACCOUNT 340.21			89,281.75	59,719	29,563	12,395	13.88	2.4

KENTUCKY AMERICAN WATER COMPANY

ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AT NOVEMBER 30, 2009

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	ORIGINAL COST AT NOVEMBER 30, 2009 (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)	COMPOSITE REMAINING LIFE (9)
340.22 PERSONAL COMPUTERS								
FULLY ACCRUED			461,455.29	461,455	0	0	-	-
AMORTIZED	5-SQ	0	400,086.01	218,027	182,059	80,005	20.00	2.3
TOTAL ACCOUNT 340.22			861,541.30	679,482	182,059	80,005	9.29	2.3
340.23 PERIPHERAL-OTHER								
FULLY ACCRUED			101,975.12	101,975	0	0	-	-
AMORTIZED	5-SQ	0	176,607.48	57,761	118,847	35,316	20.00	3.4
TOTAL ACCOUNT 340.23			278,582.60	159,736	118,847	35,316	12.68	3.4
340.30 COMPUTER SOFTWARE								
FULLY ACCRUED			3,976,525.37	3,976,525	0	0	-	-
AMORTIZED	5-SQ	0	570,993.22	455,618	115,375	114,193	20.00	1.0
TOTAL ACCOUNT 340.30			4,547,518.59	4,432,143	115,375	114,193	2.51	1.0
340.32 COMPUTER SOFTWARE-PERSONAL								
FULLY ACCRUED			400.00	400	0	0	-	-
AMORTIZED	5-SQ	0	100,330.19	46,494	53,836	20,069	20.00	2.7
TOTAL ACCOUNT 340.32			100,730.19	46,894	53,836	20,069	19.92	2.7
340.33 COMPUTER SOFTWARE-OTHER								
FULLY ACCRUED			527,873.70	527,874	0	0	-	-
AMORTIZED	5-SQ	0	4,470.43	2,163	2,307	894	20.00	2.6
TOTAL ACCOUNT 340.33			532,344.13	530,037	2,307	894	0.17	2.6
340.50 OTHER								
FULLY ACCRUED			18,815.75	18,816	0	0	-	-
AMORTIZED	15-SQ	0	69,553.41	42,553	27,001	4,640	6.67	5.8
TOTAL ACCOUNT 340.50			88,369.16	61,369	27,001	4,640	5.25	5.8
TOTAL ACCOUNT 340			7,231,720.88	6,461,484	770,236	294,443	4.07	2.6
TRANSPORTATION EQUIPMENT								
341.10 LIGHT DUTY TRUCKS	13-S2.5	20	1,890,068.72	1,698,556	(186,500)	0	- **	-
341.20 HEAVY DUTY TRUCKS	14-S2	15	1,160,937.05	692,930	293,866	24,464	2.11	12.0
341.30 AUTOS	10-S3	15	207,856.81	297,923	(121,245)	0	- **	-
341.40 OTHER	16-L3	0	416,326.20	116,005	300,323	22,194	5.33	13.5
TOTAL ACCOUNT 341			3,675,188.78	2,805,414	286,444	46,658	1.27	6.1

KENTUCKY AMERICAN WATER COMPANY

ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED
ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AT NOVEMBER 30, 2009

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	ORIGINAL COST AT NOVEMBER 30, 2009 (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)	COMPOSITE REMAINING LIFE (9)
342.00	STORES EQUIPMENT								
	FULLY ACCRUED			2,267.83	2,268	0	0	-	-
	AMORTIZED	25-SQ	0	31,658.80	27,163	4,495	1,265	4.00	3.6
	TOTAL ACCOUNT 342.00			33,926.63	29,431	4,495	1,265	3.73	3.6
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT								
	FULLY ACCRUED			167,130.46	167,130	0	0	-	-
	AMORTIZED	20-SQ	0	1,738,627.49	548,515	1,190,112	86,955	5.00	13.7
	TOTAL ACCOUNT 343.00			1,905,757.95	715,645	1,190,112	86,955	4.56	13.7
344.00	LABORATORY EQUIPMENT								
	FULLY ACCRUED			150,396.61	150,397	0	0	-	-
	AMORTIZED	15-SQ	0	677,630.50	397,242	280,390	45,229	6.67	6.2
	TOTAL ACCOUNT 344.00			828,027.11	547,639	280,390	45,229	5.46	6.2
345.00	POWER OPERATED EQUIPMENT	18-L4	15	1,526,034.51	862,366	434,762	31,732	2.08	13.7
346.10	COMMUNICATION EQUIPMENT - NON-TELEPHONE								
	FULLY ACCRUED			229,848.17	229,848	0	0	-	-
	AMORTIZED	15-SQ	0	1,692,239.47	1,136,475	555,765	112,954	6.67	4.9
	TOTAL ACCOUNT 346.10			1,922,087.64	1,366,323	555,765	112,954	5.88	4.9
346.19	REMOTE CONTROL AND INSTRUMENTATION	15-SQ	0	22,310.63	2,107	20,204	1,488	6.67	13.6
346.20	COMMUNICATION EQUIPMENT - TELEPHONE	15-SQ	0	240,800.02	22,781	218,019	16,054	6.67	13.6
347.00	MISCELLANEOUS EQUIPMENT								
	FULLY ACCRUED			115,962.71	115,963	0	0	-	-
	AMORTIZED	20-SQ	0	1,135,003.68	360,836	774,167	56,758	5.00	13.6
	TOTAL ACCOUNT 347.00			1,250,966.39	476,799	774,167	56,758	4.54	13.6
348.00	OTHER TANGIBLE PROPERTY	20-SQ	0	138,484.58	78,208	60,277	6,921	5.00	8.7
	TOTAL DEPRECIABLE PLANT			315,104,894.13	83,968,520	291,857,202	7,166,115	2.27	
	UNRECOVERED RESERVE TO BE AMORTIZED								
340.10	FURNITURE				56,600		(11,320) ***		
340.21	MAINFRAME				(26,410)		5,282 ***		
340.22	PERSONAL COMPUTERS				894,200		(178,840) ***		
340.23	PERIPHERAL-OTHER				(87,672)		17,534 ***		
340.30	COMPUTER SOFTWARE				619,150		(123,830) ***		
340.32	COMPUTER SOFTWARE-PERSONAL				539,300		(107,860) ***		
340.33	COMPUTER SOFTWARE-OTHER				132,325		(26,465) ***		

KENTUCKY AMERICAN WATER COMPANY

ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AT NOVEMBER 30, 2009

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	ORIGINAL COST AT NOVEMBER 30, 2009 (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)	COMPOSITE REMAINING LIFE (9)
340.50	OTHER				21,130		(4,226) ***		
342.00	STORES EQUIPMENT				3,340		(668) ***		
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT				156,200		(31,240) ***		
344.00	LABORATORY EQUIPMENT				174,850		(34,970) ***		
346.10	COMMUNICATION EQUIPMENT - NON-TELEPHONE				(507,300)		101,460 ***		
346.19	REMOTE CONTROL AND INSTRUMENTATION				(355)		71 ***		
346.20	COMMUNICATION EQUIPMENT - TELEPHONE				(6,700)		1,340 ***		
347.00	MISCELLANEOUS EQUIPMENT				(32,500)		6,500 ***		
348.00	OTHER TANGIBLE PROPERTY				246,300		(49,260) ***		
	TOTAL UNRECOVERED RESERVE TO BE AMORTIZED				2,182,458		(436,492)		
	NONDEPRECIABLE PLANT								
301.00	ORGANIZATION			37,450.43					
302.00	FRANCHISES AND CONSENTS			70,260.82					
303.20	LAND - SOURCE OF SUPPLY			335,511.67					
303.30	LAND - PUMPING			91,826.50					
303.40	LAND - WATER TREATMENT			68,163.99					
303.50	LAND - TRANSMISSION & DISTRIBUTION			4,019,854.04					
	TOTAL NONDEPRECIABLE PLANT			4,623,067.45					
	TOTAL PLANT			319,727,961.58	86,150,978	291,857,202	6,729,623		

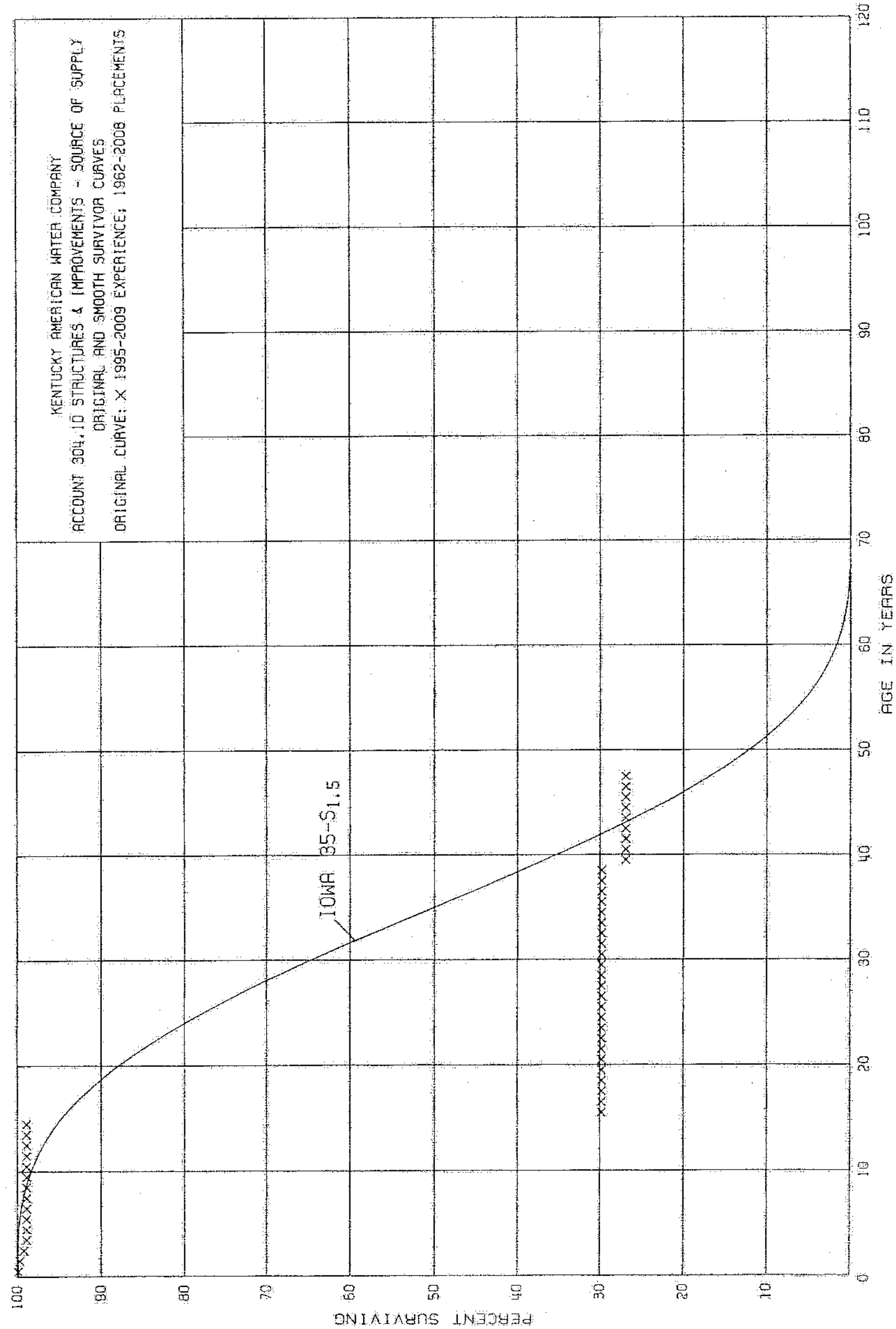
* LIFESPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** NEW ADDITIONS WILL HAVE A DEPRECIATION ACCRUAL RATE AS FOLLOWS

ACCOUNT	RATE
341.10	6.15
341.30	8.50

*** 5-YEAR AMORTIZATION OF UNRECOVERED RESERVE RELATED TO IMPLEMENTATION OF AMORTIZATION ACCOUNTING.

II-9

SERVICE LIFE STATISTICS



KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1962-2008 PLACEMENTS
IOWA 35-S1.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY

ORIGINAL LIFE TABLE

PLACEMENT BAND 1962-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,611,531		0.0000	1.0000	100.00
0.5	2,611,531	9,152	0.0035	0.9965	100.00
1.5	2,536,311	11,676	0.0046	0.9954	99.65
2.5	2,522,860	6,621	0.0026	0.9974	99.19
3.5	891,020		0.0000	1.0000	98.93
4.5	887,021		0.0000	1.0000	98.93
5.5	869,833		0.0000	1.0000	98.93
6.5	396,821		0.0000	1.0000	98.93
7.5	121,835		0.0000	1.0000	98.93
8.5	82,953		0.0000	1.0000	98.93
9.5	82,953		0.0000	1.0000	98.93
10.5	86,153		0.0000	1.0000	98.93
11.5	78,410		0.0000	1.0000	98.93
12.5	77,426		0.0000	1.0000	98.93
13.5	77,426		0.0000	1.0000	98.93
14.5	77,426	54,118	0.6990	0.3010	98.93
15.5	77,426		0.0000	1.0000	29.78
16.5	77,426		0.0000	1.0000	29.78
17.5	77,426		0.0000	1.0000	29.78
18.5	46,650		0.0000	1.0000	29.78
19.5	46,650		0.0000	1.0000	29.78
20.5	6,089		0.0000	1.0000	29.78
21.5	3,556		0.0000	1.0000	29.78
22.5	3,556		0.0000	1.0000	29.78
23.5	3,556		0.0000	1.0000	29.78
24.5	3,556		0.0000	1.0000	29.78
25.5	356		0.0000	1.0000	29.78
26.5	356		0.0000	1.0000	29.78
27.5	356		0.0000	1.0000	29.78
28.5	356		0.0000	1.0000	29.78
29.5	356		0.0000	1.0000	29.78
30.5	356		0.0000	1.0000	29.78
31.5	356		0.0000	1.0000	29.78
32.5	11,832		0.0000	1.0000	29.78
33.5	11,698		0.0000	1.0000	29.78
34.5	11,698		0.0000	1.0000	29.78
35.5	11,477		0.0000	1.0000	29.78
36.5	11,477		0.0000	1.0000	29.78
37.5	11,477		0.0000	1.0000	29.78
38.5	11,477	1,100	0.0958	0.9042	29.78

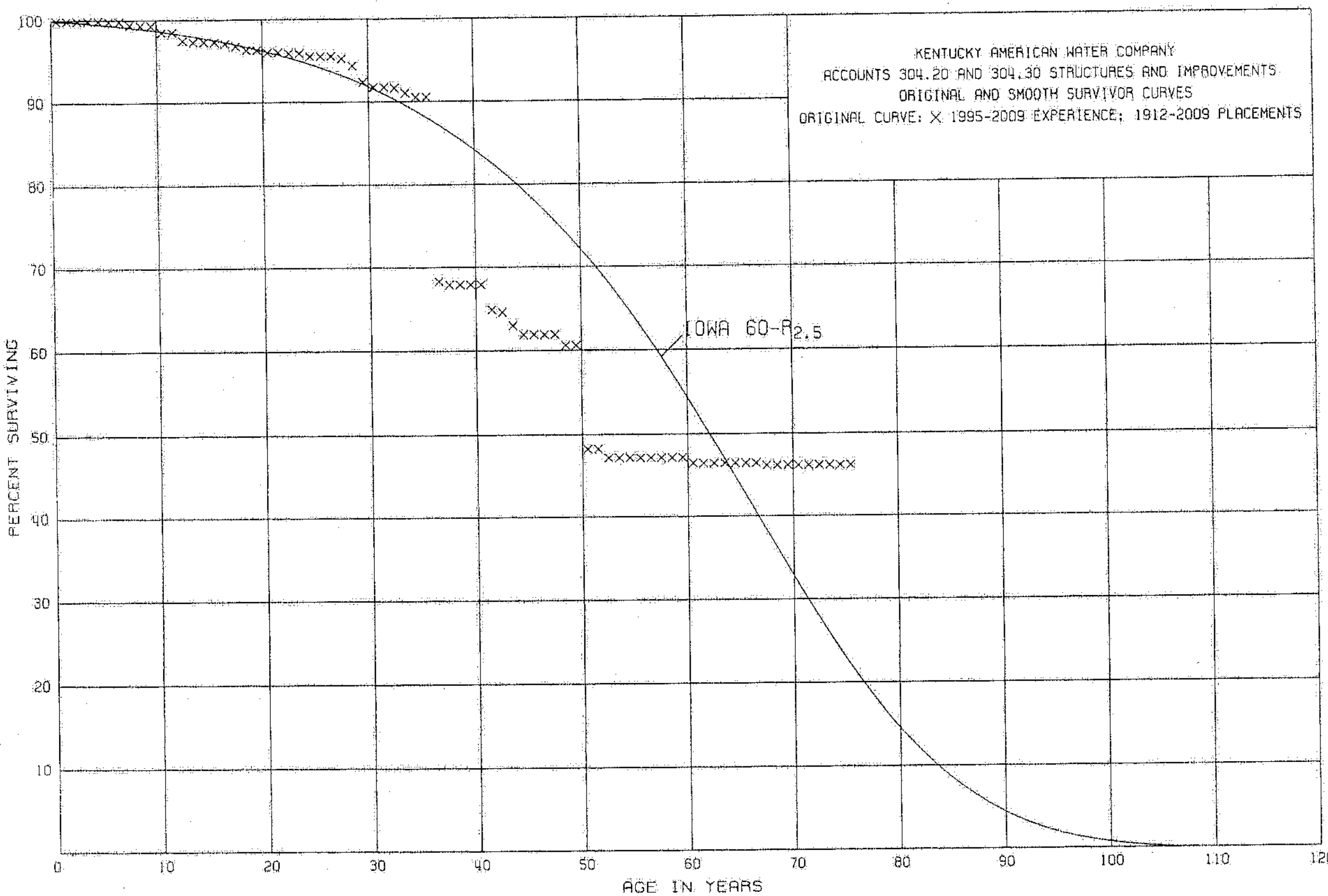
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1962-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	11,477		0.0000	1.0000	26.93
40.5	11,477		0.0000	1.0000	26.93
41.5	11,477		0.0000	1.0000	26.93
42.5	11,477		0.0000	1.0000	26.93
43.5	11,477		0.0000	1.0000	26.93
44.5	11,477		0.0000	1.0000	26.93
45.5	11,477		0.0000	1.0000	26.93
46.5	11,477		0.0000	1.0000	26.93
47.5					26.93


KENTUCKY AMERICAN WATER COMPANY
ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1912-2009 PLACEMENTS
IOWA 60-R2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1912-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,257,560		0.0000	1.0000	100.00
0.5	8,209,451		0.0000	1.0000	100.00
1.5	9,079,259		0.0000	1.0000	100.00
2.5	9,905,800		0.0000	1.0000	100.00
3.5	8,821,595		0.0000	1.0000	100.00
4.5	8,687,869	20,472	0.0024	0.9976	100.00
5.5	8,967,692		0.0000	1.0000	99.76
6.5	10,609,291	40,546	0.0038	0.9962	99.76
7.5	10,937,731	6,141	0.0006	0.9994	99.38
8.5	10,538,977	1,898	0.0002	0.9998	99.32
9.5	9,979,596	82,731	0.0083	0.9917	99.30
10.5	8,991,593		0.0000	1.0000	98.48
11.5	8,970,996	86,130	0.0096	0.9904	98.48
12.5	8,436,894	17,677	0.0021	0.9979	97.53
13.5	5,974,048	5,017	0.0008	0.9992	97.33
14.5	5,922,720		0.0000	1.0000	97.25
15.5	5,912,332	12,626	0.0021	0.9979	97.25
16.5	5,040,812	11,906	0.0024	0.9976	97.05
17.5	3,114,339	18,221	0.0059	0.9941	96.82
18.5	2,897,371		0.0000	1.0000	96.25
19.5	2,803,952	6,161	0.0022	0.9978	96.25
20.5	2,247,514	775	0.0003	0.9997	96.04
21.5	767,576	1,180	0.0015	0.9985	96.01
22.5	729,819		0.0000	1.0000	95.87
23.5	831,173	3,250	0.0039	0.9961	95.87
24.5	923,507		0.0000	1.0000	95.50
25.5	1,030,623		0.0000	1.0000	95.50
26.5	1,033,083	3,152	0.0031	0.9969	95.50
27.5	951,169	8,597	0.0090	0.9910	95.20
28.5	974,641	20,971	0.0215	0.9785	94.34
29.5	950,221	6,110	0.0064	0.9936	92.31
30.5	944,249		0.0000	1.0000	91.72
31.5	940,842	1,142	0.0012	0.9988	91.72
32.5	891,569	6,075	0.0068	0.9932	91.61
33.5	883,816	4,800	0.0054	0.9946	90.99
34.5	858,291	480	0.0006	0.9994	90.50
35.5	891,463	218,730	0.2454	0.7546	90.45
36.5	705,364	3,602	0.0051	0.9949	68.25
37.5	696,300		0.0000	1.0000	67.90
38.5	596,154	24	0.0000	1.0000	67.90

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1912-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	507,628		0.0000	1.0000	67.90
40.5	392,848	17,195	0.0438	0.9562	67.90
41.5	374,743	2,098	0.0056	0.9944	64.93
42.5	298,216	7,158	0.0240	0.9760	64.57
43.5	271,236	4,639	0.0171	0.9829	63.02
44.5	266,598		0.0000	1.0000	61.94
45.5	266,916		0.0000	1.0000	61.94
46.5	266,726		0.0000	1.0000	61.94
47.5	263,883	5,900	0.0224	0.9776	61.94
48.5	257,008		0.0000	1.0000	60.55
49.5	251,852	51,589	0.2048	0.7952	60.55
50.5	141,957		0.0000	1.0000	48.15
51.5	115,797	2,600	0.0225	0.9775	48.15
52.5	20,718		0.0000	1.0000	47.07
53.5	21,488		0.0000	1.0000	47.07
54.5	15,283		0.0000	1.0000	47.07
55.5	21,062		0.0000	1.0000	47.07
56.5	29,787		0.0000	1.0000	47.07
57.5	29,787		0.0000	1.0000	47.07
58.5	20,908		0.0000	1.0000	47.07
59.5	20,908	290	0.0139	0.9861	47.07
60.5	48,190		0.0000	1.0000	46.42
61.5	45,916		0.0000	1.0000	46.42
62.5	44,542		0.0000	1.0000	46.42
63.5	44,542		0.0000	1.0000	46.42
64.5	44,542		0.0000	1.0000	46.42
65.5	45,112		0.0000	1.0000	46.42
66.5	45,112	283	0.0063	0.9937	46.42
67.5	44,727		0.0000	1.0000	46.13
68.5	45,897		0.0000	1.0000	46.13
69.5	58,163		0.0000	1.0000	46.13
70.5	51,248		0.0000	1.0000	46.13
71.5	42,523		0.0000	1.0000	46.13
72.5	42,523	12	0.0003	0.9997	46.13
73.5	42,511		0.0000	1.0000	46.12
74.5	42,511	15	0.0004	0.9996	46.12
75.5	14,777		0.0000	1.0000	46.10
76.5	14,777		0.0000	1.0000	46.10
77.5	14,777		0.0000	1.0000	46.10
78.5	14,777		0.0000	1.0000	46.10

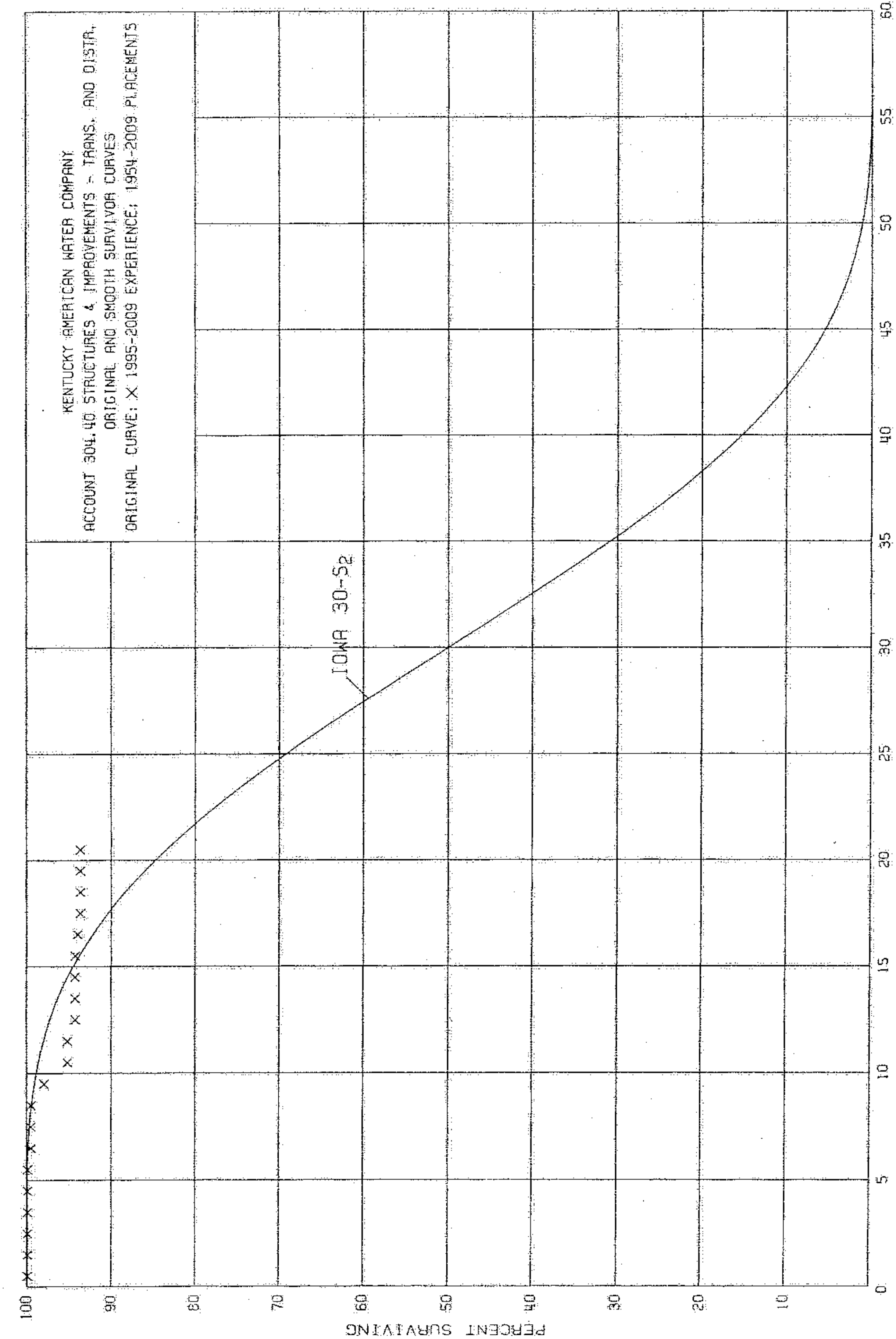
KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1912-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	14,777	7	0.0005	0.9995	46.10
80.5	14,206		0.0000	1.0000	46.08
81.5	14,206		0.0000	1.0000	46.08
82.5	15,049	28	0.0019	0.9981	46.08
83.5	13,081		0.0000	1.0000	45.99
84.5	843		0.0000	1.0000	45.99
85.5	843		0.0000	1.0000	45.99
86.5	843		0.0000	1.0000	45.99
87.5	843		0.0000	1.0000	45.99
88.5	843		0.0000	1.0000	45.99
89.5	843		0.0000	1.0000	45.99
90.5	843		0.0000	1.0000	45.99
91.5	843		0.0000	1.0000	45.99
92.5	843	843	1.0000	0.0000	45.99
93.5					0.00


KENTUCKY-AMERICAN WATER COMPANY
ACCOUNT 304.40 STRUCTURES & IMPROVEMENTS - TRANS. AND DISTR.
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1954-2009 PLACEMENTS
IOWA 30-S2
AGE IN YEARS
PERCENT SURVIVING

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.40 STRUCTURES & IMPROVEMENTS - TRANS. AND DISTR.

ORIGINAL LIFE TABLE

PLACEMENT BAND 1954-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	610,284		0.0000	1.0000	100.00
0.5	392,870		0.0000	1.0000	100.00
1.5	367,483		0.0000	1.0000	100.00
2.5	781,989		0.0000	1.0000	100.00
3.5	734,948	708	0.0010	0.9990	100.00
4.5	722,670		0.0000	1.0000	99.90
5.5	723,870	2,822	0.0039	0.9961	99.90
6.5	721,048		0.0000	1.0000	99.51
7.5	699,884		0.0000	1.0000	99.51
8.5	699,884	10,340	0.0148	0.9852	99.51
9.5	681,265	20,000	0.0294	0.9706	98.04
10.5	609,270		0.0000	1.0000	95.16
11.5	470,164	4,340	0.0092	0.9908	95.16
12.5	467,218		0.0000	1.0000	94.28
13.5	459,992		0.0000	1.0000	94.28
14.5	459,992		0.0000	1.0000	94.28
15.5	459,992	1,527	0.0033	0.9967	94.28
16.5	458,465	1,200	0.0026	0.9974	93.97
17.5	44,286		0.0000	1.0000	93.73
18.5	1,420		0.0000	1.0000	93.73
19.5	1,420		0.0000	1.0000	93.73
20.5	1,420		0.0000	1.0000	93.73
21.5	1,420		0.0000	1.0000	93.73
22.5	1,420		0.0000	1.0000	93.73
23.5	1,420		0.0000	1.0000	93.73
24.5	1,420		0.0000	1.0000	93.73
25.5	1,420		0.0000	1.0000	93.73
26.5	1,420		0.0000	1.0000	93.73
27.5					93.73
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

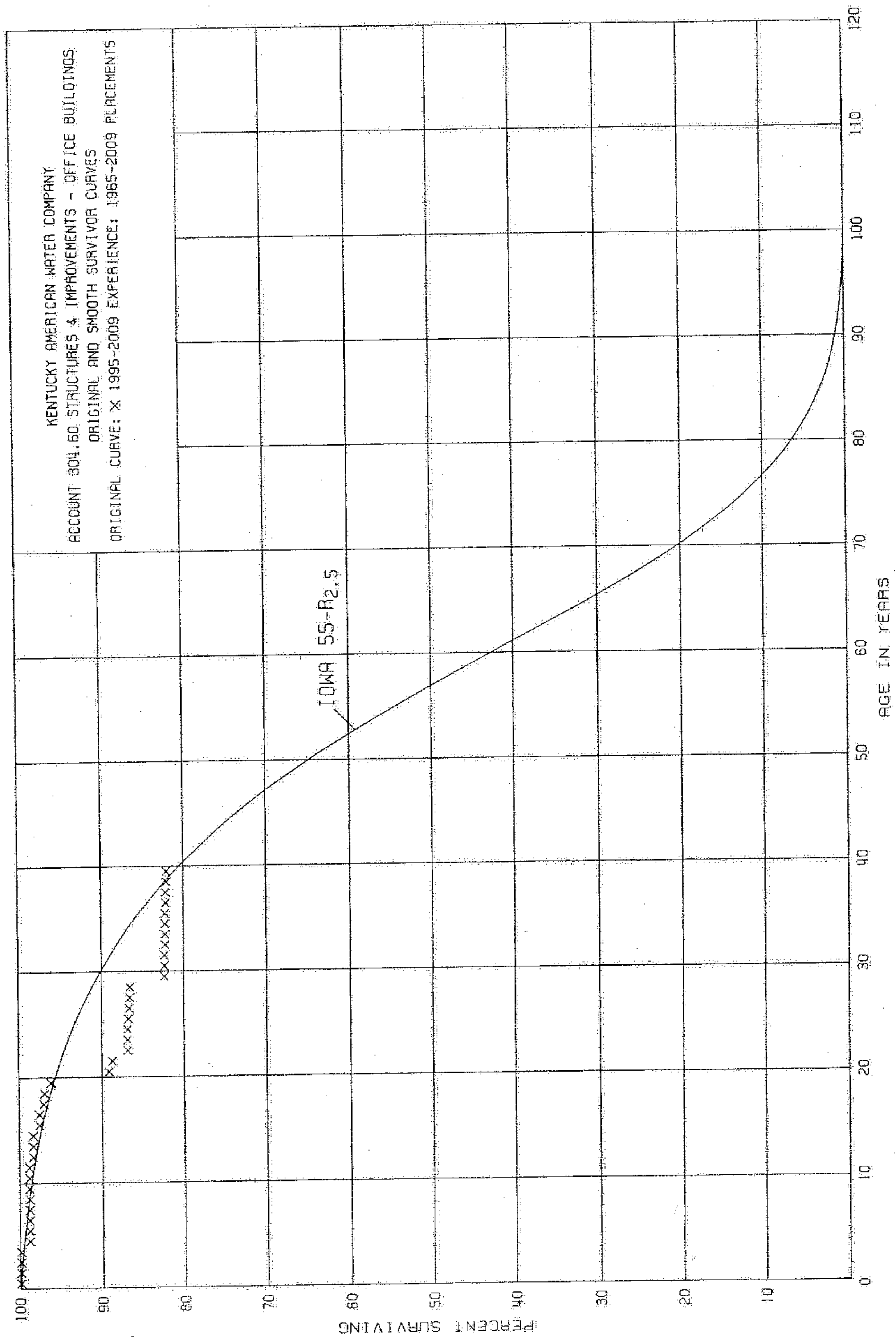
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.40 STRUCTURES & IMPROVEMENTS - TRANS. AND DISTR.

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1954-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5	1,100		0.0000		
41.5	1,100		0.0000		
42.5	1,100		0.0000		
43.5	1,100		0.0000		
44.5	1,100		0.0000		
45.5	1,100		0.0000		
46.5	1,100		0.0000		
47.5	1,100		0.0000		
48.5	1,100		0.0000		
49.5	1,100		0.0000		
50.5	1,100		0.0000		
51.5	1,100	1,100	1.0000		
52.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1965-2009 PLACEMENTS
IOWA 55-R2.5
PERCENT SURVIVING
AGE IN YEARS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1965-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,237,349		0.0000	1.0000	100.00
0.5	5,254,614		0.0000	1.0000	100.00
1.5	2,944,252		0.0000	1.0000	100.00
2.5	2,869,667		0.0000	1.0000	100.00
3.5	2,813,216	33,675	0.0120	0.9880	100.00
4.5	2,751,595		0.0000	1.0000	98.80
5.5	2,789,263		0.0000	1.0000	98.80
6.5	2,871,104		0.0000	1.0000	98.80
7.5	3,021,041		0.0000	1.0000	98.80
8.5	2,998,532		0.0000	1.0000	98.80
9.5	2,999,771		0.0000	1.0000	98.80
10.5	2,833,685		0.0000	1.0000	98.80
11.5	2,607,562	13,257	0.0051	0.9949	98.80
12.5	565,183		0.0000	1.0000	98.30
13.5	553,963		0.0000	1.0000	98.30
14.5	527,906	4,303	0.0082	0.9918	98.30
15.5	503,017		0.0000	1.0000	97.49
16.5	503,017	2,525	0.0050	0.9950	97.49
17.5	488,830	487	0.0010	0.9990	97.00
18.5	486,306	4,184	0.0086	0.9914	96.90
19.5	449,468	32,709	0.0728	0.9272	96.07
20.5	364,583	1,413	0.0039	0.9961	89.08
21.5	270,594	5,864	0.0217	0.9783	88.73
22.5	144,413		0.0000	1.0000	86.80
23.5	121,692		0.0000	1.0000	86.80
24.5	827,795	989	0.0012	0.9988	86.80
25.5	824,920	937	0.0011	0.9989	86.70
26.5	823,983	814	0.0010	0.9990	86.60
27.5	750,272		0.0000	1.0000	86.51
28.5	750,272	36,134	0.0482	0.9518	86.51
29.5	723,093		0.0000	1.0000	82.34
30.5	717,995		0.0000	1.0000	82.34
31.5	717,995	1,229	0.0017	0.9983	82.34
32.5	711,821		0.0000	1.0000	82.20
33.5	711,821		0.0000	1.0000	82.20
34.5	711,821		0.0000	1.0000	82.20
35.5	711,821	926	0.0013	0.9987	82.20
36.5	705,886		0.0000	1.0000	82.09
37.5	685,989	484	0.0007	0.9993	82.09
38.5	681,896		0.0000	1.0000	82.03

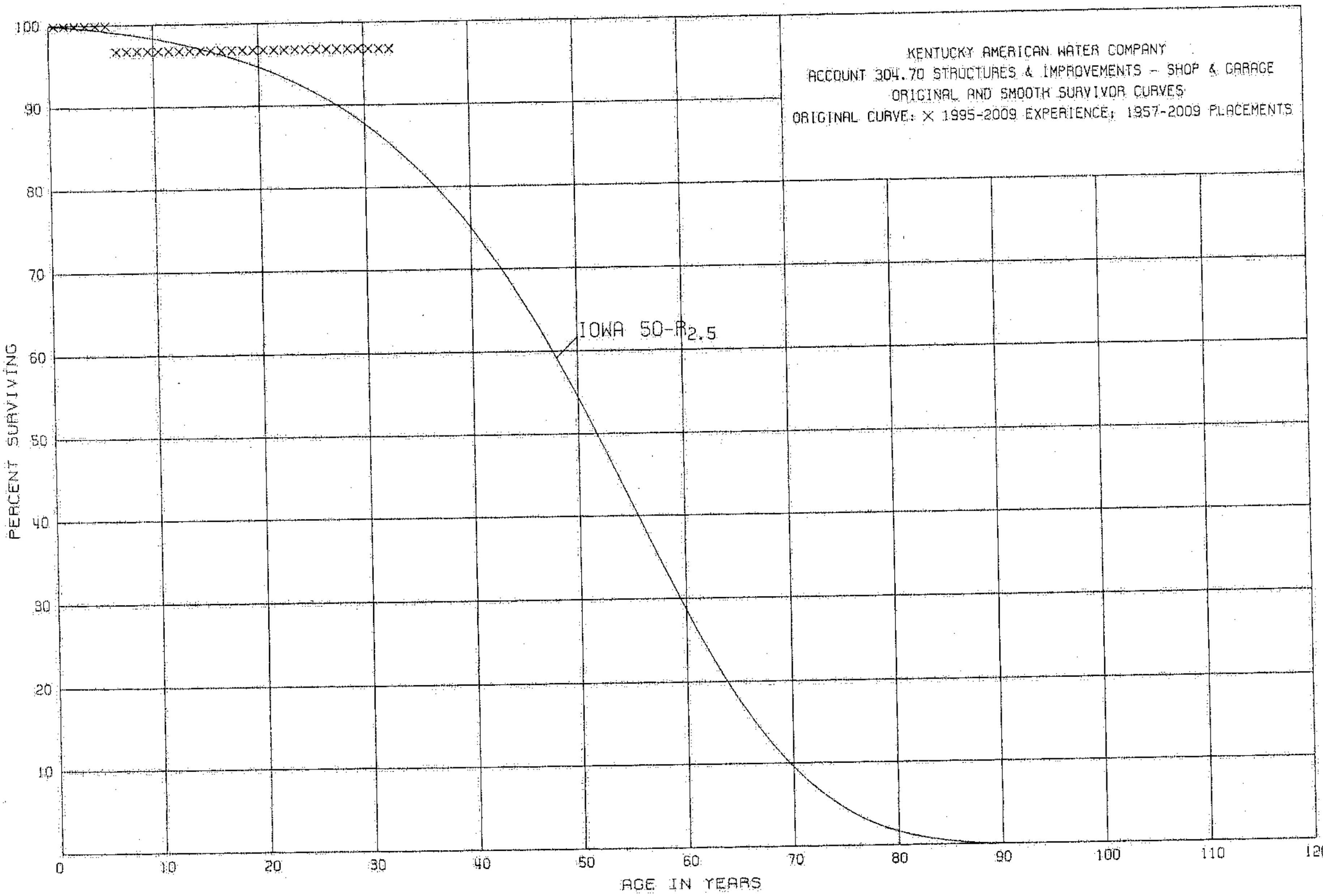
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1965-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	8,955		0.0000	1.0000	82.03
40.5	8,955		0.0000	1.0000	82.03
41.5	8,955		0.0000	1.0000	82.03
42.5	8,955	1,813	0.2025	0.7975	82.03
43.5	7,142		0.0000	1.0000	65.42
44.5					65.42


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 304.70 STRUCTURES & IMPROVEMENTS - SHOP & GARAGE
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1957-2009 PLACEMENTS
IOWA 50-R2.5
PERCENT SURVIVING
100
90
80
70
60
50
40
30
20
10
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.70 STRUCTURES & IMPROVEMENTS - SHOP & GARAGE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1957-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,074,751		0.0000	1.0000	100.00
0.5	335,256		0.0000	1.0000	100.00
1.5	881,358		0.0000	1.0000	100.00
2.5	881,358		0.0000	1.0000	100.00
3.5	881,358		0.0000	1.0000	100.00
4.5	898,583		0.0000	1.0000	100.00
5.5	898,583	29,115	0.0324	0.9676	100.00
6.5	911,994		0.0000	1.0000	96.76
7.5	898,632		0.0000	1.0000	96.76
8.5	883,382		0.0000	1.0000	96.76
9.5	883,382		0.0000	1.0000	96.76
10.5	809,244		0.0000	1.0000	96.76
11.5	809,244		0.0000	1.0000	96.76
12.5	809,244		0.0000	1.0000	96.76
13.5	661,990		0.0000	1.0000	96.76
14.5	661,990		0.0000	1.0000	96.76
15.5	661,990		0.0000	1.0000	96.76
16.5	115,888		0.0000	1.0000	96.76
17.5	121,538		0.0000	1.0000	96.76
18.5	121,538		0.0000	1.0000	96.76
19.5	101,695		0.0000	1.0000	96.76
20.5	101,695		0.0000	1.0000	96.76
21.5	59,169		0.0000	1.0000	96.76
22.5	6,399		0.0000	1.0000	96.76
23.5	7,123		0.0000	1.0000	96.76
24.5	7,123		0.0000	1.0000	96.76
25.5	7,123		0.0000	1.0000	96.76
26.5	7,123		0.0000	1.0000	96.76
27.5	7,123		0.0000	1.0000	96.76
28.5	7,123		0.0000	1.0000	96.76
29.5	7,123		0.0000	1.0000	96.76
30.5	7,123		0.0000	1.0000	96.76
31.5	7,123		0.0000	1.0000	96.76
32.5	1,473		0.0000	1.0000	96.76
33.5	1,473		0.0000	1.0000	96.76
34.5	2,181		0.0000	1.0000	96.76
35.5	2,181		0.0000	1.0000	96.76
36.5	2,181		0.0000	1.0000	96.76
37.5	15,126		0.0000	1.0000	96.76
38.5	14,402		0.0000	1.0000	96.76

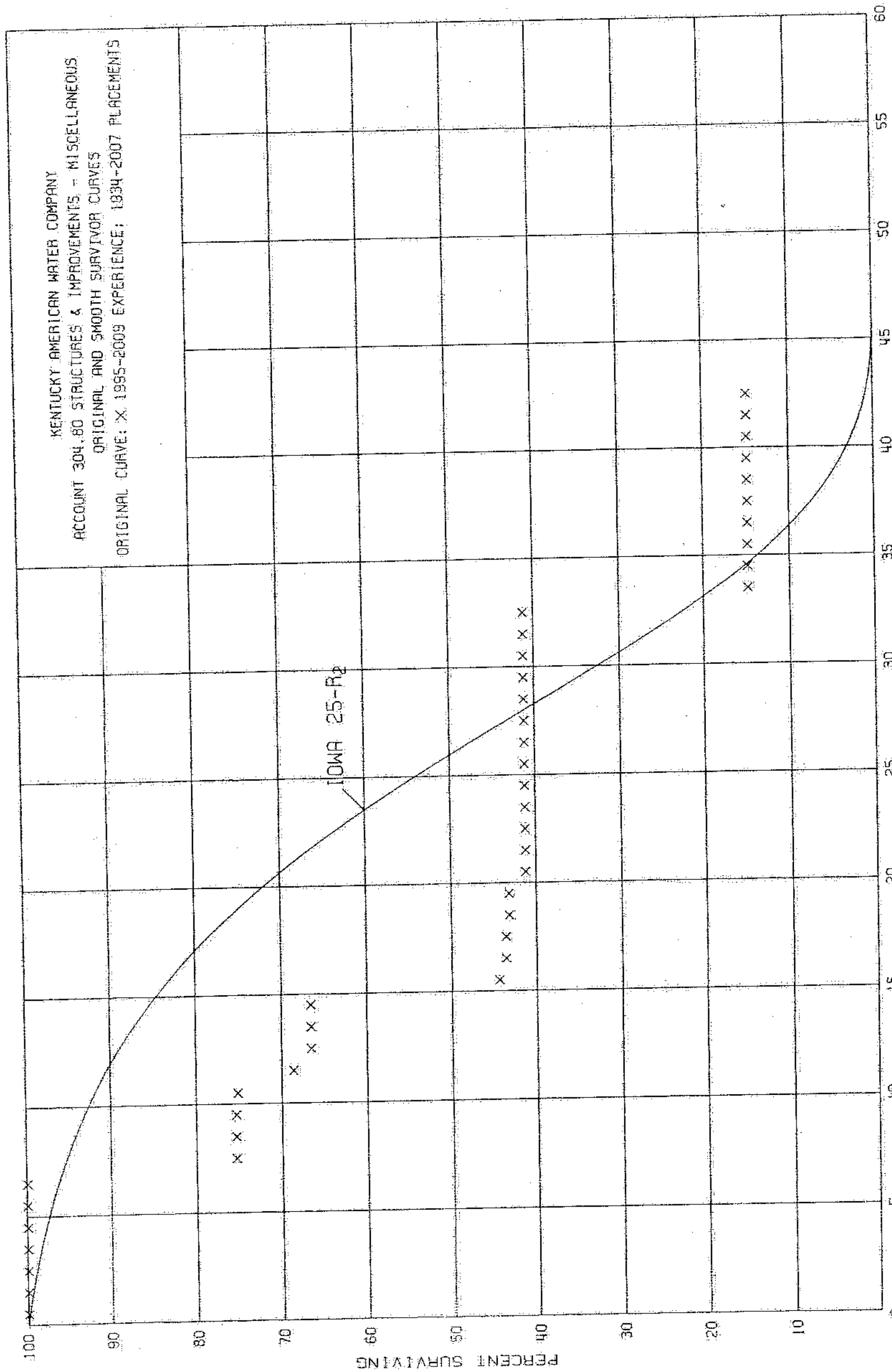
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.70 STRUCTURES & IMPROVEMENTS - SHOP & GARAGE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1957-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	14,402		0.0000	1.0000	96.76
40.5	14,402		0.0000	1.0000	96.76
41.5	14,402		0.0000	1.0000	96.76
42.5	14,402		0.0000	1.0000	96.76
43.5	14,402		0.0000	1.0000	96.76
44.5	14,402		0.0000	1.0000	96.76
45.5	14,402		0.0000	1.0000	96.76
46.5	14,402		0.0000	1.0000	96.76
47.5	14,402		0.0000	1.0000	96.76
48.5	14,402		0.0000	1.0000	96.76
49.5	13,694		0.0000	1.0000	96.76
50.5	13,694		0.0000	1.0000	96.76
51.5	13,694		0.0000	1.0000	96.76
52.5					96.76


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1934-2007 PLACEMENTS
IOWA 25-R2
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
5
10
15
20
25
30
35
40
45
50
55
60

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2007 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,764,826		0.0000	1.0000	100.00
0.5	1,767,972		0.0000	1.0000	100.00
1.5	1,772,713		0.0000	1.0000	100.00
2.5	1,689,115		0.0000	1.0000	100.00
3.5	1,374,172		0.0000	1.0000	100.00
4.5	929,027		0.0000	1.0000	100.00
5.5	972,023		0.0000	1.0000	100.00
6.5	245,090	60,337	0.2462	0.7538	100.00
7.5	227,869		0.0000	1.0000	75.38
8.5	199,614		0.0000	1.0000	75.38
9.5	236,670	700	0.0030	0.9970	75.38
10.5	235,970	20,629	0.0874	0.9126	75.15
11.5	180,346	5,551	0.0308	0.9692	68.58
12.5	171,847		0.0000	1.0000	66.47
13.5	171,847	50	0.0003	0.9997	66.47
14.5	169,904	56,276	0.3312	0.6688	66.45
15.5	165,019	3,200	0.0194	0.9806	44.44
16.5	159,044		0.0000	1.0000	43.58
17.5	152,531	1,300	0.0085	0.9915	43.58
18.5	143,233		0.0000	1.0000	43.21
19.5	128,657	6,000	0.0466	0.9534	43.21
20.5	55,296		0.0000	1.0000	41.20
21.5	55,296		0.0000	1.0000	41.20
22.5	30,266		0.0000	1.0000	41.20
23.5	31,199		0.0000	1.0000	41.20
24.5	2,199		0.0000	1.0000	41.20
25.5	2,199		0.0000	1.0000	41.20
26.5	2,199		0.0000	1.0000	41.20
27.5	2,199		0.0000	1.0000	41.20
28.5	2,205		0.0000	1.0000	41.20
29.5	2,205		0.0000	1.0000	41.20
30.5	2,205		0.0000	1.0000	41.20
31.5	939		0.0000	1.0000	41.20
32.5	939	600	0.6390	0.3610	41.20
33.5	339		0.0000	1.0000	14.87
34.5	339		0.0000	1.0000	14.87
35.5	339		0.0000	1.0000	14.87
36.5	22,219		0.0000	1.0000	14.87
37.5	22,219		0.0000	1.0000	14.87
38.5	21,885		0.0000	1.0000	14.87

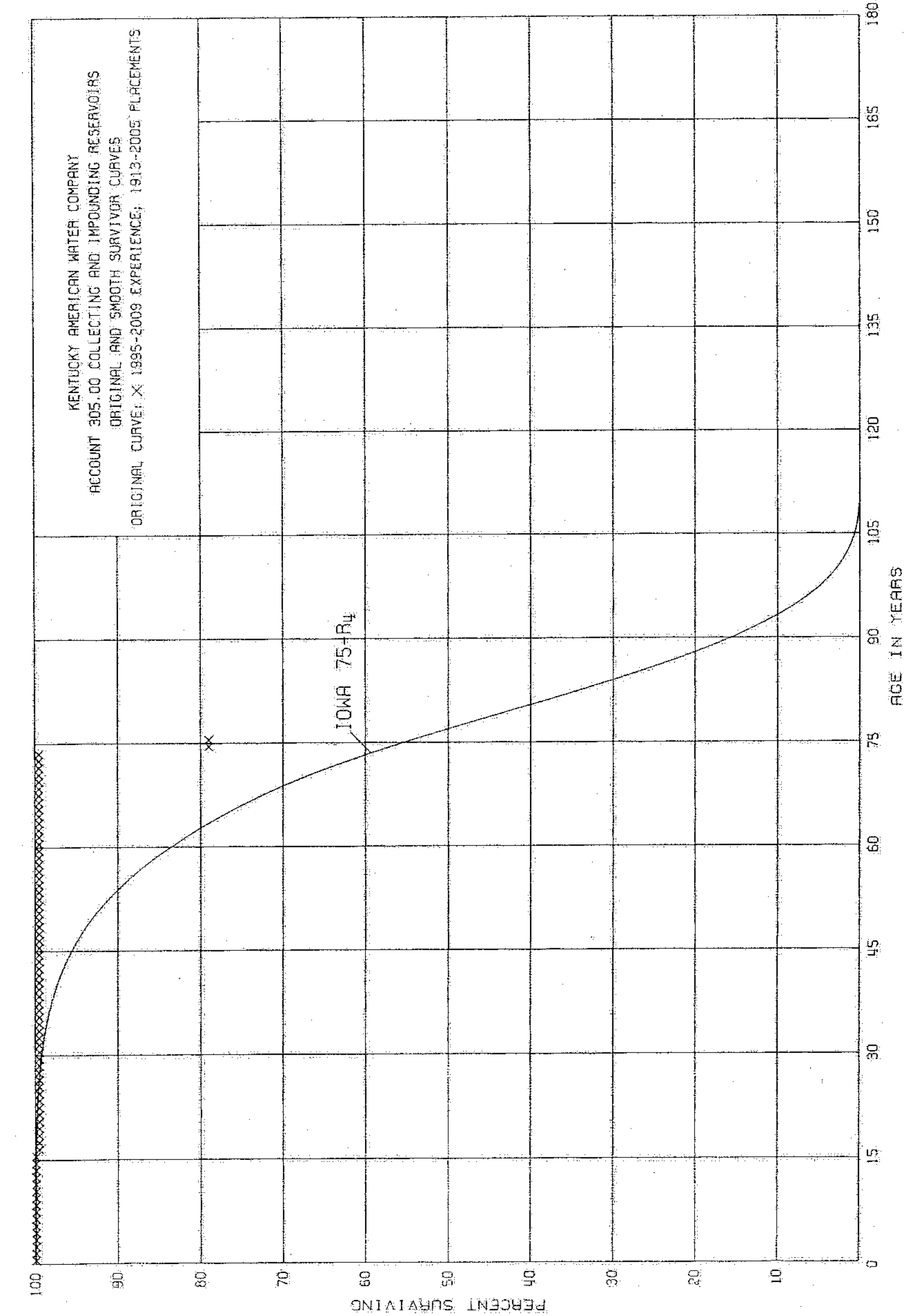
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2007 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	21,885		0.0000	1.0000	14.87
40.5	21,885		0.0000	1.0000	14.87
41.5	21,885		0.0000	1.0000	14.87
42.5	21,885	721	0.0329	0.9671	14.87
43.5	21,159		0.0000	1.0000	14.38
44.5	21,159		0.0000	1.0000	14.38
45.5	21,159		0.0000	1.0000	14.38
46.5	21,159		0.0000	1.0000	14.38
47.5	21,159		0.0000	1.0000	14.38
48.5	21,159		0.0000	1.0000	14.38
49.5	21,159		0.0000	1.0000	14.38
50.5	21,159		0.0000	1.0000	14.38
51.5					14.38
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5	291		0.0000		
61.5	291		0.0000		
62.5	291		0.0000		
63.5	291		0.0000		
64.5	291		0.0000		
65.5	291		0.0000		
66.5	291		0.0000		
67.5	291		0.0000		
68.5	291		0.0000		
69.5	291		0.0000		
70.5	291		0.0000		
71.5	291		0.0000		
72.5	291		0.0000		
73.5	291		0.0000		
74.5	291		0.0000		
75.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: × 1995-2009 EXPERIENCE; 1913-2005 PLACEMENTS
IOWA 75-R4
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
15
30
45
60
75
90
105
120
135
150
165
180

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1913-2005 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,534		0.0000	1.0000	100.00
0.5	75,873		0.0000	1.0000	100.00
1.5	79,459		0.0000	1.0000	100.00
2.5	92,707		0.0000	1.0000	100.00
3.5	106,720		0.0000	1.0000	100.00
4.5	103,437		0.0000	1.0000	100.00
5.5	105,721		0.0000	1.0000	100.00
6.5	869,482		0.0000	1.0000	100.00
7.5	869,482		0.0000	1.0000	100.00
8.5	869,482		0.0000	1.0000	100.00
9.5	869,482		0.0000	1.0000	100.00
10.5	869,482		0.0000	1.0000	100.00
11.5	869,482		0.0000	1.0000	100.00
12.5	869,482		0.0000	1.0000	100.00
13.5	867,230		0.0000	1.0000	100.00
14.5	867,230		0.0000	1.0000	100.00
15.5	796,892	4,096	0.0051	0.9949	100.00
16.5	789,209		0.0000	1.0000	99.49
17.5	785,210		0.0000	1.0000	99.49
18.5	771,197		0.0000	1.0000	99.49
19.5	771,197		0.0000	1.0000	99.49
20.5	768,913		0.0000	1.0000	99.49
21.5	28,593		0.0000	1.0000	99.49
22.5	33,659		0.0000	1.0000	99.49
23.5	33,659		0.0000	1.0000	99.49
24.5	33,659		0.0000	1.0000	99.49
25.5	33,659		0.0000	1.0000	99.49
26.5	33,659		0.0000	1.0000	99.49
27.5	33,659		0.0000	1.0000	99.49
28.5	33,659		0.0000	1.0000	99.49
29.5	33,659		0.0000	1.0000	99.49
30.5	33,659		0.0000	1.0000	99.49
31.5	34,050		0.0000	1.0000	99.49
32.5	28,898		0.0000	1.0000	99.49
33.5	28,898		0.0000	1.0000	99.49
34.5	28,898		0.0000	1.0000	99.49
35.5	28,898		0.0000	1.0000	99.49
36.5	5,458		0.0000	1.0000	99.49
37.5	392		0.0000	1.0000	99.49
38.5	392		0.0000	1.0000	99.49

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1913-2005 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	392		0.0000	1.0000	99.49
40.5	392		0.0000	1.0000	99.49
41.5	574		0.0000	1.0000	99.49
42.5	574		0.0000	1.0000	99.49
43.5	574		0.0000	1.0000	99.49
44.5	574		0.0000	1.0000	99.49
45.5	574		0.0000	1.0000	99.49
46.5	182		0.0000	1.0000	99.49
47.5	182		0.0000	1.0000	99.49
48.5	182		0.0000	1.0000	99.49
49.5	182		0.0000	1.0000	99.49
50.5	182		0.0000	1.0000	99.49
51.5	182		0.0000	1.0000	99.49
52.5	182		0.0000	1.0000	99.49
53.5	182		0.0000	1.0000	99.49
54.5	722		0.0000	1.0000	99.49
55.5	722		0.0000	1.0000	99.49
56.5	540		0.0000	1.0000	99.49
57.5	540		0.0000	1.0000	99.49
58.5	540		0.0000	1.0000	99.49
59.5	540		0.0000	1.0000	99.49
60.5	36,342		0.0000	1.0000	99.49
61.5	36,342		0.0000	1.0000	99.49
62.5	36,342		0.0000	1.0000	99.49
63.5	36,342		0.0000	1.0000	99.49
64.5	36,342		0.0000	1.0000	99.49
65.5	36,342		0.0000	1.0000	99.49
66.5	36,342		0.0000	1.0000	99.49
67.5	36,342		0.0000	1.0000	99.49
68.5	36,342		0.0000	1.0000	99.49
69.5	35,802		0.0000	1.0000	99.49
70.5	35,802		0.0000	1.0000	99.49
71.5	35,802		0.0000	1.0000	99.49
72.5	35,802		0.0000	1.0000	99.49
73.5	35,802	7,372	0.2059	0.7941	99.49
74.5	28,430		0.0000	1.0000	79.01
75.5					79.01
76.5					
77.5					
78.5					

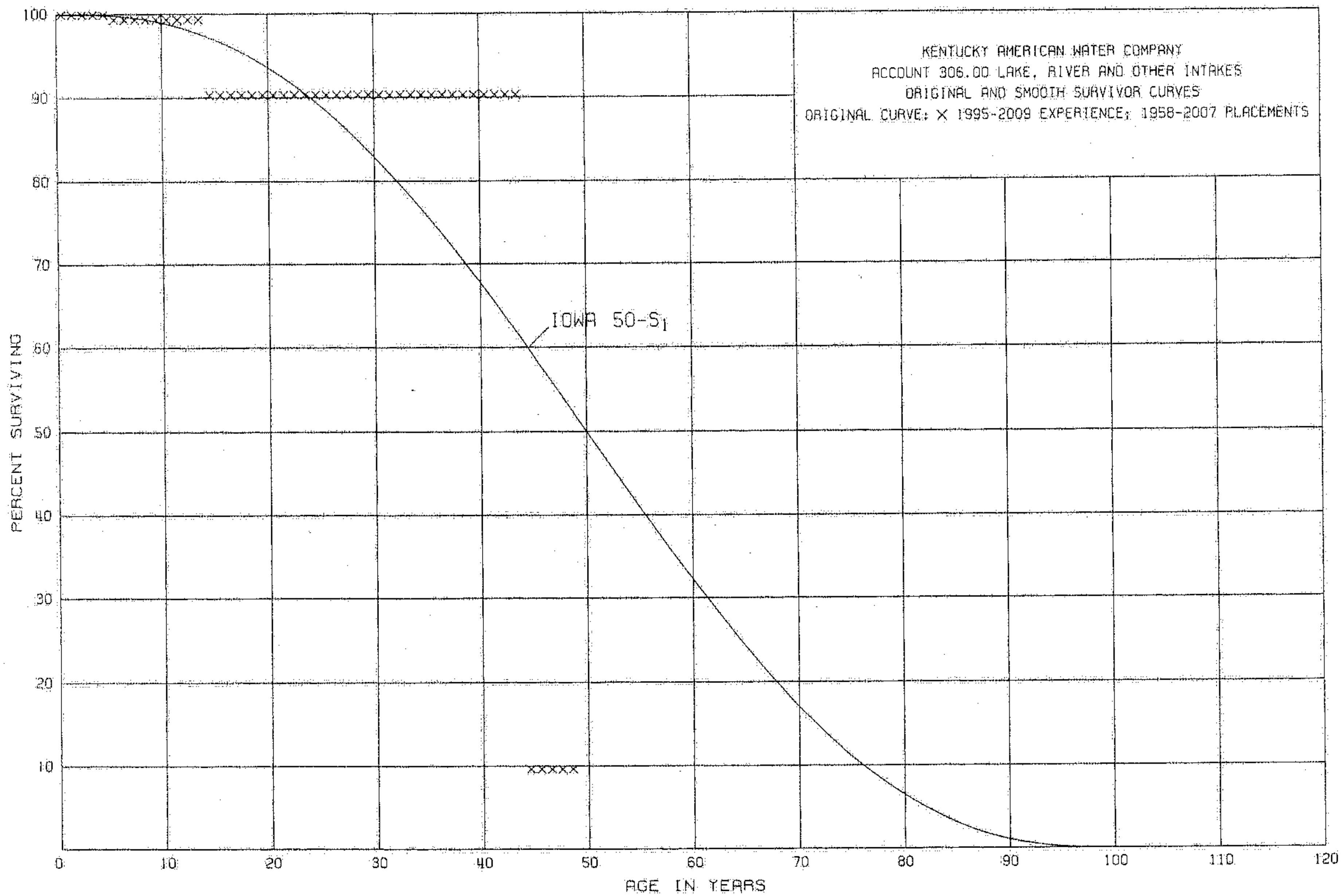
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1913-2005 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5	73,214		0.0000		
82.5	73,214		0.0000		
83.5	73,214		0.0000		
84.5	73,214		0.0000		
85.5	73,214		0.0000		
86.5	73,214		0.0000		
87.5	73,214		0.0000		
88.5	73,214		0.0000		
89.5	73,214		0.0000		
90.5	73,214		0.0000		
91.5	73,214		0.0000		
92.5	73,214		0.0000		
93.5	73,214		0.0000		
94.5	73,214		0.0000		
95.5	73,214		0.0000		
96.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 306.00 LAKE, RIVER AND OTHER INTAKES
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1958-2007 PLACEMENTS
IOWA 50-S1
PERCENT SURVIVING
AGE IN YEARS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 306.00 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1958-2007 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	282,506		0.0000	1.0000	100.00
0.5	282,676		0.0000	1.0000	100.00
1.5	289,661		0.0000	1.0000	100.00
2.5	327,705		0.0000	1.0000	100.00
3.5	492,826		0.0000	1.0000	100.00
4.5	498,605	3,666	0.0074	0.9926	100.00
5.5	494,939		0.0000	1.0000	99.26
6.5	494,939		0.0000	1.0000	99.26
7.5	249,645		0.0000	1.0000	99.26
8.5	249,645		0.0000	1.0000	99.26
9.5	229,820		0.0000	1.0000	99.26
10.5	229,820		0.0000	1.0000	99.26
11.5	229,820		0.0000	1.0000	99.26
12.5	226,454		0.0000	1.0000	99.26
13.5	226,454	20,500	0.0905	0.9095	99.26
14.5	205,954		0.0000	1.0000	90.28
15.5	205,784		0.0000	1.0000	90.28
16.5	198,799		0.0000	1.0000	90.28
17.5	176,498		0.0000	1.0000	90.28
18.5	11,377		0.0000	1.0000	90.28
19.5	5,598		0.0000	1.0000	90.28
20.5	5,598		0.0000	1.0000	90.28
21.5	5,598		0.0000	1.0000	90.28
22.5	5,648		0.0000	1.0000	90.28
23.5	28,746		0.0000	1.0000	90.28
24.5	57,580		0.0000	1.0000	90.28
25.5	57,580		0.0000	1.0000	90.28
26.5	57,580		0.0000	1.0000	90.28
27.5	57,580		0.0000	1.0000	90.28
28.5	77,112		0.0000	1.0000	90.28
29.5	77,112		0.0000	1.0000	90.28
30.5	77,112		0.0000	1.0000	90.28
31.5	77,112		0.0000	1.0000	90.28
32.5	77,278		0.0000	1.0000	90.28
33.5	77,727		0.0000	1.0000	90.28
34.5	77,727		0.0000	1.0000	90.28
35.5	77,727		0.0000	1.0000	90.28
36.5	82,916		0.0000	1.0000	90.28
37.5	82,866		0.0000	1.0000	90.28
38.5	59,768		0.0000	1.0000	90.28

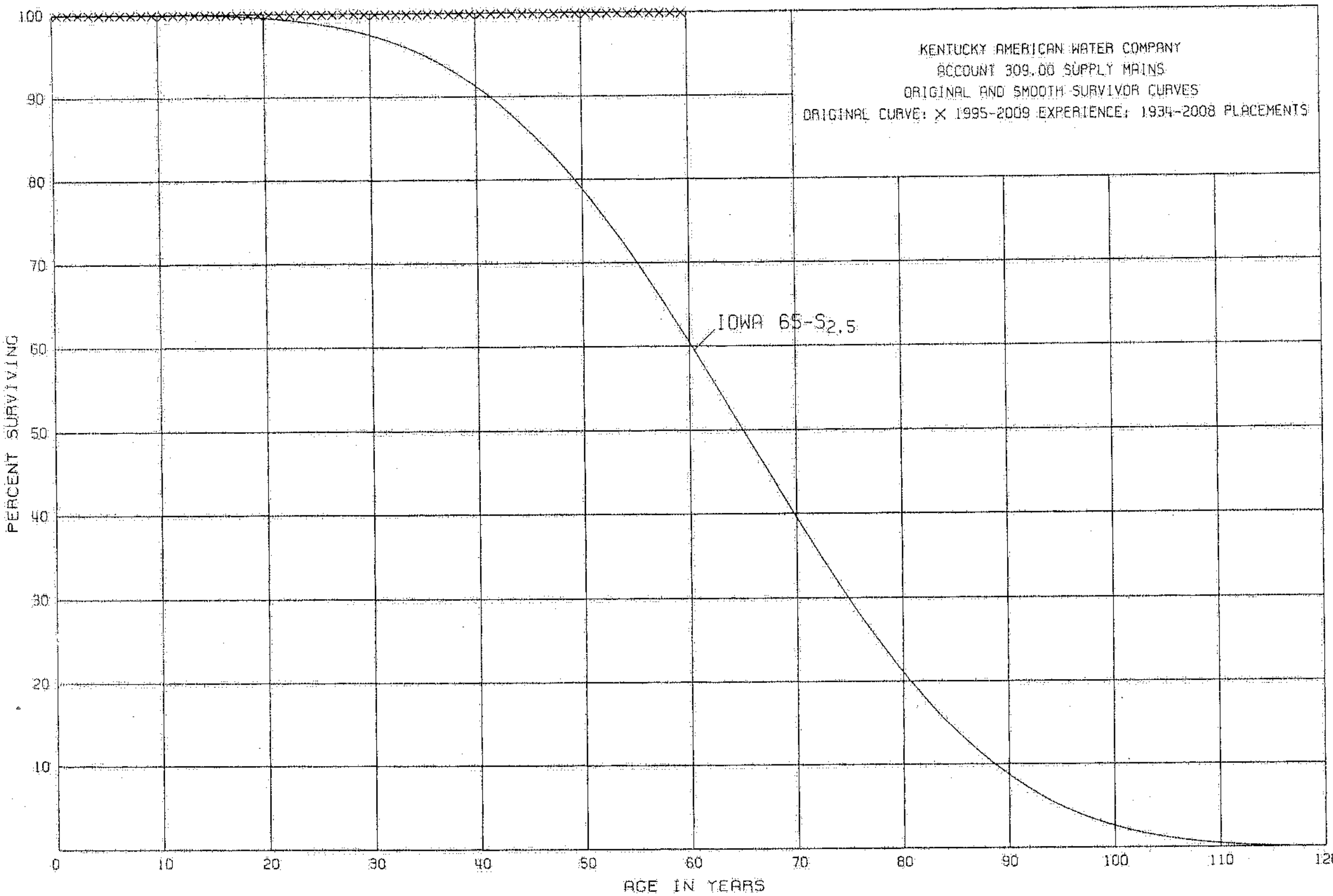
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 306.00 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1958-2007 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	25,336		0.0000	1.0000	90.28
40.5	25,336		0.0000	1.0000	90.28
41.5	25,336		0.0000	1.0000	90.28
42.5	25,336		0.0000	1.0000	90.28
43.5	5,804	5,189	0.8940	0.1060	90.28
44.5	615		0.0000	1.0000	9.57
45.5	615		0.0000	1.0000	9.57
46.5	615		0.0000	1.0000	9.57
47.5	449		0.0000	1.0000	9.57
48.5					9.57


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 309.00 SUPPLY MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1934-2008 PLACEMENTS
IOWA 65-S2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 309.00 SUPPLY MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	99,767		0.0000	1.0000	100.00
0.5	129,098		0.0000	1.0000	100.00
1.5	128,705		0.0000	1.0000	100.00
2.5	1,840,140		0.0000	1.0000	100.00
3.5	1,849,470		0.0000	1.0000	100.00
4.5	1,849,470		0.0000	1.0000	100.00
5.5	3,825,699		0.0000	1.0000	100.00
6.5	3,925,890		0.0000	1.0000	100.00
7.5	4,007,440		0.0000	1.0000	100.00
8.5	4,007,440		0.0000	1.0000	100.00
9.5	3,982,178		0.0000	1.0000	100.00
10.5	3,996,341		0.0000	1.0000	100.00
11.5	3,996,700		0.0000	1.0000	100.00
12.5	4,049,851		0.0000	1.0000	100.00
13.5	4,052,222		0.0000	1.0000	100.00
14.5	4,055,720		0.0000	1.0000	100.00
15.5	4,026,389		0.0000	1.0000	100.00
16.5	4,020,914		0.0000	1.0000	100.00
17.5	2,255,362		0.0000	1.0000	100.00
18.5	2,373,817		0.0000	1.0000	100.00
19.5	2,373,817		0.0000	1.0000	100.00
20.5	397,588		0.0000	1.0000	100.00
21.5	297,397		0.0000	1.0000	100.00
22.5	212,001		0.0000	1.0000	100.00
23.5	212,001		0.0000	1.0000	100.00
24.5	215,227		0.0000	1.0000	100.00
25.5	201,063		0.0000	1.0000	100.00
26.5	206,634		0.0000	1.0000	100.00
27.5	156,357		0.0000	1.0000	100.00
28.5	153,987		0.0000	1.0000	100.00
29.5	590,979		0.0000	1.0000	100.00
30.5	590,979		0.0000	1.0000	100.00
31.5	590,979		0.0000	1.0000	100.00
32.5	590,979		0.0000	1.0000	100.00
33.5	463,194		0.0000	1.0000	100.00
34.5	463,194		0.0000	1.0000	100.00
35.5	572,925		0.0000	1.0000	100.00
36.5	572,925		0.0000	1.0000	100.00
37.5	562,252		0.0000	1.0000	100.00
38.5	622,134		0.0000	1.0000	100.00

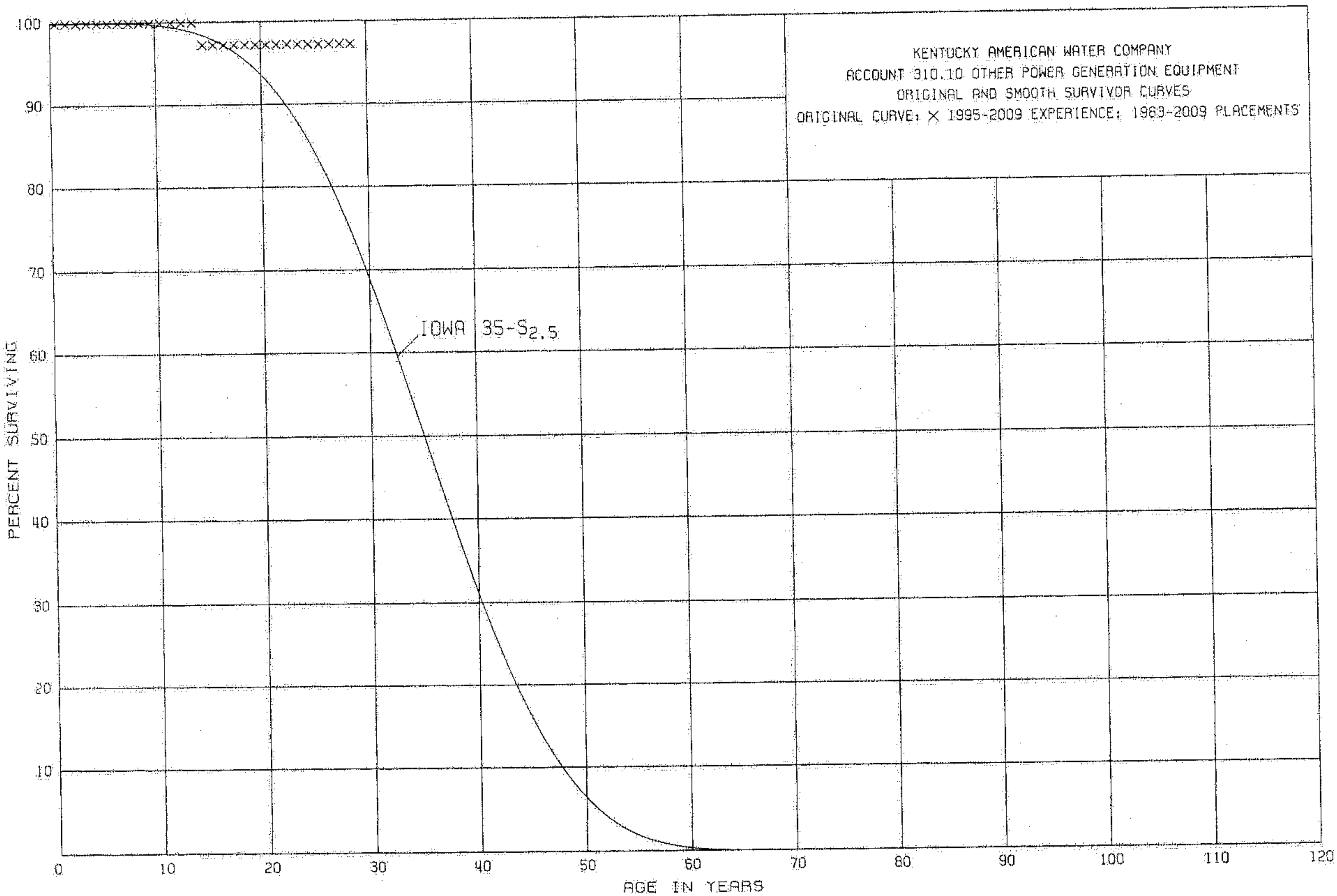
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 309.00 SUPPLY MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	618,908		0.0000	1.0000	100.00
40.5	618,908		0.0000	1.0000	100.00
41.5	614,875		0.0000	1.0000	100.00
42.5	612,000		0.0000	1.0000	100.00
43.5	612,218		0.0000	1.0000	100.00
44.5	171,727		0.0000	1.0000	100.00
45.5	171,727		0.0000	1.0000	100.00
46.5	171,727		0.0000	1.0000	100.00
47.5	171,727		0.0000	1.0000	100.00
48.5	171,727		0.0000	1.0000	100.00
49.5	171,727		0.0000	1.0000	100.00
50.5	62,039		0.0000	1.0000	100.00
51.5	62,039		0.0000	1.0000	100.00
52.5	62,053		0.0000	1.0000	100.00
53.5	2,604		0.0000	1.0000	100.00
54.5	3,107		0.0000	1.0000	100.00
55.5	3,107		0.0000	1.0000	100.00
56.5	1,211		0.0000	1.0000	100.00
57.5	1,211		0.0000	1.0000	100.00
58.5	993		0.0000	1.0000	100.00
59.5	993		0.0000	1.0000	100.00
60.5	226,183		0.0000	1.0000	100.00
61.5	226,183		0.0000	1.0000	100.00
62.5	226,183		0.0000	1.0000	100.00
63.5	226,183		0.0000	1.0000	100.00
64.5	226,183		0.0000	1.0000	100.00
65.5	226,141	49	0.0002	0.9998	100.00
66.5	226,092		0.0000	1.0000	99.98
67.5	226,077		0.0000	1.0000	99.98
68.5	225,644		0.0000	1.0000	99.98
69.5	225,140		0.0000	1.0000	99.98
70.5	225,140		0.0000	1.0000	99.98
71.5	225,140		0.0000	1.0000	99.98
72.5	225,140		0.0000	1.0000	99.98
73.5	225,140	412	0.0018	0.9982	99.98
74.5	224,729		0.0000	1.0000	99.80
75.5					99.80


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 310.10 OTHER POWER GENERATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1963-2009 PLACEMENTS
IOWA 35-S2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 310.10 OTHER POWER GENERATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1963-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	608,951		0.0000	1.0000	100.00
0.5	576,891		0.0000	1.0000	100.00
1.5	427,245		0.0000	1.0000	100.00
2.5	231,204		0.0000	1.0000	100.00
3.5	231,204		0.0000	1.0000	100.00
4.5	231,204		0.0000	1.0000	100.00
5.5	298,389		0.0000	1.0000	100.00
6.5	484,717		0.0000	1.0000	100.00
7.5	476,776		0.0000	1.0000	100.00
8.5	476,776		0.0000	1.0000	100.00
9.5	476,776		0.0000	1.0000	100.00
10.5	476,776		0.0000	1.0000	100.00
11.5	476,776		0.0000	1.0000	100.00
12.5	476,776		0.0000	1.0000	100.00
13.5	336,218	9,442	0.0281	0.9719	100.00
14.5	326,776	27	0.0001	0.9999	97.19
15.5	326,749		0.0000	1.0000	97.18
16.5	326,749		0.0000	1.0000	97.18
17.5	326,749		0.0000	1.0000	97.18
18.5	326,749		0.0000	1.0000	97.18
19.5	326,749		0.0000	1.0000	97.18
20.5	259,564		0.0000	1.0000	97.18
21.5	68,594		0.0000	1.0000	97.18
22.5	68,594		0.0000	1.0000	97.18
23.5	68,594		0.0000	1.0000	97.18
24.5	68,594		0.0000	1.0000	97.18
25.5	68,594		0.0000	1.0000	97.18
26.5	68,594		0.0000	1.0000	97.18
27.5	68,594		0.0000	1.0000	97.18
28.5					97.18
29.5					
30.5					
31.5	14,501		0.0000		
32.5	14,501		0.0000		
33.5	14,501		0.0000		
34.5	14,501		0.0000		
35.5	14,501		0.0000		
36.5	14,501		0.0000		
37.5	14,501		0.0000		
38.5	14,501		0.0000		

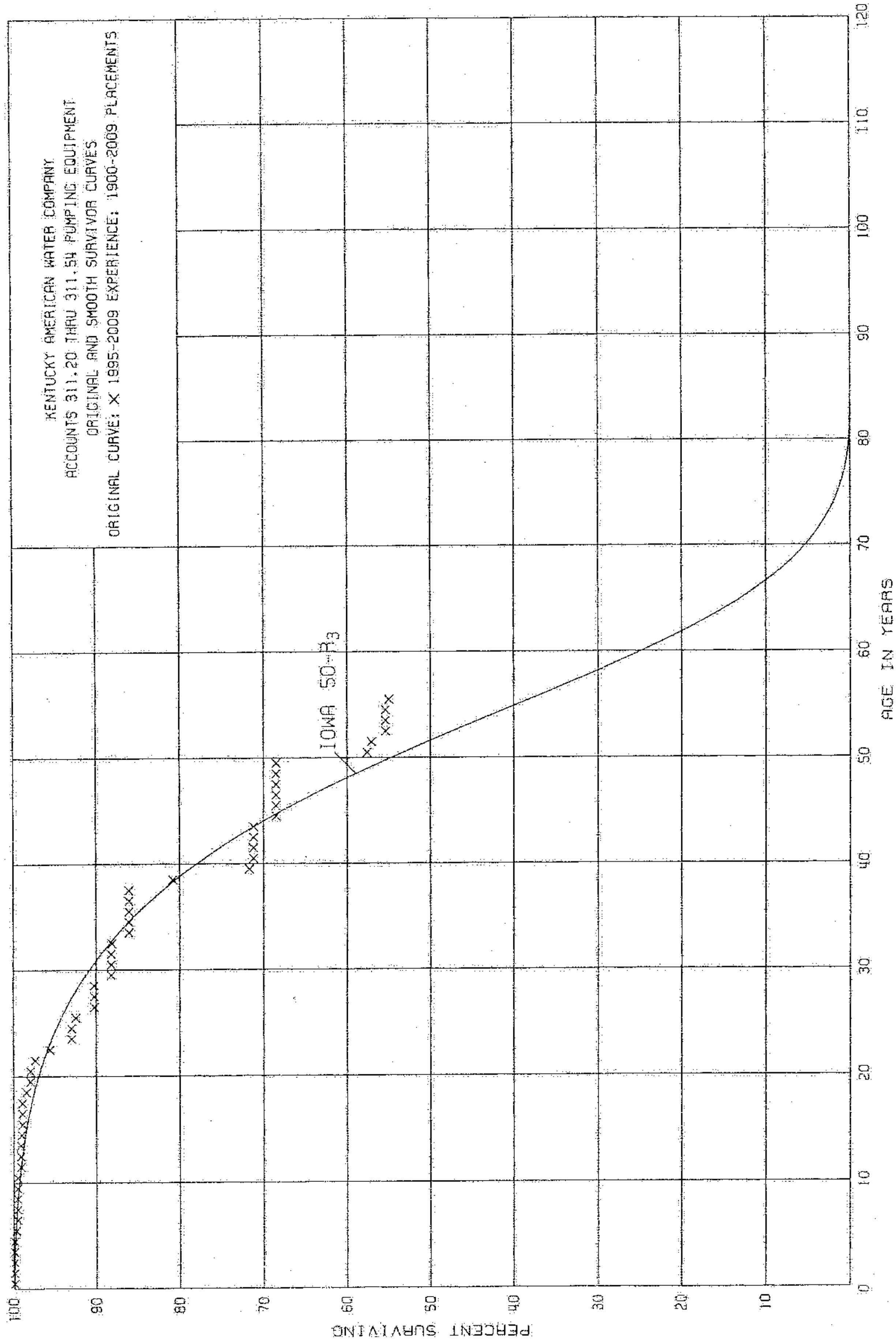
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 310.10 OTHER POWER GENERATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1963-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	14,501		0.0000		
40.5	14,501		0.0000		
41.5	14,501		0.0000		
42.5	14,501		0.0000		
43.5	14,501		0.0000		
44.5	14,501		0.0000		
45.5	14,501	14,501	1.0000		
46.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1900-2009 PLACEMENTS
IOWA 50-R3
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	11,148,046		0.0000	1.0000	100.00
0.5	7,514,007	500	0.0001	0.9999	100.00
1.5	3,844,914		0.0000	1.0000	99.99
2.5	6,992,065		0.0000	1.0000	99.99
3.5	6,853,704	4,035	0.0006	0.9994	99.99
4.5	6,985,185	18,147	0.0026	0.9974	99.93
5.5	7,484,376	10,691	0.0014	0.9986	99.67
6.5	8,009,588	1,000	0.0001	0.9999	99.53
7.5	8,436,294	2,256	0.0003	0.9997	99.52
8.5	8,406,564		0.0000	1.0000	99.49
9.5	8,209,942		0.0000	1.0000	99.49
10.5	7,854,857	28,310	0.0036	0.9964	99.49
11.5	7,514,948	3,343	0.0004	0.9996	99.13
12.5	6,709,703		0.0000	1.0000	99.09
13.5	6,905,918	9,241	0.0013	0.9987	99.09
14.5	6,864,415	5,466	0.0008	0.9992	98.96
15.5	6,860,894	1,500	0.0002	0.9998	98.88
16.5	6,582,577		0.0000	1.0000	98.86
17.5	2,491,167	11,460	0.0046	0.9954	98.86
18.5	2,650,009	13,887	0.0052	0.9948	98.41
19.5	2,435,904		0.0000	1.0000	97.90
20.5	1,961,889	12,220	0.0062	0.9938	97.90
21.5	1,302,683	24,212	0.0186	0.9814	97.29
22.5	761,729	20,807	0.0273	0.9727	95.48
23.5	667,446		0.0000	1.0000	92.87
24.5	759,087	4,278	0.0056	0.9944	92.87
25.5	732,981	17,353	0.0237	0.9763	92.35
26.5	730,924		0.0000	1.0000	90.16
27.5	777,523		0.0000	1.0000	90.16
28.5	581,395	12,551	0.0216	0.9784	90.16
29.5	602,923		0.0000	1.0000	88.21
30.5	600,978		0.0000	1.0000	88.21
31.5	600,978	944	0.0016	0.9984	88.21
32.5	601,926	14,228	0.0236	0.9764	88.07
33.5	434,544		0.0000	1.0000	85.99
34.5	434,544		0.0000	1.0000	85.99
35.5	460,732		0.0000	1.0000	85.99
36.5	494,057		0.0000	1.0000	85.99
37.5	493,084	29,938	0.0607	0.9393	85.99
38.5	486,055	54,390	0.1119	0.8881	80.77

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	430,311	3,435	0.0080	0.9920	71.73
40.5	425,475		0.0000	1.0000	71.16
41.5	426,169		0.0000	1.0000	71.16
42.5	357,024		0.0000	1.0000	71.16
43.5	341,787	12,589	0.0368	0.9632	71.16
44.5	295,586		0.0000	1.0000	68.54
45.5	312,509		0.0000	1.0000	68.54
46.5	321,022		0.0000	1.0000	68.54
47.5	315,949		0.0000	1.0000	68.54
48.5	315,664		0.0000	1.0000	68.54
49.5	315,887	50,529	0.1600	0.8400	68.54
50.5	211,960	1,762	0.0083	0.9917	57.57
51.5	177,544	5,150	0.0290	0.9710	57.09
52.5	172,364		0.0000	1.0000	55.43
53.5	142,880		0.0000	1.0000	55.43
54.5	27,209	196	0.0072	0.9928	55.43
55.5	41,963		0.0000	1.0000	55.03
56.5	48,757		0.0000	1.0000	55.03
57.5	48,757		0.0000	1.0000	55.03
58.5	48,757		0.0000	1.0000	55.03
59.5	48,292		0.0000	1.0000	55.03
60.5	52,836		0.0000	1.0000	55.03
61.5	46,082		0.0000	1.0000	55.03
62.5	45,762		0.0000	1.0000	55.03
63.5	45,762	6,475	0.1415	0.8585	55.03
64.5	39,063	1,022	0.0262	0.9738	47.24
65.5	38,041		0.0000	1.0000	46.00
66.5	38,041		0.0000	1.0000	46.00
67.5	38,041		0.0000	1.0000	46.00
68.5	38,027		0.0000	1.0000	46.00
69.5	35,689		0.0000	1.0000	46.00
70.5	27,001		0.0000	1.0000	46.00
71.5	19,935		0.0000	1.0000	46.00
72.5	19,935		0.0000	1.0000	46.00
73.5	19,935		0.0000	1.0000	46.00
74.5	19,935		0.0000	1.0000	46.00
75.5	422	422	1.0000	0.0000	46.00
76.5					0.00
77.5					
78.5					

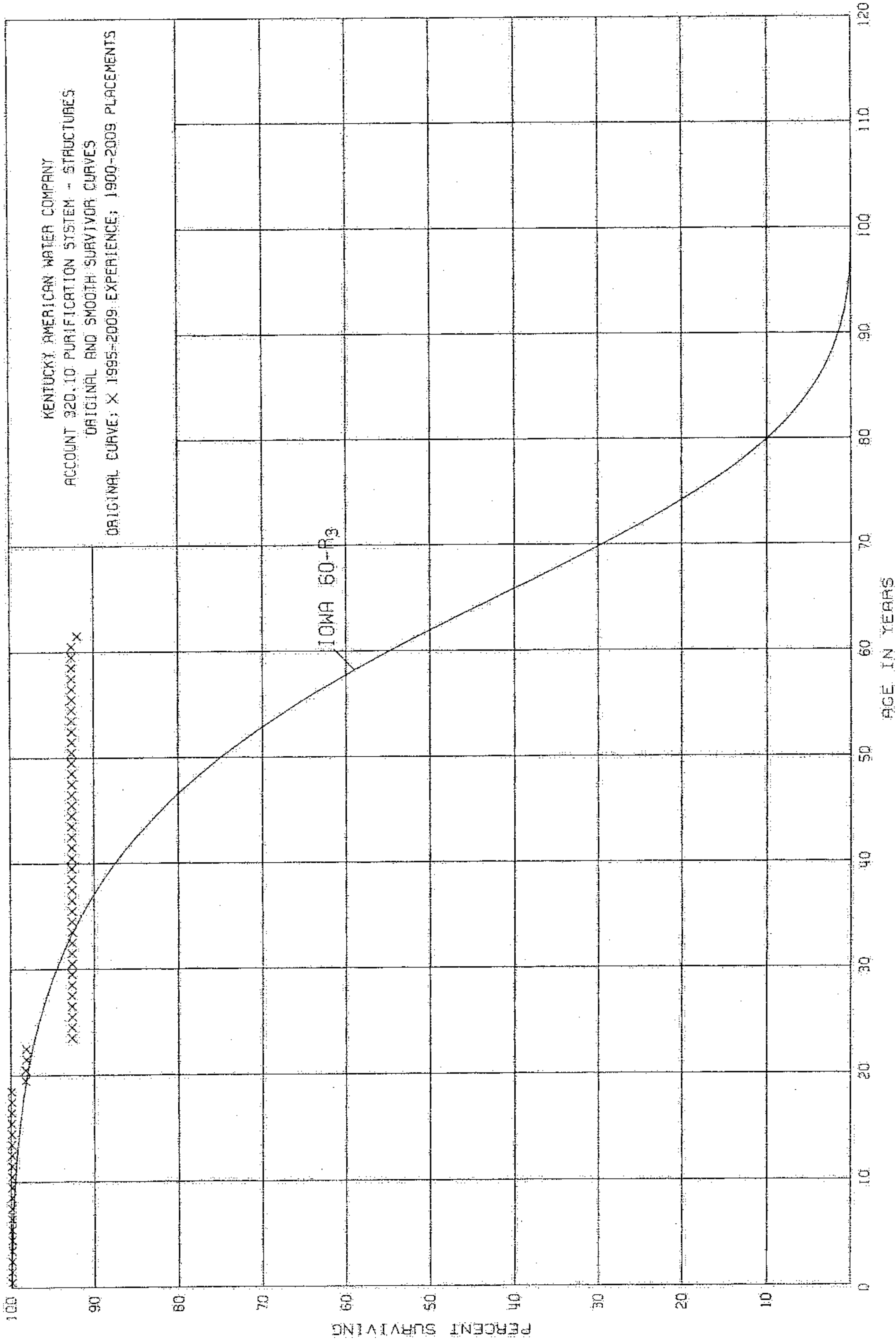
KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5	53,177		0.0000		
95.5	53,177		0.0000		
96.5	53,177		0.0000		
97.5	53,177		0.0000		
98.5	53,177		0.0000		
99.5	53,177		0.0000		
100.5	53,177		0.0000		
101.5	53,177		0.0000		
102.5	53,177		0.0000		
103.5	53,177		0.0000		
104.5	53,177		0.0000		
105.5	53,177		0.0000		
106.5	53,177	53,177	1.0000		
107.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1900-2009 PLACEMENTS
IOWA 60-R3
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	6,574,038		0.0000	1.0000	100.00
0.5	6,435,671		0.0000	1.0000	100.00
1.5	5,121,720		0.0000	1.0000	100.00
2.5	4,604,814		0.0000	1.0000	100.00
3.5	4,595,777		0.0000	1.0000	100.00
4.5	4,590,087		0.0000	1.0000	100.00
5.5	4,638,738	1,935	0.0004	0.9996	100.00
6.5	9,060,650		0.0000	1.0000	99.96
7.5	8,246,373		0.0000	1.0000	99.96
8.5	10,195,762		0.0000	1.0000	99.96
9.5	10,195,762		0.0000	1.0000	99.96
10.5	10,185,799		0.0000	1.0000	99.96
11.5	10,185,799	10,624	0.0010	0.9990	99.96
12.5	9,485,774		0.0000	1.0000	99.86
13.5	7,136,740		0.0000	1.0000	99.86
14.5	7,025,210		0.0000	1.0000	99.86
15.5	7,016,027		0.0000	1.0000	99.86
16.5	7,042,290		0.0000	1.0000	99.86
17.5	7,585,366		0.0000	1.0000	99.86
18.5	7,584,680	124,424	0.0164	0.9836	99.86
19.5	7,452,687		0.0000	1.0000	98.22
20.5	7,443,750	7,318	0.0010	0.9990	98.22
21.5	3,196,129		0.0000	1.0000	98.12
22.5	2,983,613	169,119	0.0567	0.9433	98.12
23.5	871,418		0.0000	1.0000	92.56
24.5	1,323,284		0.0000	1.0000	92.56
25.5	1,321,465		0.0000	1.0000	92.56
26.5	1,326,730		0.0000	1.0000	92.56
27.5	1,241,626		0.0000	1.0000	92.56
28.5	2,275,888		0.0000	1.0000	92.56
29.5	2,275,888		0.0000	1.0000	92.56
30.5	2,279,930		0.0000	1.0000	92.56
31.5	2,234,276		0.0000	1.0000	92.56
32.5	1,741,420		0.0000	1.0000	92.56
33.5	1,740,883		0.0000	1.0000	92.56
34.5	1,752,704		0.0000	1.0000	92.56
35.5	2,265,478		0.0000	1.0000	92.56
36.5	4,163,421		0.0000	1.0000	92.56
37.5	4,151,597		0.0000	1.0000	92.56
38.5	4,145,284		0.0000	1.0000	92.56

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,695,288		0.0000	1.0000	92.56
40.5	3,695,288		0.0000	1.0000	92.56
41.5	3,712,814		0.0000	1.0000	92.56
42.5	3,712,814		0.0000	1.0000	92.56
43.5	2,560,644		0.0000	1.0000	92.56
44.5	2,588,402		0.0000	1.0000	92.56
45.5	2,578,161		0.0000	1.0000	92.56
46.5	2,590,706		0.0000	1.0000	92.56
47.5	2,586,486		0.0000	1.0000	92.56
48.5	2,586,009		0.0000	1.0000	92.56
49.5	2,574,188		0.0000	1.0000	92.56
50.5	2,021,700		0.0000	1.0000	92.56
51.5	64,963		0.0000	1.0000	92.56
52.5	64,963		0.0000	1.0000	92.56
53.5	65,128		0.0000	1.0000	92.56
54.5	63,258		0.0000	1.0000	92.56
55.5	63,433		0.0000	1.0000	92.56
56.5	40,782		0.0000	1.0000	92.56
57.5	40,782		0.0000	1.0000	92.56
58.5	41,124		0.0000	1.0000	92.56
59.5	13,365		0.0000	1.0000	92.56
60.5	14,871	102	0.0069	0.9931	92.56
61.5	2,327		0.0000	1.0000	91.92
62.5	2,327		0.0000	1.0000	91.92
63.5	2,327		0.0000	1.0000	91.92
64.5	2,327		0.0000	1.0000	91.92
65.5	5,903		0.0000	1.0000	91.92
66.5	5,903		0.0000	1.0000	91.92
67.5	5,903		0.0000	1.0000	91.92
68.5	5,737		0.0000	1.0000	91.92
69.5	5,737		0.0000	1.0000	91.92
70.5	5,563		0.0000	1.0000	91.92
71.5	5,424		0.0000	1.0000	91.92
72.5	5,424		0.0000	1.0000	91.92
73.5	5,082		0.0000	1.0000	91.92
74.5	5,082		0.0000	1.0000	91.92
75.5	3,576		0.0000	1.0000	91.92
76.5	3,576		0.0000	1.0000	91.92
77.5	3,576		0.0000	1.0000	91.92
78.5	3,576	1,355	0.3789	0.6211	91.92

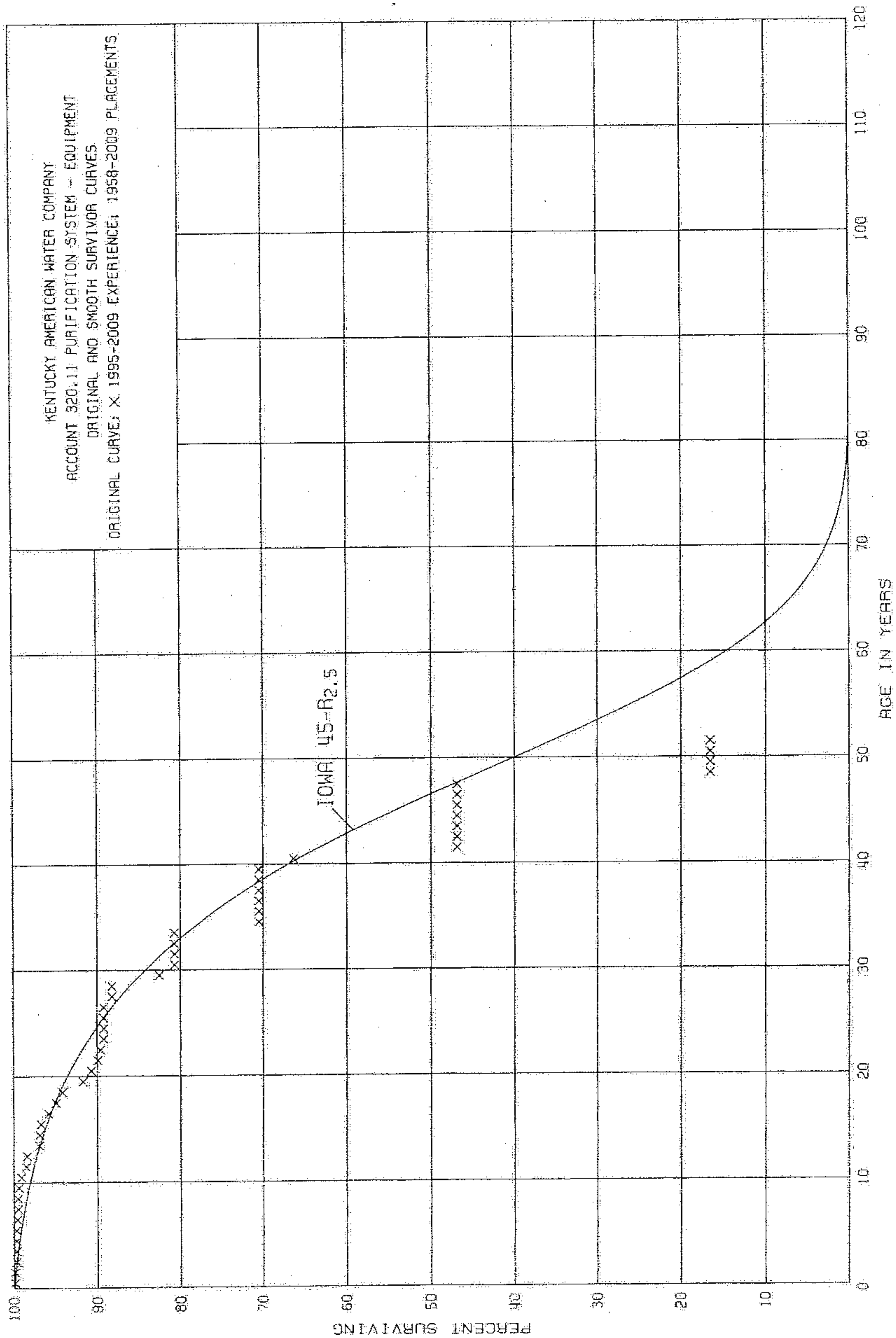
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,221		0.0000	1.0000	57.09
80.5					57.09
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5	11,753		0.0000		
95.5	11,753		0.0000		
96.5	11,753		0.0000		
97.5	11,753		0.0000		
98.5	11,753		0.0000		
99.5	11,753		0.0000		
100.5	11,753		0.0000		
101.5	11,753		0.0000		
102.5	11,753		0.0000		
103.5	11,753		0.0000		
104.5	11,753		0.0000		
105.5	11,753		0.0000		
106.5	11,753		0.0000		
107.5	11,753		0.0000		
108.5	11,753		0.0000		
109.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 320.11 PURIFICATION SYSTEM - EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1958-2009 PLACEMENTS
IOWA 45-R2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.11 PURIFICATION SYSTEM - EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1958-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,912,369		0.0000	1.0000	100.00
0.5	5,823,686	2,000	0.0003	0.9997	100.00
1.5	6,226,558	14,500	0.0023	0.9977	99.97
2.5	4,958,889		0.0000	1.0000	99.74
3.5	5,597,036		0.0000	1.0000	99.74
4.5	5,822,114		0.0000	1.0000	99.74
5.5	6,009,987	7,983	0.0013	0.9987	99.74
6.5	7,642,135	6,092	0.0008	0.9992	99.61
7.5	7,151,384		0.0000	1.0000	99.53
8.5	7,609,567	9,921	0.0013	0.9987	99.53
9.5	7,013,880	23,226	0.0033	0.9967	99.40
10.5	6,001,282	31,594	0.0053	0.9947	99.07
11.5	5,887,655	8,204	0.0014	0.9986	98.54
12.5	5,866,674	89,211	0.0152	0.9848	98.40
13.5	6,274,686	1,565	0.0002	0.9998	96.90
14.5	6,257,193	12,323	0.0020	0.9980	96.88
15.5	6,209,180	55,702	0.0090	0.9910	96.69
16.5	5,508,507	50,750	0.0092	0.9908	95.82
17.5	4,846,414	41,303	0.0085	0.9915	94.94
18.5	4,117,521	106,600	0.0259	0.9741	94.13
19.5	3,700,054	40,767	0.0110	0.9890	91.69
20.5	3,518,376	29,501	0.0084	0.9916	90.68
21.5	1,908,223	6,614	0.0035	0.9965	89.92
22.5	1,748,197	8,000	0.0046	0.9954	89.61
23.5	1,184,504		0.0000	1.0000	89.20
24.5	1,465,739		0.0000	1.0000	89.20
25.5	1,446,703		0.0000	1.0000	89.20
26.5	1,433,989	16,440	0.0115	0.9885	89.20
27.5	1,414,362		0.0000	1.0000	88.17
28.5	534,466	34,295	0.0642	0.9358	88.17
29.5	499,662	10,903	0.0218	0.9782	82.51
30.5	483,095		0.0000	1.0000	80.71
31.5	480,850		0.0000	1.0000	80.71
32.5	475,498		0.0000	1.0000	80.71
33.5	456,564	57,749	0.1265	0.8735	80.71
34.5	399,250		0.0000	1.0000	70.50
35.5	456,629		0.0000	1.0000	70.50
36.5	480,534		0.0000	1.0000	70.50
37.5	480,291		0.0000	1.0000	70.50
38.5	480,213		0.0000	1.0000	70.50

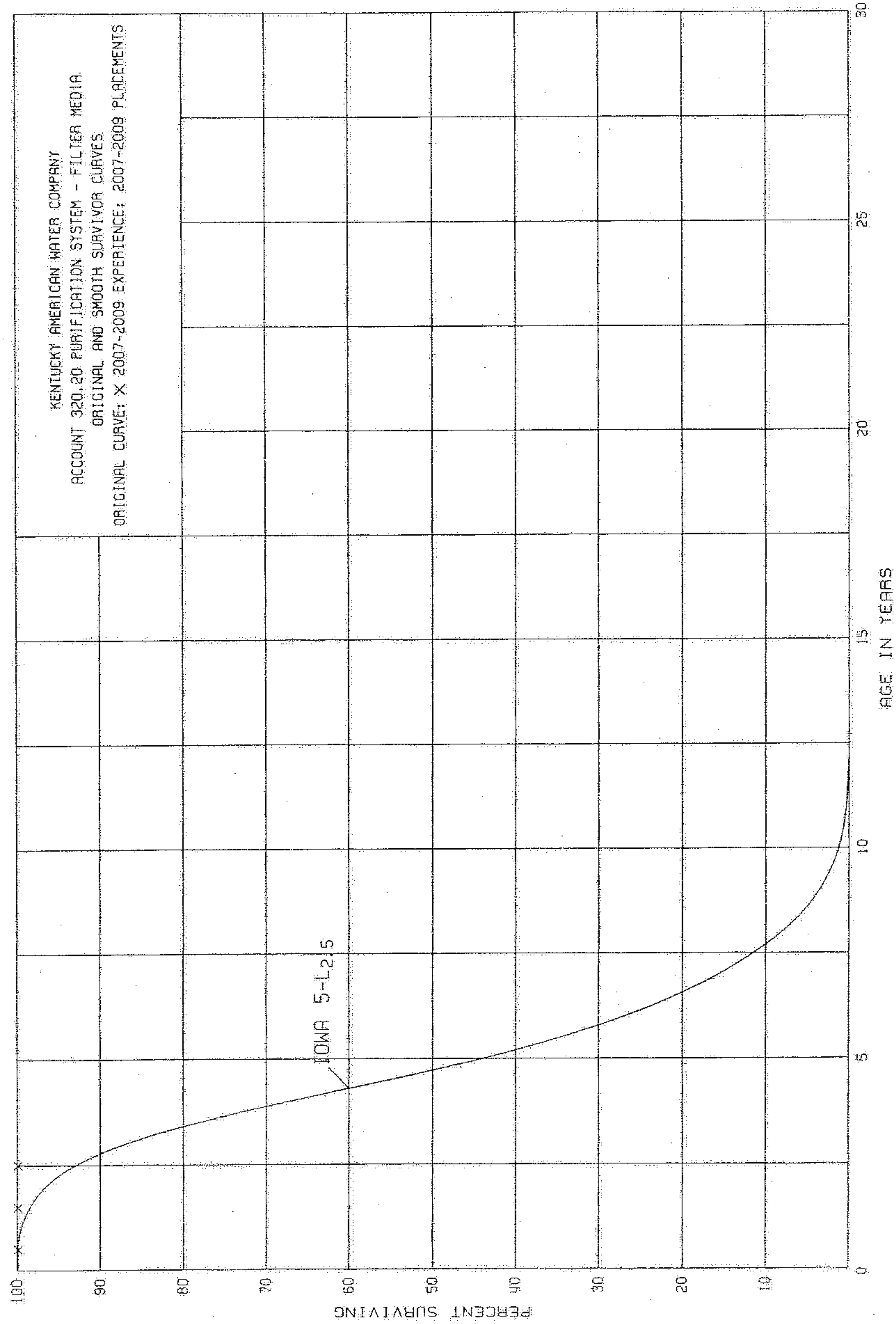
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.11 PURIFICATION SYSTEM - EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1958-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	220,213	13,000	0.0590	0.9410	70.50
40.5	207,213	60,700	0.2929	0.7071	66.34
41.5	146,513		0.0000	1.0000	46.91
42.5	146,513		0.0000	1.0000	46.91
43.5	32,941		0.0000	1.0000	46.91
44.5	32,941		0.0000	1.0000	46.91
45.5	32,422		0.0000	1.0000	46.91
46.5	32,422		0.0000	1.0000	46.91
47.5	32,422	21,000	0.6477	0.3523	46.91
48.5	11,422		0.0000	1.0000	16.53
49.5	10,987		0.0000	1.0000	16.53
50.5	10,987		0.0000	1.0000	16.53
51.5					16.53


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 320.20 PURIFICATION SYSTEM - FILTER MEDIA
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 2007-2009 EXPERIENCE; 2007-2009 PLACEMENTS
IOWA 5-L2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
5
10
15
20
25
30

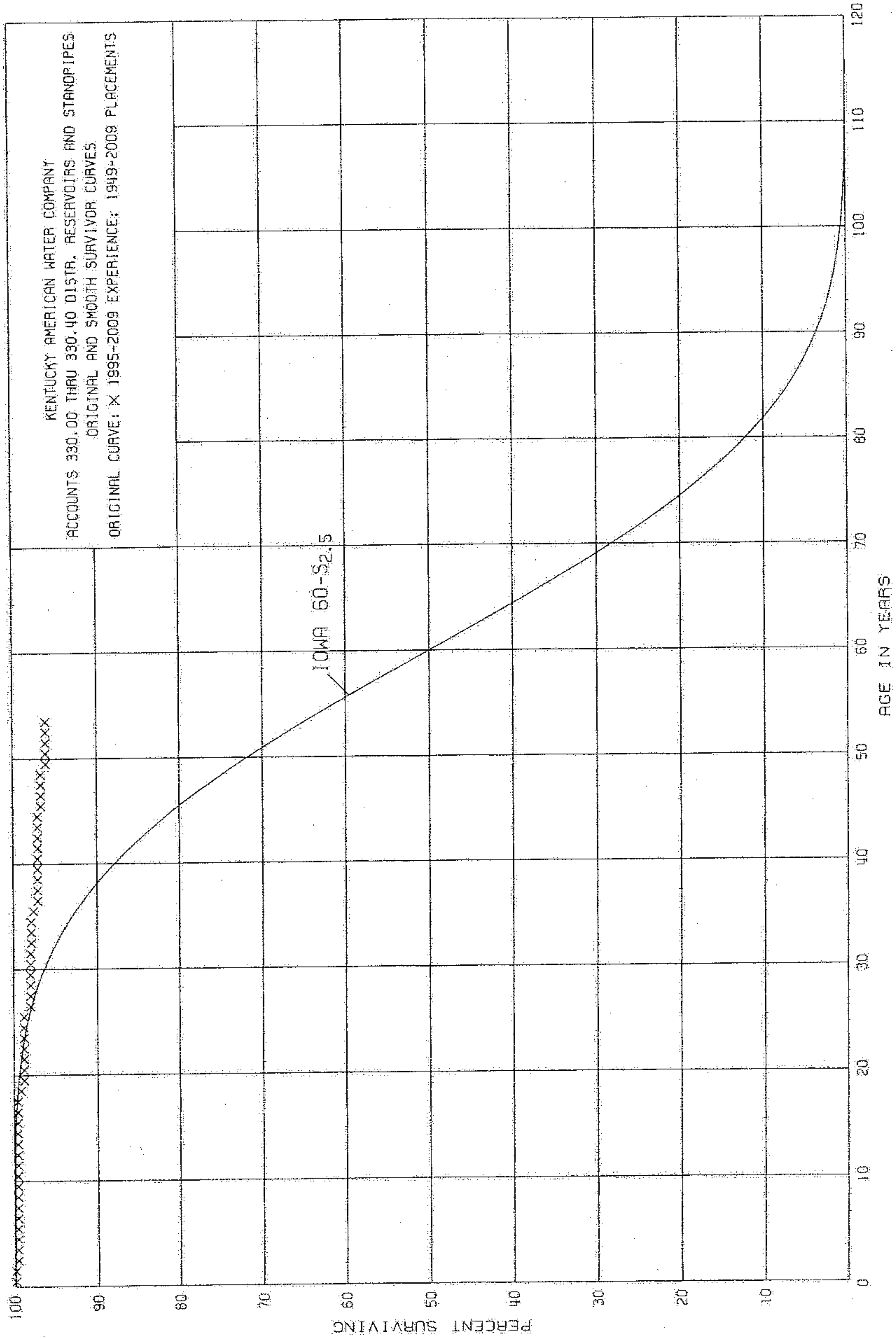
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.20 PURIFICATION SYSTEM - FILTER MEDIA

ORIGINAL LIFE TABLE

PLACEMENT BAND 2007-2009 EXPERIENCE BAND 2007-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	168,569		0.0000	1.0000	100.00
0.5	27,968		0.0000	1.0000	100.00
1.5	27,968		0.0000	1.0000	100.00
2.5					100.00



KENTUCKY AMERICAN WATER COMPANY
ACCOUNTS 330.00 THRU 330.40 DISTR. RESERVOIRS AND STANDPIPES
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE: 1949-2009 PLACEMENTS
IOWA 60-S2.5
AGE IN YEARS
PERCENT SURVIVING

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 330.00 THRU 330.40 DISTR. RESERVOIRS AND STANDPIPES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1949-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,432,099		0.0000	1.0000	100.00
0.5	8,349,093		0.0000	1.0000	100.00
1.5	8,313,999	29,652	0.0036	0.9964	100.00
2.5	8,177,366		0.0000	1.0000	99.64
3.5	8,029,968		0.0000	1.0000	99.64
4.5	5,384,420		0.0000	1.0000	99.64
5.5	4,800,560		0.0000	1.0000	99.64
6.5	4,811,740		0.0000	1.0000	99.64
7.5	5,514,776		0.0000	1.0000	99.64
8.5	4,605,790		0.0000	1.0000	99.64
9.5	4,589,403		0.0000	1.0000	99.64
10.5	3,784,731		0.0000	1.0000	99.64
11.5	3,665,316	1,890	0.0005	0.9995	99.64
12.5	3,663,426		0.0000	1.0000	99.59
13.5	2,641,867		0.0000	1.0000	99.59
14.5	2,632,835		0.0000	1.0000	99.59
15.5	2,606,215		0.0000	1.0000	99.59
16.5	2,606,215		0.0000	1.0000	99.59
17.5	2,605,494	10,495	0.0040	0.9960	99.59
18.5	2,584,183	9,283	0.0036	0.9964	99.19
19.5	2,022,636		0.0000	1.0000	98.83
20.5	976,304		0.0000	1.0000	98.83
21.5	966,373		0.0000	1.0000	98.83
22.5	196,398		0.0000	1.0000	98.83
23.5	196,398		0.0000	1.0000	98.83
24.5	178,314		0.0000	1.0000	98.83
25.5	178,314	1,451	0.0081	0.9919	98.83
26.5	352,518		0.0000	1.0000	98.03
27.5	352,518		0.0000	1.0000	98.03
28.5	353,987		0.0000	1.0000	98.03
29.5	707,827		0.0000	1.0000	98.03
30.5	707,827		0.0000	1.0000	98.03
31.5	707,827	952	0.0013	0.9987	98.03
32.5	701,848		0.0000	1.0000	97.90
33.5	691,077		0.0000	1.0000	97.90
34.5	575,031	1,820	0.0032	0.9968	97.90
35.5	549,843	2,835	0.0052	0.9948	97.59
36.5	545,758		0.0000	1.0000	97.08
37.5	544,597		0.0000	1.0000	97.08
38.5	735,277		0.0000	1.0000	97.08

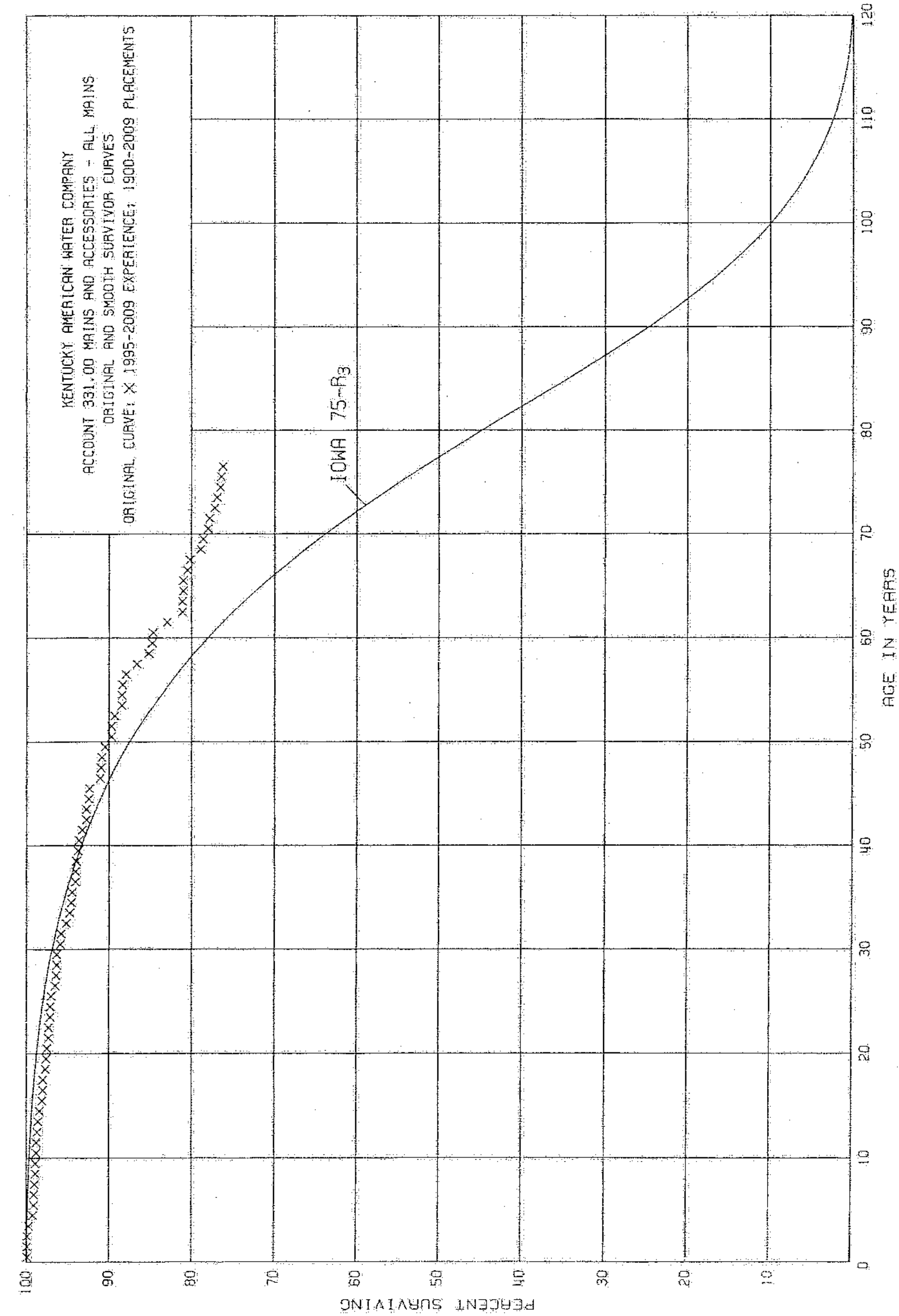
KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 330.00 THRU 330.40 DISTR. RESERVOIRS AND STANDPIPES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1949-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	734,718		0.0000	1.0000	97.08
40.5	821,088		0.0000	1.0000	97.08
41.5	646,448		0.0000	1.0000	97.08
42.5	646,915		0.0000	1.0000	97.08
43.5	645,446		0.0000	1.0000	97.08
44.5	307,602	1,213	0.0039	0.9961	97.08
45.5	336,254		0.0000	1.0000	96.70
46.5	336,254		0.0000	1.0000	96.70
47.5	336,254		0.0000	1.0000	96.70
48.5	336,195	2,000	0.0059	0.9941	96.70
49.5	334,195	200	0.0006	0.9994	96.13
50.5	333,995		0.0000	1.0000	96.07
51.5	333,995		0.0000	1.0000	96.07
52.5	333,995		0.0000	1.0000	96.07
53.5	146,529		0.0000	1.0000	96.07
54.5	146,392		0.0000	1.0000	96.07
55.5	60,221		0.0000	1.0000	96.07
56.5	60,159		0.0000	1.0000	96.07
57.5	59,692		0.0000	1.0000	96.07
58.5	59,692		0.0000	1.0000	96.07
59.5	29,865		0.0000	1.0000	96.07
60.5					96.07


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1900-2009 PLACEMENTS
IOWA 75-R3
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	101,149,451		0.0000	1.0000	100.00
0.5	104,565,680	21,339	0.0002	0.9998	100.00
1.5	98,460,505	99,505	0.0010	0.9990	99.98
2.5	69,304,887	95,478	0.0014	0.9986	99.88
3.5	66,535,151	369,044	0.0055	0.9945	99.74
4.5	68,191,961	70,589	0.0010	0.9990	99.19
5.5	70,137,908	7,418	0.0001	0.9999	99.09
6.5	72,748,478	56,232	0.0008	0.9992	99.08
7.5	77,950,542	67,004	0.0009	0.9991	99.00
8.5	72,732,501	43,491	0.0006	0.9994	98.91
9.5	71,402,616	49,949	0.0007	0.9993	98.85
10.5	66,327,865	11,136	0.0002	0.9998	98.78
11.5	61,334,127	35,980	0.0006	0.9994	98.76
12.5	55,458,867	37,863	0.0007	0.9993	98.70
13.5	50,433,972	125,471	0.0025	0.9975	98.63
14.5	47,569,861	123,607	0.0026	0.9974	98.38
15.5	42,191,750	41,494	0.0010	0.9990	98.12
16.5	40,108,354	17,055	0.0004	0.9996	98.02
17.5	37,646,949	122,095	0.0032	0.9968	97.98
18.5	36,385,323	10,106	0.0003	0.9997	97.67
19.5	34,017,536	56,610	0.0017	0.9983	97.64
20.5	33,766,325	43,247	0.0013	0.9987	97.47
21.5	29,245,392	10,648	0.0004	0.9996	97.34
22.5	22,715,758	42,965	0.0019	0.9981	97.30
23.5	21,502,625	11,797	0.0005	0.9995	97.12
24.5	16,803,292	19,488	0.0012	0.9988	97.07
25.5	15,752,193	81,894	0.0052	0.9948	96.95
26.5	15,711,917	14,138	0.0009	0.9991	96.45
27.5	16,056,028	4,378	0.0003	0.9997	96.36
28.5	20,100,926	8,081	0.0004	0.9996	96.33
29.5	19,577,168	76,495	0.0039	0.9961	96.29
30.5	18,474,360	18,185	0.0010	0.9990	95.91
31.5	17,597,818	106,353	0.0060	0.9940	95.81
32.5	16,495,818	76,043	0.0046	0.9954	95.24
33.5	15,888,197	30,918	0.0019	0.9981	94.80
34.5	15,633,069	15,226	0.0010	0.9990	94.62
35.5	12,984,513	56,027	0.0043	0.9957	94.53
36.5	12,732,994	3,731	0.0003	0.9997	94.12
37.5	11,529,392	9,065	0.0008	0.9992	94.09
38.5	12,054,365	31,412	0.0026	0.9974	94.01

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	12,235,983	9,036	0.0007	0.9993	93.77
40.5	11,599,063	54,247	0.0047	0.9953	93.70
41.5	11,291,959	53,530	0.0047	0.9953	93.26
42.5	10,671,915	7,916	0.0007	0.9993	92.82
43.5	6,356,182	16,646	0.0026	0.9974	92.76
44.5	5,989,503	6,142	0.0010	0.9990	92.52
45.5	5,633,566	81,305	0.0144	0.9856	92.43
46.5	5,346,577	3,894	0.0007	0.9993	91.10
47.5	5,100,272	9,754	0.0019	0.9981	91.04
48.5	4,867,557	18,463	0.0038	0.9962	90.87
49.5	4,424,148	39,143	0.0088	0.9912	90.52
50.5	3,913,796	1,431	0.0004	0.9996	89.72
51.5	3,264,032	13,623	0.0042	0.9958	89.68
52.5	2,806,839	28,431	0.0101	0.9899	89.30
53.5	1,754,177		0.0000	1.0000	88.40
54.5	1,191,363	802	0.0007	0.9993	88.40
55.5	1,060,869	4,783	0.0045	0.9955	88.34
56.5	742,938	11,365	0.0153	0.9847	87.94
57.5	702,399	11,654	0.0166	0.9834	86.59
58.5	695,110	2,753	0.0040	0.9960	85.15
59.5	612,697	725	0.0012	0.9988	84.81
60.5	999,240	19,692	0.0197	0.9803	84.71
61.5	909,443	21,051	0.0231	0.9769	83.04
62.5	838,492	572	0.0007	0.9993	81.12
63.5	823,453	458	0.0006	0.9994	81.06
64.5	813,331	684	0.0008	0.9992	81.01
65.5	811,912	4,500	0.0055	0.9945	80.95
66.5	805,066	2,816	0.0035	0.9965	80.50
67.5	800,408	13,355	0.0167	0.9833	80.22
68.5	772,654	2,948	0.0038	0.9962	78.88
69.5	753,601	5,712	0.0076	0.9924	78.58
70.5	727,676	2,103	0.0029	0.9971	77.98
71.5	708,703	4,607	0.0065	0.9935	77.75
72.5	581,691	2,250	0.0039	0.9961	77.24
73.5	541,754	2,940	0.0054	0.9946	76.94
74.5	490,048	564	0.0012	0.9988	76.52
75.5	51,231	128	0.0025	0.9975	76.43
76.5					76.24
77.5					
78.5					

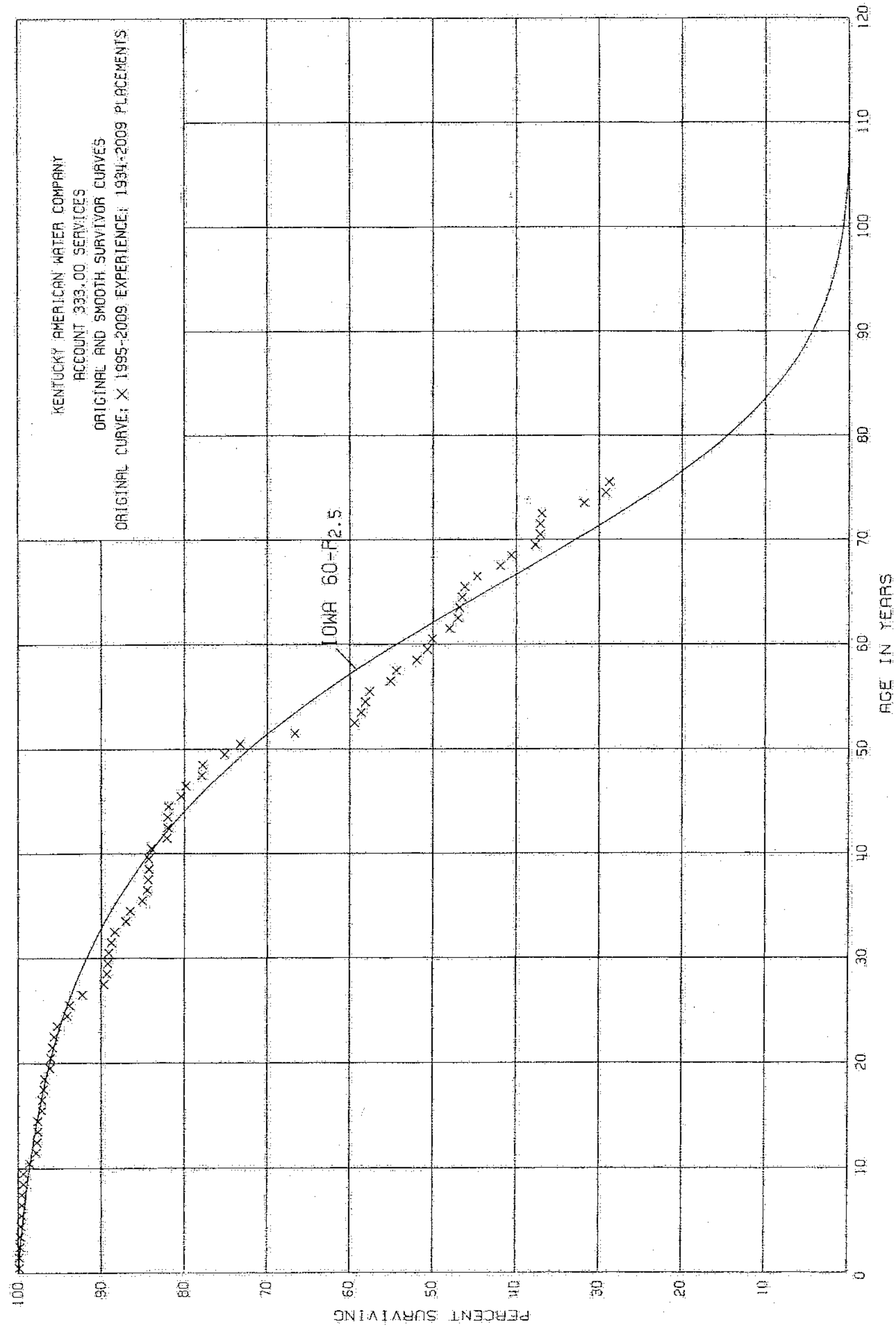
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5	30		0.0000		
89.5	30		0.0000		
90.5	30		0.0000		
91.5	30		0.0000		
92.5	30		0.0000		
93.5	30		0.0000		
94.5	2,194		0.0000		
95.5	2,194		0.0000		
96.5	2,194		0.0000		
97.5	2,194		0.0000		
98.5	2,194		0.0000		
99.5	2,194		0.0000		
100.5	2,194		0.0000		
101.5	2,194		0.0000		
102.5	2,194		0.0000		
103.5	2,164		0.0000		
104.5	2,164		0.0000		
105.5	2,164		0.0000		
106.5	2,164	2,164	1.0000		
107.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 333.00 SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1934-2009 PLACEMENTS
IOWA 60-R2.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	30,580,346		0.0000	1.0000	100.00
0.5	27,581,819	23,020	0.0008	0.9992	100.00
1.5	25,801,080	23,517	0.0009	0.9991	99.92
2.5	25,548,489	20,089	0.0008	0.9992	99.83
3.5	25,079,135	7,999	0.0003	0.9997	99.75
4.5	25,039,711	19,945	0.0008	0.9992	99.72
5.5	25,244,864	8,181	0.0003	0.9997	99.64
6.5	25,303,884	16,001	0.0006	0.9994	99.61
7.5	25,282,547	39,317	0.0016	0.9984	99.55
8.5	15,561,806	3,604	0.0002	0.9998	99.39
9.5	14,088,426	94,636	0.0067	0.9933	99.37
10.5	12,738,445	104,115	0.0082	0.9918	98.70
11.5	11,470,645	7,356	0.0006	0.9994	97.89
12.5	10,652,958	14,461	0.0014	0.9986	97.83
13.5	9,785,891	2,485	0.0003	0.9997	97.69
14.5	9,088,807	43,101	0.0047	0.9953	97.66
15.5	8,532,525	3,694	0.0004	0.9996	97.20
16.5	8,114,065	11,574	0.0014	0.9986	97.16
17.5	7,492,250	7,975	0.0011	0.9989	97.02
18.5	6,955,807	52,183	0.0075	0.9925	96.91
19.5	6,312,648	3,777	0.0006	0.9994	96.18
20.5	5,772,745	15,774	0.0027	0.9973	96.12
21.5	5,153,543	6,100	0.0012	0.9988	95.86
22.5	4,658,047	21,474	0.0046	0.9954	95.74
23.5	4,198,543	51,269	0.0122	0.9878	95.30
24.5	3,797,384	14,196	0.0037	0.9963	94.14
25.5	3,539,721	55,544	0.0157	0.9843	93.79
26.5	3,350,785	95,260	0.0284	0.9716	92.32
27.5	3,138,875	14,271	0.0045	0.9955	89.70
28.5	3,111,905	2,467	0.0008	0.9992	89.30
29.5	2,941,413	3,660	0.0012	0.9988	89.23
30.5	2,704,043	8,350	0.0031	0.9969	89.12
31.5	2,455,665	12,797	0.0052	0.9948	88.84
32.5	2,249,592	32,991	0.0147	0.9853	88.38
33.5	2,076,843	10,873	0.0052	0.9948	87.08
34.5	1,999,456	36,070	0.0180	0.9820	86.63
35.5	1,779,778	11,215	0.0063	0.9937	85.07
36.5	1,747,089	3,585	0.0021	0.9979	84.53
37.5	1,580,458	869	0.0005	0.9995	84.35
38.5	1,500,520	648	0.0004	0.9996	84.31

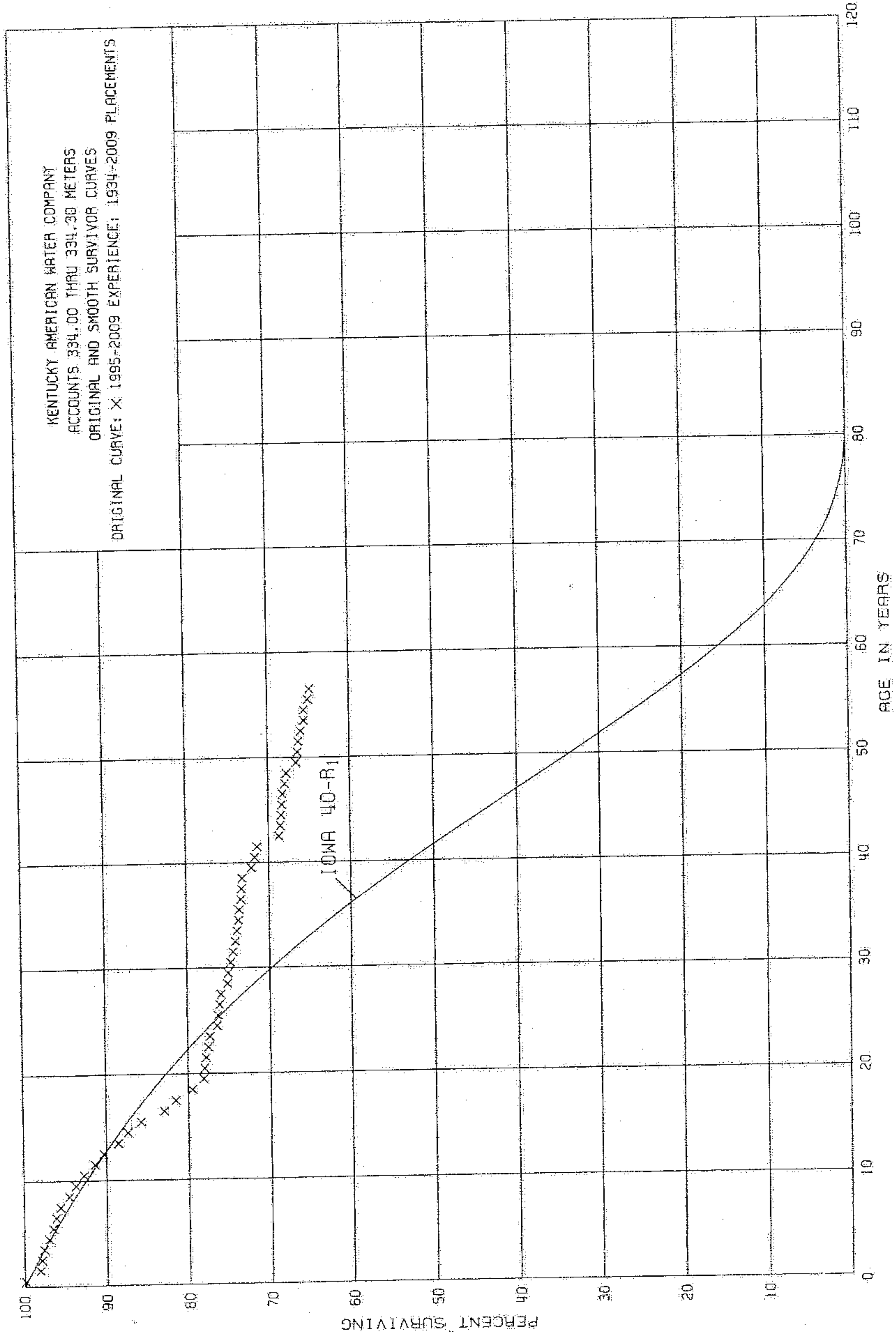
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,428,413	4,200	0.0029	0.9971	84.28
40.5	1,322,363	30,124	0.0228	0.9772	84.04
41.5	1,193,552	1,410	0.0012	0.9988	82.12
42.5	1,069,339	731	0.0007	0.9993	82.02
43.5	962,055	733	0.0008	0.9992	81.96
44.5	866,708	15,484	0.0179	0.9821	81.89
45.5	783,268	5,949	0.0076	0.9924	80.42
46.5	697,398	16,983	0.0244	0.9756	79.81
47.5	594,226	653	0.0011	0.9989	77.86
48.5	544,355	17,833	0.0328	0.9672	77.77
49.5	463,804	11,737	0.0253	0.9747	75.22
50.5	395,309	35,830	0.0906	0.9094	73.32
51.5	295,179	32,412	0.1098	0.8902	66.68
52.5	253,312	3,064	0.0121	0.9879	59.36
53.5	248,724	2,516	0.0101	0.9899	58.64
54.5	216,503	1,827	0.0084	0.9916	58.05
55.5	196,676	8,302	0.0422	0.9578	57.56
56.5	177,734	2,260	0.0127	0.9873	55.13
57.5	159,393	7,259	0.0455	0.9545	54.43
58.5	140,848	3,378	0.0240	0.9760	51.95
59.5	124,143	1,556	0.0125	0.9875	50.70
60.5	206,283	8,658	0.0420	0.9580	50.07
61.5	173,308	3,583	0.0207	0.9793	47.97
62.5	162,339	561	0.0035	0.9965	46.98
63.5	158,984	959	0.0060	0.9940	46.82
64.5	156,918	1,035	0.0066	0.9934	46.54
65.5	155,828	5,143	0.0330	0.9670	46.23
66.5	150,638	9,582	0.0636	0.9364	44.70
67.5	139,794	4,307	0.0308	0.9692	41.86
68.5	130,370	9,360	0.0718	0.9282	40.57
69.5	120,252	1,660	0.0138	0.9862	37.66
70.5	116,884		0.0000	1.0000	37.14
71.5	114,374	777	0.0068	0.9932	37.14
72.5	113,047	15,572	0.1377	0.8623	36.89
73.5	91,728	7,565	0.0825	0.9175	31.81
74.5	74,092	975	0.0132	0.9868	29.19
75.5					28.80


KENTUCKY AMERICAN WATER COMPANY
ACCOUNTS 334.00 THRU 334.30 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1934-2009 PLACEMENTS
IOWA 40-R1
AGE IN YEARS
PERCENT SURVIVING
0
10
20
30
40
50
60
70
80
90
100
110
120

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 334.00 THRU 334.30 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	23,840,099	588	0.0000	1.0000	100.00
0.5	21,285,590	398,777	0.0187	0.9813	100.00
1.5	18,322,785	35,424	0.0019	0.9981	98.13
2.5	18,401,116	64,660	0.0035	0.9965	97.94
3.5	15,877,224	93,055	0.0059	0.9941	97.60
4.5	15,081,558	78,641	0.0052	0.9948	97.02
5.5	13,820,489	57,001	0.0041	0.9959	96.52
6.5	12,442,992	69,916	0.0056	0.9944	96.12
7.5	11,507,206	129,651	0.0113	0.9887	95.58
8.5	10,278,462	90,199	0.0088	0.9912	94.50
9.5	9,740,503	103,487	0.0106	0.9894	93.67
10.5	9,026,294	126,230	0.0140	0.9860	92.68
11.5	8,379,407	103,010	0.0123	0.9877	91.38
12.5	7,612,314	147,768	0.0194	0.9806	90.26
13.5	6,981,881	98,471	0.0141	0.9859	88.51
14.5	6,619,732	116,651	0.0176	0.9824	87.26
15.5	6,216,255	204,862	0.0330	0.9670	85.72
16.5	5,686,230	98,838	0.0174	0.9826	82.89
17.5	5,174,578	121,977	0.0236	0.9764	81.45
18.5	4,703,818	82,601	0.0176	0.9824	79.53
19.5	4,317,592	7,135	0.0017	0.9983	78.13
20.5	3,910,962	10,476	0.0027	0.9973	78.00
21.5	3,543,976	11,706	0.0033	0.9967	77.79
22.5	3,167,005	7,683	0.0024	0.9976	77.53
23.5	2,850,565	33,992	0.0119	0.9881	77.34
24.5	2,425,706	5,259	0.0022	0.9978	76.42
25.5	2,138,442	3,706	0.0017	0.9983	76.25
26.5	1,967,107	6,794	0.0035	0.9965	76.12
27.5	1,829,478	17,657	0.0097	0.9903	75.85
28.5	1,724,822	3,233	0.0019	0.9981	75.11
29.5	1,589,511	5,768	0.0036	0.9964	74.97
30.5	1,454,325	6,878	0.0047	0.9953	74.70
31.5	1,298,470	3,987	0.0031	0.9969	74.35
32.5	1,171,681	3,886	0.0033	0.9967	74.12
33.5	1,096,593	3,177	0.0029	0.9971	73.88
34.5	1,043,099	1,623	0.0016	0.9984	73.67
35.5	905,435	1,764	0.0019	0.9981	73.55
36.5	853,806	988	0.0012	0.9988	73.41
37.5	796,487	1,303	0.0016	0.9984	73.32
38.5	756,021	11,565	0.0153	0.9847	73.20

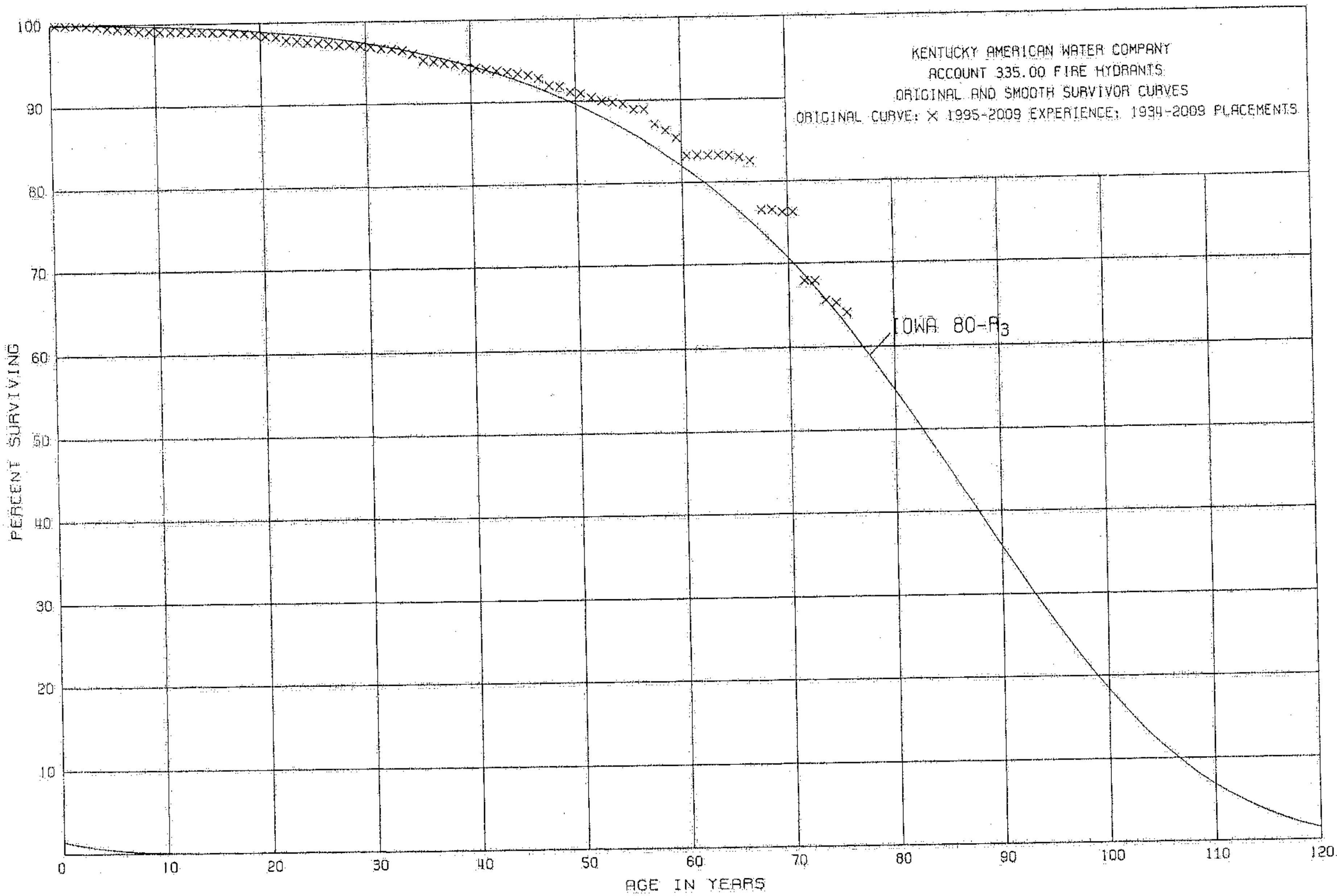
KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 334.00 THRU 334.30 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	719,336	3,557	0.0049	0.9951	72.08
40.5	690,106	3,186	0.0046	0.9954	71.73
41.5	650,735	24,304	0.0373	0.9627	71.40
42.5	575,919	2,304	0.0040	0.9960	68.74
43.5	508,936	644	0.0013	0.9987	68.47
44.5	433,091	754	0.0017	0.9983	68.38
45.5	383,609	553	0.0014	0.9986	68.26
46.5	351,235	1,583	0.0045	0.9955	68.16
47.5	325,283	532	0.0016	0.9984	67.85
48.5	290,820	5,338	0.0184	0.9816	67.74
49.5	248,606	549	0.0022	0.9978	66.49
50.5	231,509	652	0.0028	0.9972	66.34
51.5	207,313	930	0.0045	0.9955	66.15
52.5	174,062	842	0.0048	0.9952	65.85
53.5	152,672	90	0.0006	0.9994	65.53
54.5	130,348	883	0.0068	0.9932	65.49
55.5	110,491	435	0.0039	0.9961	65.04
56.5	94,195	211	0.0022	0.9978	64.79
57.5	77,628	21	0.0003	0.9997	64.65
58.5	69,474	500	0.0072	0.9928	64.63
59.5	70,363	180	0.0026	0.9974	64.16
60.5	91,125	287	0.0031	0.9969	63.99
61.5	69,828	864	0.0124	0.9876	63.79
62.5	62,341	78	0.0013	0.9987	63.00
63.5	61,648	43	0.0007	0.9993	62.92
64.5	61,325	756	0.0123	0.9877	62.88
65.5	60,442	1,014	0.0168	0.9832	62.11
66.5	59,388	696	0.0117	0.9883	61.07
67.5	57,627	823	0.0143	0.9857	60.36
68.5	52,958	1,833	0.0346	0.9654	59.50
69.5	49,384	306	0.0062	0.9938	57.44
70.5	46,991	509	0.0108	0.9892	57.08
71.5	43,657	3,217	0.0737	0.9263	56.46
72.5	39,485	2,926	0.0741	0.9259	52.30
73.5	35,600	296	0.0083	0.9917	48.42
74.5	32,247	584	0.0181	0.9819	48.02
75.5					47.15


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 335.00 FIRE HYDRANTS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: × 1995-2009 EXPERIENCE: 1934-2009 PLACEMENTS
IOWA 80-R3
PERCENT SURVIVING
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120
AGE IN YEARS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,132,271		0.0000	1.0000	100.00
0.5	6,934,408	1,295	0.0002	0.9998	100.00
1.5	6,656,751	4,728	0.0007	0.9993	99.98
2.5	6,297,219	7,209	0.0011	0.9989	99.91
3.5	5,502,441	5,490	0.0010	0.9990	99.80
4.5	5,088,929	12,595	0.0025	0.9975	99.70
5.5	4,744,502	1,707	0.0004	0.9996	99.45
6.5	4,415,808	4,898	0.0011	0.9989	99.41
7.5	4,159,034	8,365	0.0020	0.9980	99.30
8.5	3,874,321	731	0.0002	0.9998	99.10
9.5	3,783,999	1,415	0.0004	0.9996	99.08
10.5	3,580,125	2,191	0.0006	0.9994	99.04
11.5	3,367,623		0.0000	1.0000	98.98
12.5	3,184,912	2,281	0.0007	0.9993	98.98
13.5	2,937,459	69	0.0000	1.0000	98.91
14.5	2,856,547	723	0.0003	0.9997	98.91
15.5	2,734,304	734	0.0003	0.9997	98.88
16.5	2,648,740	1,429	0.0005	0.9995	98.85
17.5	2,444,369	1,810	0.0007	0.9993	98.80
18.5	2,313,967	5,043	0.0022	0.9978	98.73
19.5	2,069,552	3,853	0.0019	0.9981	98.51
20.5	2,212,479	2,838	0.0013	0.9987	98.32
21.5	2,129,913	8,174	0.0038	0.9962	98.19
22.5	1,979,132	2,490	0.0013	0.9987	97.82
23.5	1,927,115	4,105	0.0021	0.9979	97.69
24.5	1,827,450	1,358	0.0007	0.9993	97.48
25.5	1,729,072	1,370	0.0008	0.9992	97.41
26.5	1,737,347	3,459	0.0020	0.9980	97.33
27.5	1,720,433	469	0.0003	0.9997	97.14
28.5	1,755,846	1,176	0.0007	0.9993	97.11
29.5	1,683,799	1,646	0.0010	0.9990	97.04
30.5	1,577,208	3,512	0.0022	0.9978	96.94
31.5	1,463,252	2,132	0.0015	0.9985	96.73
32.5	1,381,492	2,775	0.0020	0.9980	96.58
33.5	1,337,403	5,246	0.0039	0.9961	96.39
34.5	1,255,584	10,917	0.0087	0.9913	96.01
35.5	916,286	1,559	0.0017	0.9983	95.17
36.5	793,059	1,884	0.0024	0.9976	95.01
37.5	734,254	1,148	0.0016	0.9984	94.78
38.5	692,882	3,318	0.0048	0.9952	94.63

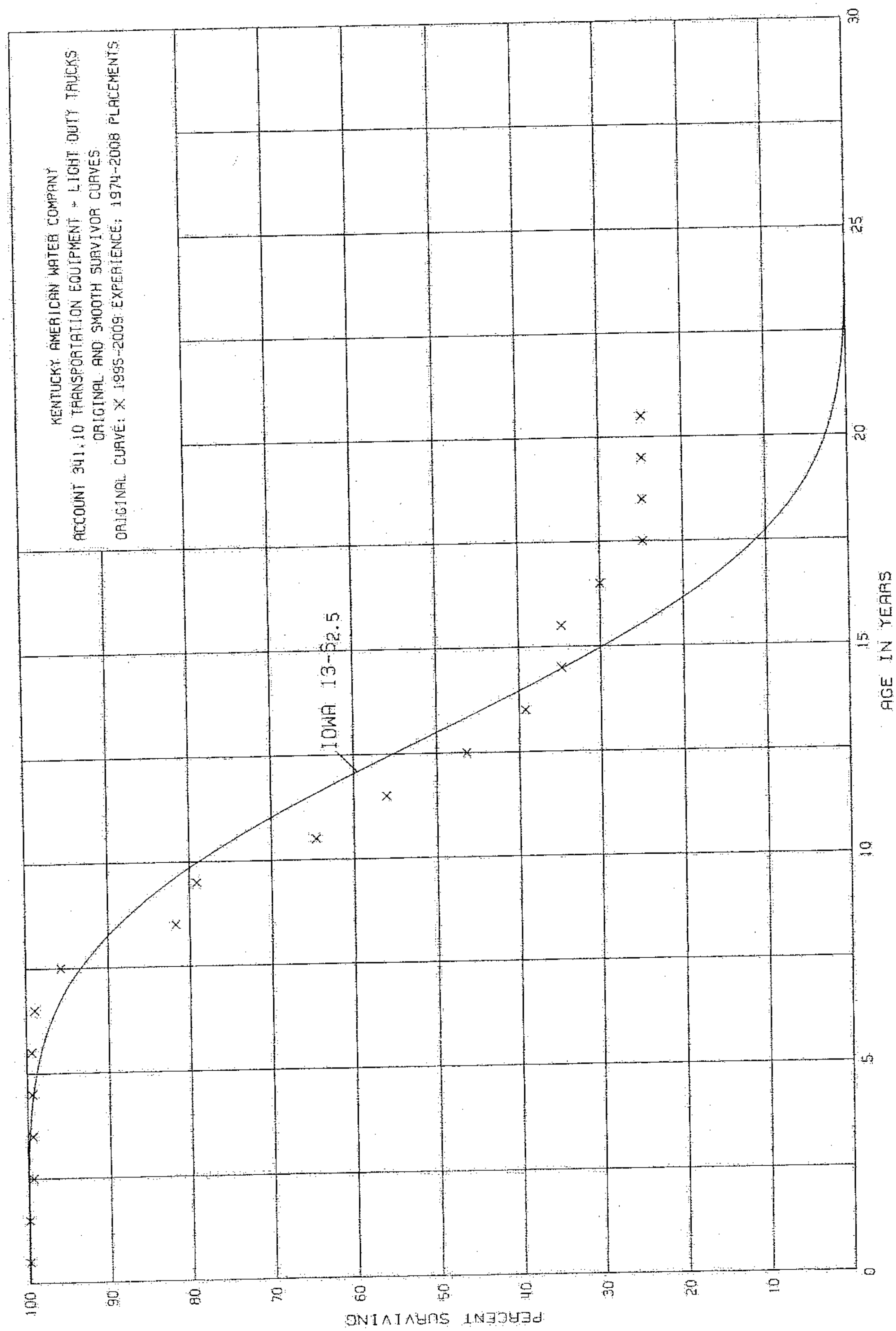
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	642,948	219	0.0003	0.9997	94.18
40.5	589,276	930	0.0016	0.9984	94.15
41.5	530,460	964	0.0018	0.9982	94.00
42.5	471,700	1,158	0.0025	0.9975	93.83
43.5	365,633	1,003	0.0027	0.9973	93.60
44.5	309,155	550	0.0018	0.9982	93.35
45.5	267,233	1,068	0.0040	0.9960	93.18
46.5	240,625	2,325	0.0097	0.9903	92.81
47.5	194,105	236	0.0012	0.9988	91.91
48.5	166,204	1,231	0.0074	0.9926	91.80
49.5	141,127	278	0.0020	0.9980	91.12
50.5	103,424	627	0.0061	0.9939	90.94
51.5	85,470	345	0.0040	0.9960	90.39
52.5	64,858	141	0.0022	0.9978	90.03
53.5	49,519	123	0.0025	0.9975	89.83
54.5	30,021	242	0.0081	0.9919	89.61
55.5	25,499		0.0000	1.0000	88.88
56.5	15,983	324	0.0203	0.9797	88.88
57.5	11,596	98	0.0085	0.9915	87.08
58.5	9,925	103	0.0104	0.9896	86.34
59.5	8,024	200	0.0249	0.9751	85.44
60.5	15,125		0.0000	1.0000	83.31
61.5	13,189		0.0000	1.0000	83.31
62.5	12,711		0.0000	1.0000	83.31
63.5	11,764		0.0000	1.0000	83.31
64.5	11,749	46	0.0039	0.9961	83.31
65.5	11,703	57	0.0049	0.9951	82.99
66.5	11,645	841	0.0722	0.9278	82.58
67.5	10,658		0.0000	1.0000	76.62
68.5	9,982	45	0.0045	0.9955	76.62
69.5	9,583		0.0000	1.0000	76.28
70.5	8,900	977	0.1098	0.8902	76.28
71.5	7,805		0.0000	1.0000	67.90
72.5	7,653	267	0.0349	0.9651	67.90
73.5	7,360	38	0.0052	0.9948	65.53
74.5	7,132	131	0.0184	0.9816	65.19
75.5					63.99


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 341.10 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1974-2008 PLACEMENTS
IOWA 13-S2.5
PERCENT SURVIVING
AGE IN YEARS
0
5
10
15
20
25
30
100
90
80
70
60
50
40
30
20
10
0

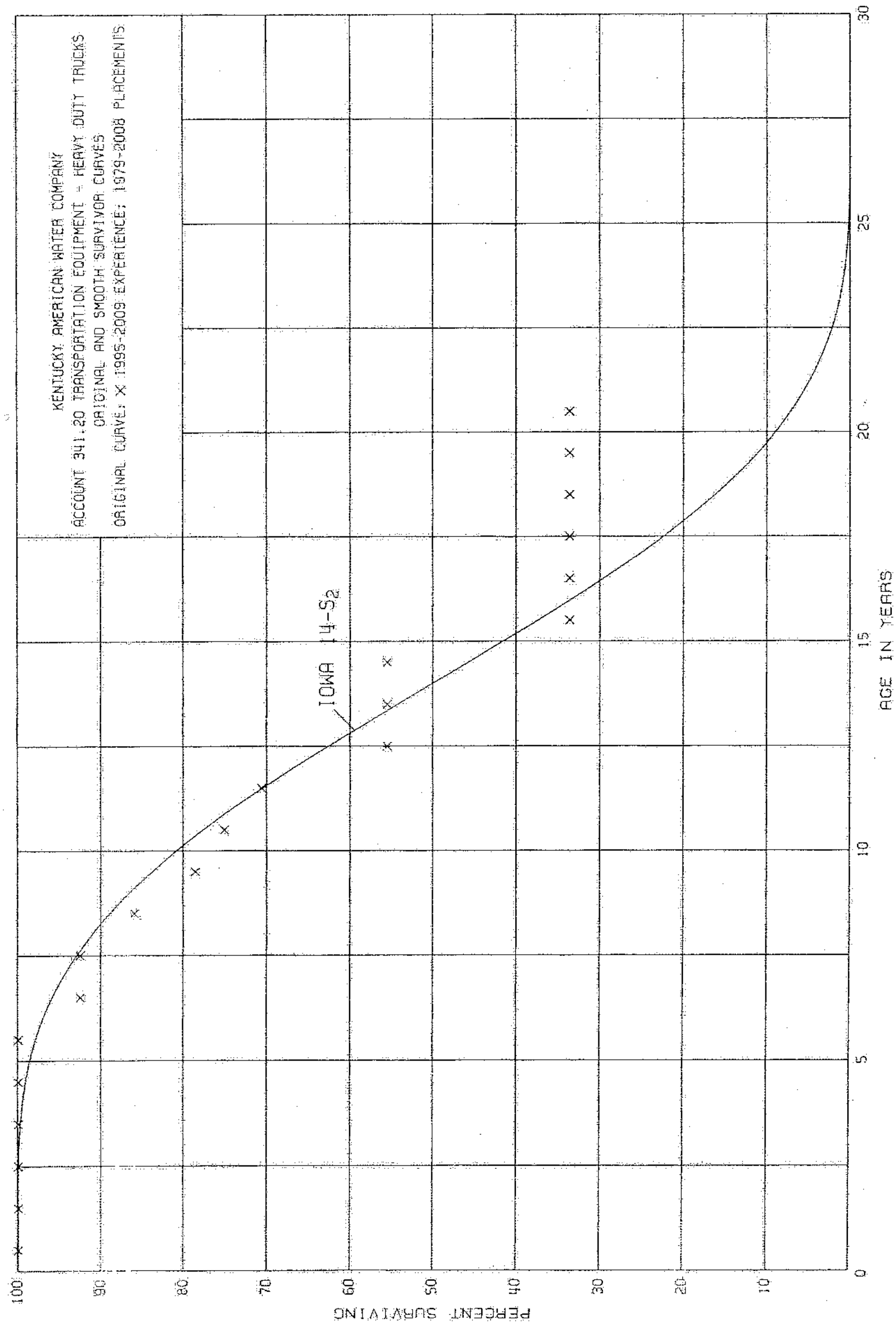
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.10 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1974-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,234,546		0.0000	1.0000	100.00
0.5	2,276,846		0.0000	1.0000	100.00
1.5	2,114,004	11,741	0.0056	0.9944	100.00
2.5	1,866,554		0.0000	1.0000	99.44
3.5	1,431,311		0.0000	1.0000	99.44
4.5	1,480,763		0.0000	1.0000	99.44
5.5	1,587,595	7,445	0.0047	0.9953	99.44
6.5	1,632,407	53,805	0.0330	0.9670	98.97
7.5	1,444,866	211,676	0.1465	0.8535	95.70
8.5	1,088,162	34,956	0.0321	0.9679	81.68
9.5	1,003,005	183,493	0.1829	0.8171	79.06
10.5	647,300	85,718	0.1324	0.8676	64.60
11.5	465,578	79,801	0.1714	0.8286	56.05
12.5	277,936	43,311	0.1558	0.8442	46.44
13.5	234,625	26,718	0.1139	0.8861	39.20
14.5	134,870		0.0000	1.0000	34.74
15.5	134,870	18,273	0.1355	0.8645	34.74
16.5	116,597	20,292	0.1740	0.8260	30.03
17.5	83,733		0.0000	1.0000	24.80
18.5	76,661		0.0000	1.0000	24.80
19.5	52,348		0.0000	1.0000	24.80
20.5	40,614		0.0000	1.0000	24.80
21.5	31,669		0.0000	1.0000	24.80
22.5	30,102		0.0000	1.0000	24.80
23.5	30,102		0.0000	1.0000	24.80
24.5	30,102	9,217	0.3062	0.6938	24.80
25.5	20,885		0.0000	1.0000	17.21
26.5	20,885		0.0000	1.0000	17.21
27.5	739		0.0000	1.0000	17.21
28.5	739		0.0000	1.0000	17.21
29.5	739		0.0000	1.0000	17.21
30.5	739		0.0000	1.0000	17.21
31.5	739		0.0000	1.0000	17.21
32.5	739		0.0000	1.0000	17.21
33.5	739		0.0000	1.0000	17.21
34.5	739		0.0000	1.0000	17.21
35.5					17.21


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 341.20 TRANSPORTATION EQUIPMENT - HEAVY DUTY TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1979-2008 PLACEMENTS
IOWA 14-S2
PERCENT SURVIVING
AGE IN YEARS

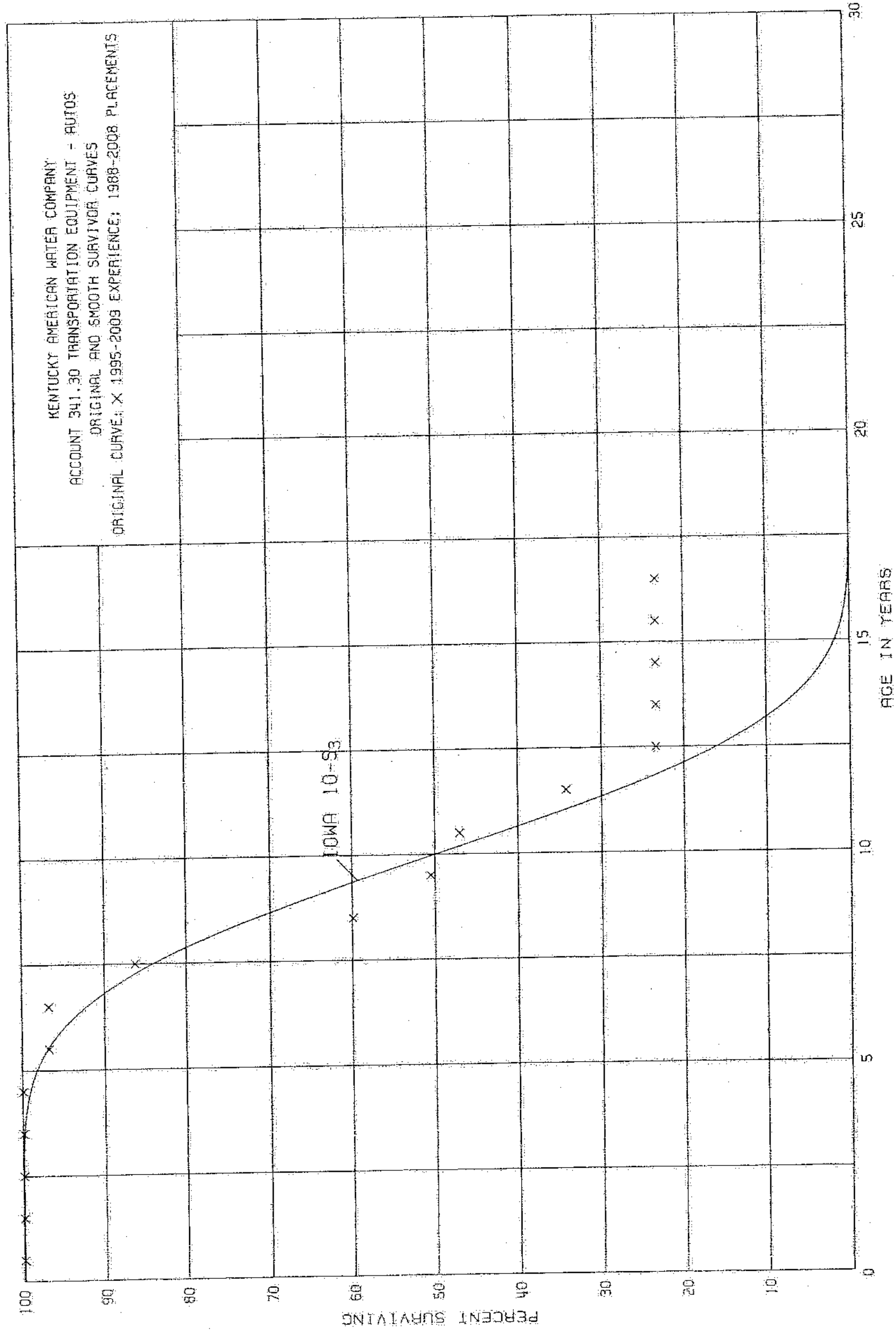
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.20 TRANSPORTATION EQUIPMENT - HEAVY DUTY TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1979-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,211,794		0.0000	1.0000	100.00
0.5	1,228,486		0.0000	1.0000	100.00
1.5	924,015		0.0000	1.0000	100.00
2.5	770,880		0.0000	1.0000	100.00
3.5	795,342		0.0000	1.0000	100.00
4.5	632,320		0.0000	1.0000	100.00
5.5	632,320	47,324	0.0748	0.9252	100.00
6.5	647,970		0.0000	1.0000	92.52
7.5	647,970	46,172	0.0713	0.9287	92.52
8.5	501,843	43,500	0.0867	0.9133	85.92
9.5	414,854	18,235	0.0440	0.9560	78.47
10.5	311,912	18,568	0.0595	0.9405	75.02
11.5	293,345	62,456	0.2129	0.7871	70.56
12.5	107,792		0.0000	1.0000	55.54
13.5	107,792		0.0000	1.0000	55.54
14.5	107,792	42,659	0.3958	0.6042	55.54
15.5	65,865		0.0000	1.0000	33.56
16.5	65,865		0.0000	1.0000	33.56
17.5	65,865		0.0000	1.0000	33.56
18.5	36,964		0.0000	1.0000	33.56
19.5	36,964		0.0000	1.0000	33.56
20.5	36,964		0.0000	1.0000	33.56
21.5	17,424		0.0000	1.0000	33.56
22.5	17,424		0.0000	1.0000	33.56
23.5	17,424		0.0000	1.0000	33.56
24.5	17,424		0.0000	1.0000	33.56
25.5	17,424		0.0000	1.0000	33.56
26.5	17,424	5,000	0.2870	0.7130	33.56
27.5	12,424		0.0000	1.0000	23.93
28.5	12,424		0.0000	1.0000	23.93
29.5	12,424		0.0000	1.0000	23.93
30.5					23.93



KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 341.30 TRANSPORTATION EQUIPMENT - AUTOS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1995-2009 EXPERIENCE; 1988-2008 PLACEMENTS
IOWA 10-S3
PERCENT SURVIVING
AGE IN YEARS
0
5
10
15
20
25
30
100
90
80
70
60
50
40
30
20
10
0

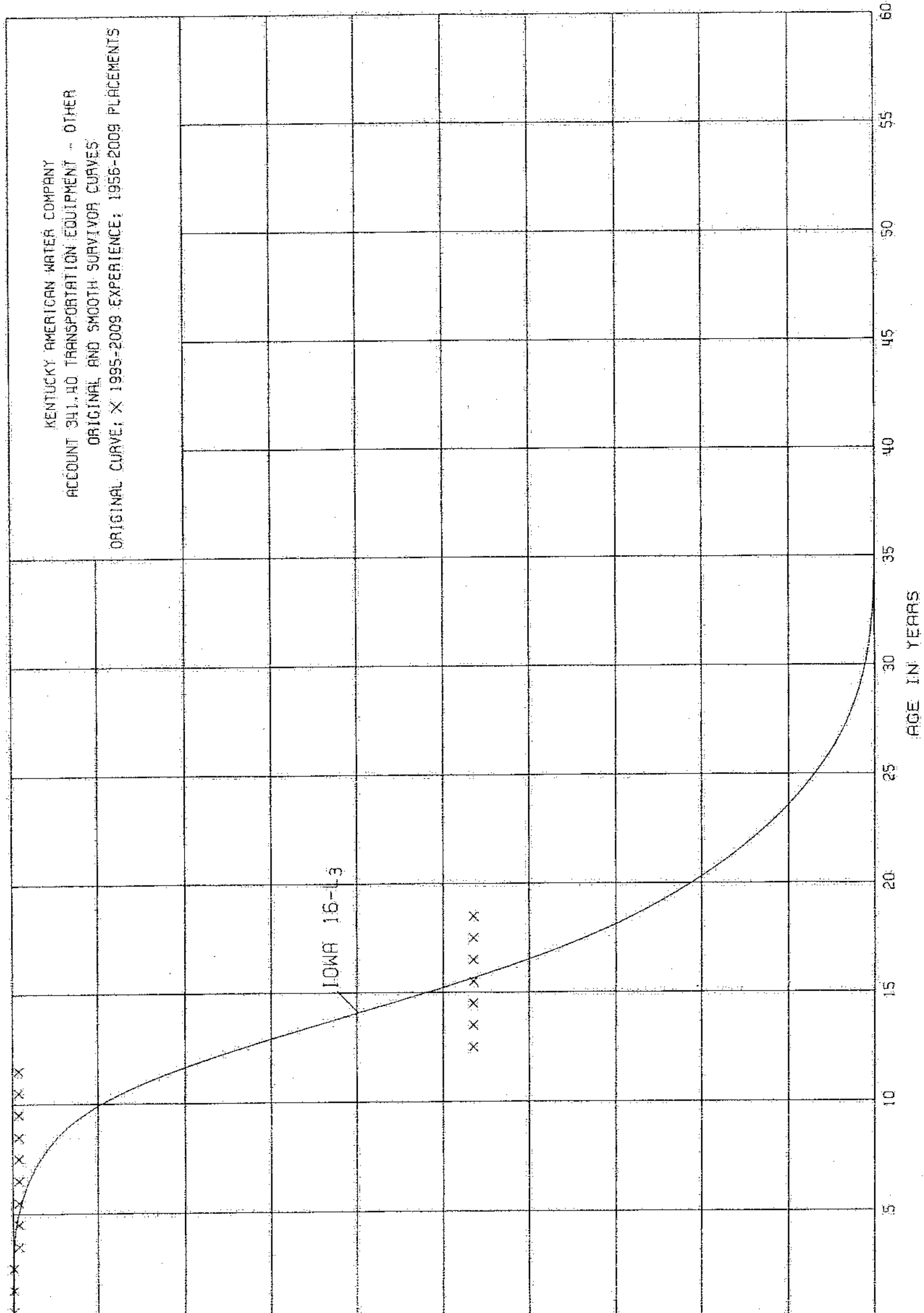
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.30 TRANSPORTATION EQUIPMENT - AUTOS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1988-2008 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	223,934		0.0000	1.0000	100.00
0.5	223,934		0.0000	1.0000	100.00
1.5	189,626		0.0000	1.0000	100.00
2.5	146,487		0.0000	1.0000	100.00
3.5	139,564		0.0000	1.0000	100.00
4.5	218,797	7,185	0.0328	0.9672	100.00
5.5	257,166		0.0000	1.0000	96.72
6.5	312,836	33,902	0.1084	0.8916	96.72
7.5	278,934	85,317	0.3059	0.6941	86.24
8.5	193,617	30,159	0.1558	0.8442	59.86
9.5	163,458	11,515	0.0704	0.9296	50.53
10.5	135,018	36,700	0.2718	0.7282	46.97
11.5	97,584	30,915	0.3168	0.6832	34.20
12.5	46,114		0.0000	1.0000	23.37
13.5	46,114		0.0000	1.0000	23.37
14.5	46,114		0.0000	1.0000	23.37
15.5	46,114		0.0000	1.0000	23.37
16.5	46,114		0.0000	1.0000	23.37
17.5	33,215		0.0000	1.0000	23.37
18.5	33,215		0.0000	1.0000	23.37
19.5					23.37


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 341.40 TRANSPORTATION EQUIPMENT - OTHER
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE; X 1995-2009 EXPERIENCE; 1956-2009 PLACEMENTS
IOWA 16-L3
PERCENT SURVIVING
AGE IN YEARS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.40 TRANSPORTATION EQUIPMENT - OTHER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1956-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	414,452		0.0000	1.0000	100.00
0.5	400,244		0.0000	1.0000	100.00
1.5	224,123		0.0000	1.0000	100.00
2.5	131,372	972	0.0074	0.9926	100.00
3.5	83,287		0.0000	1.0000	99.26
4.5	83,287		0.0000	1.0000	99.26
5.5	23,950		0.0000	1.0000	99.26
6.5	23,950		0.0000	1.0000	99.26
7.5	7,846		0.0000	1.0000	99.26
8.5	2,626		0.0000	1.0000	99.26
9.5	5,619		0.0000	1.0000	99.26
10.5	5,619		0.0000	1.0000	99.26
11.5	5,619	2,993	0.5327	0.4673	99.26
12.5	2,626		0.0000	1.0000	46.38
13.5	2,626		0.0000	1.0000	46.38
14.5	2,626		0.0000	1.0000	46.38
15.5	2,626		0.0000	1.0000	46.38
16.5	2,626		0.0000	1.0000	46.38
17.5	2,626		0.0000	1.0000	46.38
18.5					46.38
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5	440		0.0000		

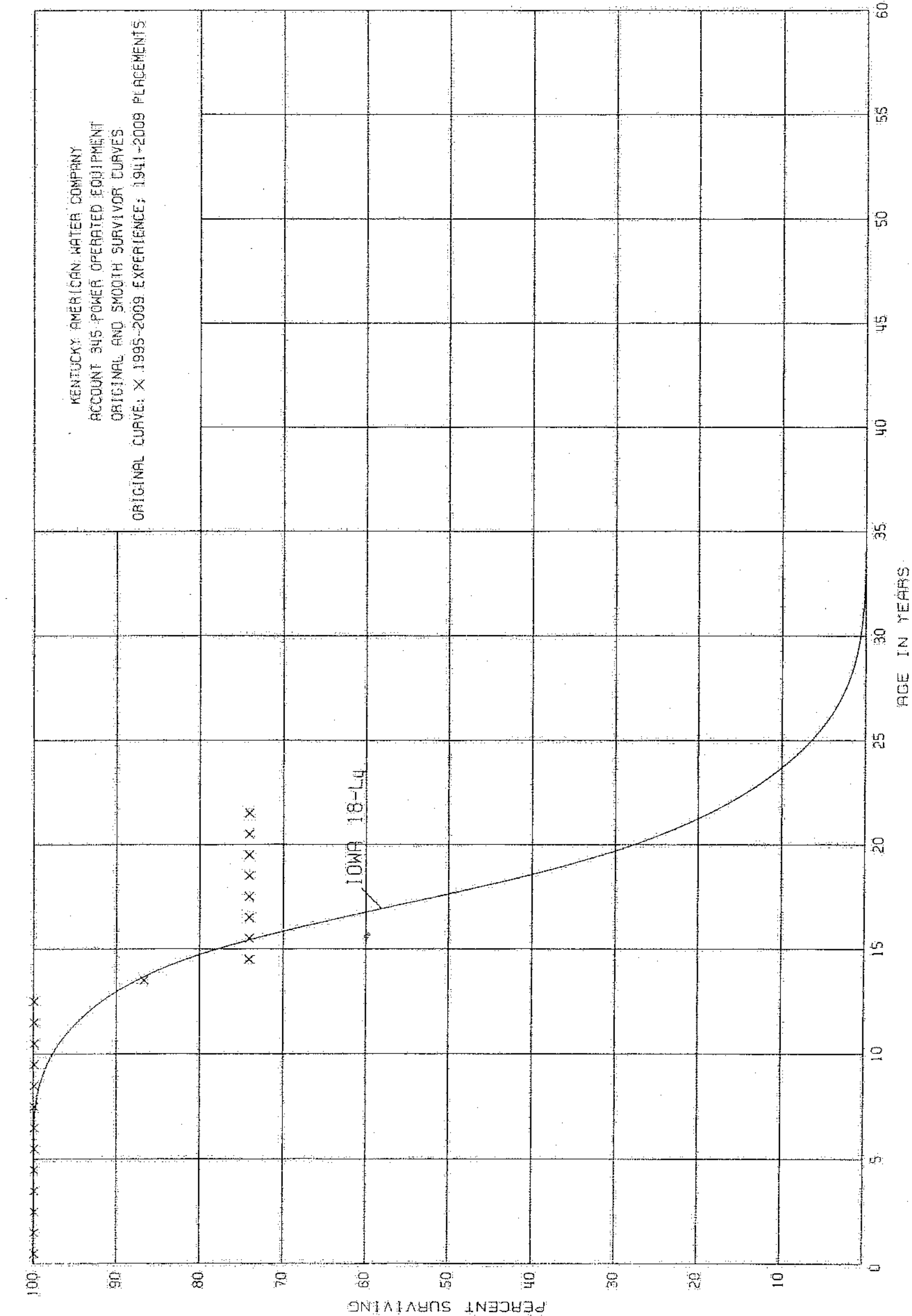
KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.40 TRANSPORTATION EQUIPMENT - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1956-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	440	220	0.5000		
40.5	220		0.0000		
41.5	220		0.0000		
42.5	220		0.0000		
43.5	220		0.0000		
44.5	220		0.0000		
45.5	220		0.0000		
46.5	220		0.0000		
47.5	220		0.0000		
48.5	220		0.0000		
49.5	220		0.0000		
50.5	220		0.0000		
51.5	220		0.0000		
52.5	220		0.0000		
53.5					


KENTUCKY AMERICAN WATER COMPANY
ACCOUNT 345 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: × 1995-2009 EXPERIENCE; 1941-2009 PLACEMENTS
IOWA 18-L4
PERCENT SURVIVING
AGE IN YEARS
0
5
10
15
20
25
30
35
40
45
50
55
60
100
90
80
70
60
50
40
30
20
10

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 345 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1941-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,376,582		0.0000	1.0000	100.00
0.5	1,410,232		0.0000	1.0000	100.00
1.5	1,390,042		0.0000	1.0000	100.00
2.5	1,394,482		0.0000	1.0000	100.00
3.5	1,427,795		0.0000	1.0000	100.00
4.5	483,230		0.0000	1.0000	100.00
5.5	501,619		0.0000	1.0000	100.00
6.5	540,398		0.0000	1.0000	100.00
7.5	544,898		0.0000	1.0000	100.00
8.5	501,093		0.0000	1.0000	100.00
9.5	511,271		0.0000	1.0000	100.00
10.5	455,631		0.0000	1.0000	100.00
11.5	455,631		0.0000	1.0000	100.00
12.5	384,999	51,092	0.1327	0.8673	100.00
13.5	333,907	48,734	0.1460	0.8540	86.73
14.5	229,312		0.0000	1.0000	74.07
15.5	193,123		0.0000	1.0000	74.07
16.5	194,382		0.0000	1.0000	74.07
17.5	189,942		0.0000	1.0000	74.07
18.5	156,629		0.0000	1.0000	74.07
19.5	108,832		0.0000	1.0000	74.07
20.5	90,443		0.0000	1.0000	74.07
21.5	30,909		0.0000	1.0000	74.07
22.5	26,409		0.0000	1.0000	74.07
23.5	24,757		0.0000	1.0000	74.07
24.5	14,579		0.0000	1.0000	74.07
25.5	14,579		0.0000	1.0000	74.07
26.5	14,579		0.0000	1.0000	74.07
27.5	14,579		0.0000	1.0000	74.07
28.5	14,579		0.0000	1.0000	74.07
29.5	14,579		0.0000	1.0000	74.07
30.5	12,962		0.0000	1.0000	74.07
31.5					74.07
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 345 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1941-2009 EXPERIENCE BAND 1995-2009

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5	5,387		0.0000		
54.5	5,387		0.0000		
55.5	5,387		0.0000		
56.5	5,387		0.0000		
57.5	5,387		0.0000		
58.5	5,387		0.0000		
59.5	5,387		0.0000		
60.5	5,387		0.0000		
61.5	5,387		0.0000		
62.5	5,387		0.0000		
63.5	5,387		0.0000		
64.5	5,387		0.0000		
65.5	5,387		0.0000		
66.5	5,387		0.0000		
67.5	5,387		0.0000		
68.5					

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NET SALVAGE STATISTICS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1987	450	9,215			0	9,215-	
1988	450	9,215			0	9,215-	
1989							
1990							
1991	5,311		0		0		0
1992							
1993	3,050		0		0		0
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003	24,347	87,305	359		0	87,305-	359-
2004	38,923	115,482	297		0	115,482-	297-
2005							
2006	1,100		0		0		0
2007							
2008	11,676		0		0		0
2009	6,621		0		0		0
TOTAL	91,928	221,217	241		0	221,217-	241-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
87-89	300	6,143			0	6,143-	
88-90	150	3,072			0	3,072-	
89-91	1,770		0		0		0
90-92	1,770		0		0		0
91-93	2,787		0		0		0
92-94	1,017		0		0		0
93-95	1,017		0		0		0
94-96							
95-97							
96-98							
97-99							
98-00							
99-01							

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
00-02							
01-03	8,116	29,102	359		0	29,102-	359-
02-04	21,090	67,596	321		0	67,596-	321-
03-05	21,090	67,596	321		0	67,596-	321-
04-06	13,341	38,494	289		0	38,494-	289-
05-07	367		0		0		0
06-08	4,259		0		0		0
07-09	6,099		0		0		0
FIVE-YEAR AVERAGE							
05-09	3,879		0		0		0

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1982	119		0		0		0
1983	3,903	1,034	26		0	1,034-	26-
1984	4,200		0		0		0
1985	4,215		0		0		0
1986	13,945		0		0		0
1987	9,195	1,628	18		0	1,628-	18-
1988	45,747	13,140	29		0	13,140-	29-
1989							
1990	27,910	3,615	13		0	3,615-	13-
1991	79,308	19,652	25		0	19,652-	25-
1992	28,738	8,163	28	2,436	8	5,727-	20-
1993	4,601	825	18		0	825-	18-
1994	500		0		0		0
1995							
1996							
1997							
1998							
1999	17,195	7,900	46		0	7,900-	46-
2000	92,575	38,325	41		0	38,325-	41-
2001	35,834	5,500	15		0	5,500-	15-
2002	17,127	70,552	412		0	70,552-	412-
2003	105	1,378			0	1,378-	
2004	200		0		0		0
2005	5,347	5,943	111		0	5,943-	111-
2006	24,500	25-	0		0	25	0
2007	5,991		0		0		0
2008	391,632		0		0		0
2009	90,566	45	0	1	0	44-	0
TOTAL	903,453	177,675	20	2,437	0	175,238-	19-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
82-84	2,741	345	13		0	345-	13-
83-85	4,106	345	8		0	345-	8-
84-86	7,453		0		0		0
85-87	9,118	543	6		0	543-	6-
86-88	22,962	4,923	21		0	4,923-	21-
87-89	18,314	4,923	27		0	4,923-	27-
88-90	24,552	5,585	23		0	5,585-	23-
89-91	35,739	7,756	22		0	7,756-	22-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 304.20 AND 304.30 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
90-92	45,319	10,477	23	812	2	9,665-	21-
91-93	37,549	9,547	25	812	2	8,735-	23-
92-94	11,280	2,996	27	812	7	2,184-	19-
93-95	1,700	275	16		0	275-	16-
94-96	167		0		0		0
95-97							
96-98							
97-99	5,732	2,633	46		0	2,633-	46-
98-00	36,590	15,408	42		0	15,408-	42-
99-01	48,534	17,242	36		0	17,242-	36-
00-02	48,512	38,126	79		0	38,126-	79-
01-03	17,689	25,810	146		0	25,810-	146-
02-04	5,811	23,977	413		0	23,977-	413-
03-05	1,884	2,441	130		0	2,441-	130-
04-06	10,016	1,973	20		0	1,973-	20-
05-07	11,946	1,973	17		0	1,973-	17-
06-08	140,708	8-	0		0	8	0
07-09	162,730	15	0		0	15-	0
FIVE-YEAR AVERAGE							
05-09	103,607	1,193	1		0	1,193-	1-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.40 STRUCTURES & IMPROVEMENTS - TRANS. AND DISTR.

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2006	2,300		0		0		0
2007							
2008	39,028		0		0		0
2009	708	1,556	220		0	1,556-	220-
TOTAL	42,036	1,556	4		0	1,556-	4-
THREE-YEAR MOVING AVERAGES							
06-08	13,776		0		0		0
07-09	13,245	519	4		0	519-	4-
FIVE-YEAR AVERAGE							
05-09	8,407	311	4		0	311-	4-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	5,388	2,244	42	9,131	169	6,887	128
1981							
1982	46,850	9,646	21	50	0	9,596-	20-
1983	385		0		0		0
1984							
1985	660		0		0		0
1986							
1987	16,089	2,000	12		0	2,000-	12-
1988	34,846	2,675	8	3,500	10	825	2
1989							
1990	17,631	7,406	42		0	7,406-	42-
1991	28,515-		0		0		0
1992	5,155	300	6	4,196	81	3,896	76
1993	2,903	361	12	50	2	311-	11-
1994	6,294	502	8		0	502-	8-
1995							
1996							
1997							
1998							
1999	46,016		0		0		0
2000	1,901	551	29		0	551-	29-
2001							
2002							
2003	33,675		0		0		0
2004							
2005							
2006							
2007	6,099		0		0		0
2008	40,837		0		0		0
2009	13,217		0		0		0
TOTAL	249,431	25,685	10	16,927	7	8,758-	4-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
80-82	17,413	3,963	23	3,060	18	903-	5-
81-83	15,745	3,215	20	17	0	3,198-	20-
82-84	15,745	3,215	20	17	0	3,198-	20-
83-85	348		0		0		0
84-86	220		0		0		0
85-87	5,583	667	12		0	667-	12-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	16,978	1,558	9	1,167	7	391-	2-
87-89	16,978	1,558	9	1,167	7	391-	2-
88-90	17,492	3,360	19	1,167	7	2,193-	13-
89-91	3,628-	2,469	68-		0	2,469-	68
90-92	1,910-	2,569	135-	1,399	73-	1,170-	61
91-93	6,819-	220	3-	1,415	21-	1,195	18-
92-94	4,784	388	8	1,415	30	1,027	21
93-95	3,066	288	9	17	1	271-	9-
94-96	2,098	167	8		0	167-	8-
95-97							
96-98							
97-99	15,339		0		0		0
98-00	15,972	184	1		0	184-	1-
99-01	15,972	184	1		0	184-	1-
00-02	634	184	29		0	184-	29-
01-03	11,225		0		0		0
02-04	11,225		0		0		0
03-05	11,225		0		0		0
04-06							
05-07	2,033		0		0		0
06-08	15,645		0		0		0
07-09	20,051		0		0		0
FIVE-YEAR AVERAGE							
05-09	12,030		0		0		0

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.70 STRUCTURES & IMPROVEMENTS - SHOP & GARAGE

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT PCT	GROSS SALVAGE AMOUNT PCT	NET SALVAGE AMOUNT PCT
2008	29,115	0	0	0
2009				
TOTAL	29,115	0	0	0
FIVE-YEAR AVERAGE				
05-09	5,823	0	0	0

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2001	721		0		0		0
2002	7,539	17,616	234		0	17,616-	234-
2003	5,250		0		0		0
2004	109,674	239	0		0	239-	0
2005	6,000		0		0		0
2006							
2007							
2008	20,629		0		0		0
2009	5,551		0		0		0
TOTAL	155,364	17,855	11		0	17,855-	11-
THREE-YEAR MOVING AVERAGES							
01-03	4,503	5,872	130		0	5,872-	130-
02-04	40,821	5,952	15		0	5,952-	15-
03-05	40,308	80	0		0	80-	0
04-06	38,558	80	0		0	80-	0
05-07	2,000		0		0		0
06-08	6,876		0		0		0
07-09	8,726		0		0		0
FIVE-YEAR AVERAGE							
05-09	6,436		0		0		0

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2008	11,467	0		0		0	
2009							
TOTAL	11,467	0		0		0	
FIVE-YEAR AVERAGE							
05-09	2,293	0		0		0	

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 306.00 LAKE, RIVER AND OTHER INTAKES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2002	5,189	99,254		0		99,254-	
2003							
2004							
2005							
2006	20,500	72,600	354	0		72,600-	354-
2007	3,666		0	0			0
2008							
2009							
TOTAL	29,355	171,854	585	0		171,854-	585-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
02-04	1,730	33,085		0		33,085-	
03-05							
04-06	6,833	24,200	354	0		24,200-	354-
05-07	8,055	24,200	300	0		24,200-	300-
06-08	8,055	24,200	300	0		24,200-	300-
07-09	1,222		0	0			0

FIVE-YEAR AVERAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
05-09	4,833	14,520	300	0		14,520-	300-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 309.00 SUPPLY MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	2,299	3,756	163		0	3,756-	163-
1981	1,428	5,618	393		0	5,618-	393-
1982	4,924	727	15	5,449	111	4,722	96
1983	763	2,069	271		0	2,069-	271-
1984	4,660	2,519	54	315	7	2,204-	47-
1985	351	1,205	343		0	1,205-	343-
1986	4,522	3,166	70		0	3,166-	70-
1987	2,692	4,189	156	137	5	4,052-	151-
1988	1,277	2,686	210		0	2,686-	210-
1989	275,533	191,017	69	203,342	74	12,325	4
1990	2,425-		0		0		0
1991	45	747			0	747-	
1992	366	1,486	406		0	1,486-	406-
1993							
1994	5,485	15,413	281	4,879	89	10,534-	192-
1995							
1996							
1997							
1998							
1999							
2000	49	3,000			0	3,000-	
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008	412		0		0		0
2009		33		62		29	
TOTAL	302,381	237,631	79	214,184	71	23,447-	8-

THREE-YEAR MOVING AVERAGES

80-82	2,884	3,367	117	1,816	63	1,551-	54-
81-83	2,372	2,805	118	1,816	77	989-	42-
82-84	3,449	1,772	51	1,921	56	149	4
83-85	1,925	1,931	100	105	5	1,826-	95-
84-86	3,178	2,297	72	105	3	2,192-	69-
85-87	2,522	2,853	113	46	2	2,807-	111-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 309.00 SUPPLY MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	2,830	3,347	118	46	2	3,301-	117-
87-89	93,167	65,964	71	67,826	73	1,862	2
88-90	91,462	64,568	71	67,781	74	3,213	4
89-91	91,051	63,921	70	67,781	74	3,860	4
90-92	671-	744	111-		0	744-	111
91-93	137	744	543		0	744-	543-
92-94	1,950	5,633	289	1,626	83	4,007-	205-
93-95	1,828	5,138	281	1,626	89	3,512-	192-
94-96	1,828	5,138	281	1,626	89	3,512-	192-
95-97							
96-98							
97-99							
98-00	16	1,000			0	1,000-	
99-01	16	1,000			0	1,000-	
00-02	16	1,000			0	1,000-	
01-03							
02-04							
03-05							
04-06							
05-07							
06-08	137		0		0		0
07-09	137	11	8	21	15	10	7
FIVE-YEAR AVERAGE							
05-09	82	7	9	12	15	5	6

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 310.10 OTHER POWER GENERATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2002	9,442	29	0		0	29-	0
2003	27		0		0		0
2004							
2005							
2006							
2007							
2008		53,899				53,899-	
2009	14,501		0		0		0
TOTAL	23,970	53,928	225		0	53,928-	225-
THREE-YEAR MOVING AVERAGES							
02-04	3,156	10	0		0	10-	0
03-05	9		0		0		0
04-06							
05-07							
06-08		17,966				17,966-	
07-09	4,834	17,966	372		0	17,966-	372-
FIVE-YEAR AVERAGE							
05-09	2,900	10,780	372		0	10,780-	372-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	6,846	581	8		0	581-	8-
1981	111,666	6,609	6		0	6,609-	6-
1982	20,804		0		0		0
1983	8,641	7,893	91		0	7,893-	91-
1984	15,402	28,100	182		0	28,100-	182-
1985	25,509		0		0		0
1986	35,582	1,265	4		0	1,265-	4-
1987	65,960		0		0		0
1988	117,243	37,346	32		0	37,346-	32-
1989							
1990	53,741	19,720	37		0	19,720-	37-
1991	142,027	1,100	1		0	1,100-	1-
1992	1,502,228	87,842	6	2,000	0	85,842-	6-
1993	83,349	7,243	9		0	7,243-	9-
1994	54,193	6,368	12		0	6,368-	12-
1995							
1996							
1997							
1998							
1999	51,242	18,591	36		0	18,591-	36-
2000	6,563	265	4		0	265-	4-
2001	47,961		0		0		0
2002	17,353	5,905	34	3,459	20	2,446-	14-
2003	65,459	11,758	18	133	0	11,625-	18-
2004				1,829		1,829	
2005				5,191		5,191	
2006	10,400	21,530	207	12,361-	119-	33,891-	326-
2007	111,566		0		0		0
2008	124,691	168,362	135		0	168,362-	135-
2009	278		0		0		0
TOTAL	2,678,704	430,478	16	251	0	430,227-	16-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
80-82	46,439	2,397	5		0	2,397-	5-
81-83	47,037	4,834	10		0	4,834-	10-
82-84	14,949	11,998	80		0	11,998-	80-
83-85	16,517	11,998	73		0	11,998-	73-
84-86	25,498	9,788	38		0	9,788-	38-
85-87	42,350	422	1		0	422-	1-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 311.20 THRU 311.54 PUMPING EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
86-88	72,928	12,870	18		0	12,870-	18-
87-89	61,068	12,449	20		0	12,449-	20-
88-90	56,995	19,022	33		0	19,022-	33-
89-91	65,256	6,940	11		0	6,940-	11-
90-92	565,999	36,221	6	667	0	35,554-	6-
91-93	575,868	32,062	6	667	0	31,395-	5-
92-94	546,590	33,818	6	667	0	33,151-	6-
93-95	45,847	4,537	10		0	4,537-	10-
94-96	18,064	2,123	12		0	2,123-	12-
95-97							
96-98							
97-99	17,081	6,197	36		0	6,197-	36-
98-00	19,268	6,285	33		0	6,285-	33-
99-01	35,255	6,285	18		0	6,285-	18-
00-02	23,959	2,057	9	1,153	5	904-	4-
01-03	43,591	5,888	14	1,197	3	4,691-	11-
02-04	27,604	5,888	21	1,807	7	4,081-	15-
03-05	21,820	3,919	18	2,384	11	1,535-	7-
04-06	3,467	7,177	207	1,780-	51-	8,957-	258-
05-07	40,655	7,177	18	2,390-	6-	9,567-	24-
06-08	82,219	63,297	77	4,120-	5-	67,417-	82-
07-09	78,845	56,121	71		0	56,121-	71-
FIVE-YEAR AVERAGE							
05-09	49,387	37,978	77	1,434-	3-	39,412-	80-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 320.10 AND 320.11 PURIFICATION SYSTEM

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980		7,727				7,727-	
1981	26,783	29,727	111		0	29,727-	111-
1982	42,186	23,427	56		0	23,427-	56-
1983	22,018		0		0		0
1984	1,400		0		0		0
1985	69,458	7,000	10		0	7,000-	10-
1986	147,206		0		0		0
1987	22,470	3,622	16	226	1	3,396-	15-
1988	245,366	175,800	72		0	175,800-	72-
1989	132,745	16,258	12		0	16,258-	12-
1990	201,156	30,074	15	175	0	29,899-	15-
1991	317,893	32,773	10	820	0	31,953-	10-
1992	131,590	83,640	64		0	83,640-	64-
1993	253,125	19,185	8	1,068	0	18,117-	7-
1994	359,656	3,997	1		0	3,997-	1-
1995							
1996							
1997							
1998							
1999	84,970	2,423	3		0	2,423-	3-
2000	298,470	25,131	8		0	25,131-	8-
2001	26,267	3,765	14		0	3,765-	14-
2002	15,797	2,234	14		0	2,234-	14-
2003	36,944	10,965	30		0	10,965-	30-
2004							
2005	22,500		0		0		0
2006	122,300	4,797	4		0	4,797-	4-
2007	231,024	4,933	2		0	4,933-	2-
2008	174,737	110,000	63		0	110,000-	63-
2009	61,811		0		0		0
TOTAL	3,047,872	597,478	20	2,289	0	595,189-	20-

THREE-YEAR MOVING AVERAGES

80-82	22,990	20,294	88		0	20,294-	88-
81-83	30,329	17,718	58		0	17,718-	58-
82-84	21,868	7,809	36		0	7,809-	36-
83-85	30,959	2,333	8		0	2,333-	8-
84-86	72,688	2,333	3		0	2,333-	3-
85-87	79,711	3,541	4	75	0	3,466-	4-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 320.10 AND 320.11 PURIFICATION SYSTEM

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	138,347	59,807	43	75	0	59,732-	43-
87-89	133,527	65,227	49	75	0	65,152-	49-
88-90	193,089	74,044	38	58	0	73,986-	38-
89-91	217,265	26,368	12	332	0	26,036-	12-
90-92	216,880	48,829	23	332	0	48,497-	22-
91-93	234,203	45,199	19	629	0	44,570-	19-
92-94	248,124	35,607	14	356	0	35,251-	14-
93-95	204,260	7,727	4	356	0	7,371-	4-
94-96	119,885	1,332	1		0	1,332-	1-
95-97							
96-98							
97-99	28,323	808	3		0	808-	3-
98-00	127,813	9,185	7		0	9,185-	7-
99-01	136,569	10,440	8		0	10,440-	8-
00-02	113,511	10,377	9		0	10,377-	9-
01-03	26,336	5,655	21		0	5,655-	21-
02-04	17,580	4,400	25		0	4,400-	25-
03-05	19,815	3,655	18		0	3,655-	18-
04-06	48,267	1,599	3		0	1,599-	3-
05-07	125,275	3,243	3		0	3,243-	3-
06-08	176,020	39,910	23		0	39,910-	23-
07-09	155,857	38,311	25		0	38,311-	25-
FIVE-YEAR AVERAGE							
05-09	122,474	23,946	20		0	23,946-	20-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.10 ELEVATED TANKS AND STANDPIPES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	68,079		0		0		0
1981							
1982	1,509		0		0		0
1983							
1984							
1985							
1986	18,937	8,012	42		0	8,012-	42-
1987	2,755		0		0		0
1988	200	200	100		0	200-	100-
1989	48,379	21,509	44		0	21,509-	44-
1990	11,850	1,100	9		0	1,100-	9-
1991	2,000	490	25		0	490-	25-
1992	7,676	249	3		0	249-	3-
1993	1,060		0		0		0
1994	1,890	285	15		0	285-	15-
1995							
1996							
1997							
1998							
1999							
2000	4,223	712	17		0	712-	17-
2001	5,938		0		0		0
2002		3,550				3,550-	
2003	29,652	16,831	57		0	16,831-	57-
2004	200	67	34		0	67-	34-
2005	2,000		0		0		0
2006							
2007							
2008	10,495	99-	1-		0	99	1
2009	9,283		0		0		0
TOTAL	226,126	52,906	23		0	52,906-	23-

THREE-YEAR MOVING AVERAGES

80-82	23,196		0		0		0
81-83	503		0		0		0
82-84	503		0		0		0
83-85							
84-86	6,312	2,671	42		0	2,671-	42-
85-87	7,231	2,671	37		0	2,671-	37-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.10 ELEVATED TANKS AND STANDPIPES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	7,297	2,737	38		0	2,737-	38-
87-89	17,111	7,236	42		0	7,236-	42-
88-90	20,143	7,603	38		0	7,603-	38-
89-91	20,743	7,700	37		0	7,700-	37-
90-92	7,175	613	9		0	613-	9-
91-93	3,579	246	7		0	246-	7-
92-94	3,542	178	5		0	178-	5-
93-95	983	95	10		0	95-	10-
94-96	630	95	15		0	95-	15-
95-97							
96-98							
97-99							
98-00	1,408	237	17		0	237-	17-
99-01	3,387	237	7		0	237-	7-
00-02	3,387	1,421	42		0	1,421-	42-
01-03	11,864	6,794	57		0	6,794-	57-
02-04	9,951	6,816	68		0	6,816-	68-
03-05	10,617	5,633	53		0	5,633-	53-
04-06	733	22	3		0	22-	3-
05-07	667		0		0		0
06-08	3,498	33-	1-		0	33	1
07-09	6,593	33-	1-		0	33	1
FIVE-YEAR AVERAGE							
05-09	4,356	20-	0		0	20	0

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	84,507	15,771	19	68,320	81	52,549	62
1981	15,654	13,716	88	57,659	368	43,943	281
1982	20,015	16,490	82	4,618	23	11,872-	59-
1983	15,360	12,703	83	23,029	150	10,326	67
1984	118,063	30,644	26	42,588	36	11,944	10
1985	12,019	8,970	75	73,631	613	64,661	538
1986	128,162	15,362	12	17,937	14	2,575	2
1987	214,318	30,172	14	36,610	17	6,438	3
1988	416,905	24,229	6	26,404	6	2,175	1
1989	124,956	35,816	29	7,693	6	28,123-	23-
1990	211,528	58,518	28	5,989	3	52,529-	25-
1991	97,857	51,823	53	15,268	16	36,555-	37-
1992	84,395	57,593	68	2,024	2	55,569-	66-
1993	117,879	80,718	68	14,735	13	65,983-	56-
1994	77,563	45,039	58	28,778	37	16,261-	21-
1995							
1996							
1997							
1998							
1999	235,231	60,239	26	3,289	1	56,950-	24-
2000	294,500	55,808	19	500	0	55,308-	19-
2001	74,947	22,269	30		0	22,269-	30-
2002	426,067	75,242	18		0	75,242-	18-
2003	48,141	57,712	120		0	57,712-	120-
2004	123,602	43,334	35		0	43,334-	35-
2005	254,241	58,110	23		0	58,110-	23-
2006	31,765	426	1	6,217	20	5,791	18
2007	189,780-	1,414	1-		0	1,414-	1
2008	837,135	26,733	3		0	26,733-	3-
2009	72,877	23,025	32	3,376	5	19,649-	27-
TOTAL	3,947,907	921,876	23	438,665	11	483,211-	12-
THREE-YEAR MOVING AVERAGES							
80-82	40,059	15,326	38	43,532	109	28,206	70
81-83	17,010	14,303	84	28,435	167	14,132	83
82-84	51,146	19,946	39	23,412	46	3,466	7
83-85	48,481	17,439	36	46,416	96	28,977	60
84-86	86,081	18,325	21	44,719	52	26,394	31
85-87	118,166	18,168	15	42,726	36	24,558	21

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	253,128	23,254	9	26,984	11	3,730	1
87-89	252,060	30,072	12	23,569	9	6,503-	3-
88-90	251,130	39,521	16	13,362	5	26,159-	10-
89-91	144,780	48,719	34	9,650	7	39,069-	27-
90-92	131,260	55,978	43	7,760	6	48,218-	37-
91-93	100,044	63,378	63	10,676	11	52,702-	53-
92-94	93,279	61,117	66	15,179	16	45,938-	49-
93-95	65,147	41,919	64	14,504	22	27,415-	42-
94-96	25,854	15,013	58	9,593	37	5,420-	21-
95-97							
96-98							
97-99	78,410	20,080	26	1,096	1	18,984-	24-
98-00	176,577	38,682	22	1,263	1	37,419-	21-
99-01	201,560	46,105	23	1,263	1	44,842-	22-
00-02	265,171	51,106	19	167	0	50,939-	19-
01-03	183,052	51,741	28		0	51,741-	28-
02-04	199,270	58,763	29		0	58,763-	29-
03-05	141,994	53,052	37		0	53,052-	37-
04-06	136,536	33,957	25	2,072	2	31,885-	23-
05-07	32,075	19,983	62	2,072	6	17,911-	56-
06-08	226,373	9,524	4	2,072	1	7,452-	3-
07-09	240,077	17,058	7	1,125	0	15,933-	7-
FIVE-YEAR AVERAGE							
05-09	201,248	21,942	11	1,919	1	20,023-	10-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	18,002	24,241	135	3,804	21	20,437-	114-
1981	8,304	25,338	305	197	2	25,141-	303-
1982	11,710	41,944	358	383	3	41,561-	355-
1983	8,341	37,319	447	676	8	36,643-	439-
1984	13,132	25,225	192	5,302	40	19,923-	152-
1985	7,559	21,068	279		0	21,068-	279-
1986	10,241	20,391	199	449	4	19,942-	195-
1987	8,957	14,043	157	312	3	13,731-	153-
1988	19,616	25,011	128	913	5	24,098-	123-
1989	32,954	25,566	78		0	25,566-	78-
1990	29,542	64,239	217		0	64,239-	217-
1991	46,660	75,225	161		0	75,225-	161-
1992	50,131	54,400	109		0	54,400-	109-
1993	43,228	44,497	103		0	44,497-	103-
1994	2,454	8,259	337		0	8,259-	337-
1995							
1996							
1997							
1998							
1999	62,418	54,393	87		0	54,393-	87-
2000	67,606	97,070	144		0	97,070-	144-
2001	34,642	232,835	672		0	232,835-	672-
2002	79,096	178,730	226		0	178,730-	226-
2003	40,216	116,666	290		0	116,666-	290-
2004	2,817	122,957			0	122,957-	
2005	15,153	74,724	493		0	74,724-	493-
2006	3,882	42,824			0	42,824-	
2007	295,572	12,130	4		0	12,130-	4-
2008	570,463	94,867	17		0	94,867-	17-
2009	6,555	62,066	947	7,267	111	54,799-	836-
TOTAL	1,489,251	1,596,028	107	19,303	1	1,576,725-	106-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
80-82	12,672	30,508	241	1,461	12	29,047-	229-
81-83	9,452	34,867	369	419	4	34,448-	364-
82-84	11,061	34,829	315	2,120	19	32,709-	296-
83-85	9,677	27,871	288	1,993	21	25,878-	267-
84-86	10,311	22,228	216	1,917	19	20,311-	197-
85-87	8,919	18,501	207	254	3	18,247-	205-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	12,938	19,815	153	558	4	19,257-	149-
87-89	20,509	21,540	105	408	2	21,132-	103-
88-90	27,371	38,272	140	304	1	37,968-	139-
89-91	36,385	55,010	151		0	55,010-	151-
90-92	42,111	64,621	153		0	64,621-	153-
91-93	46,673	58,041	124		0	58,041-	124-
92-94	31,938	35,719	112		0	35,719-	112-
93-95	15,227	17,585	115		0	17,585-	115-
94-96	818	2,753	337		0	2,753-	337-
95-97							
96-98							
97-99	20,806	18,131	87		0	18,131-	87-
98-00	43,341	50,488	116		0	50,488-	116-
99-01	54,889	128,099	233		0	128,099-	233-
00-02	60,448	169,545	280		0	169,545-	280-
01-03	51,318	176,077	343		0	176,077-	343-
02-04	40,710	139,451	343		0	139,451-	343-
03-05	19,395	104,782	540		0	104,782-	540-
04-06	7,284	80,168			0	80,168-	
05-07	104,869	43,226	41		0	43,226-	41-
06-08	289,972	49,940	17		0	49,940-	17-
07-09	290,863	56,354	19	2,422	1	53,932-	19-
FIVE-YEAR AVERAGE							
05-09	178,325	57,322	32	1,453	1	55,869-	31-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 334.00 THRU 334.30 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	79,366	1,639	2	11,758	15	10,119	13
1981	107,531	3,502	3	22,687	21	19,185	18
1982	187,562	7,768	4	37,747	20	29,979	16
1983	99,321	11,131	11	13,400	13	2,269	2
1984	87,166	8,975	10	11,775	14	2,800	3
1985	92,668	5,544	6	12,228	13	6,684	7
1986	74,228	7,556	10	2,477	3	5,079-	7-
1987	123,691	2,332	2	8,519	7	6,187	5
1988	136,124	4,017	3	13,175	10	9,158	7
1989	122,229	3,724	3	16,085	13	12,361	10
1990	133,683	9,475	7	10,960	8	1,485	1
1991	152,174	10,199	7	5,989	4	4,210-	3-
1992	153,973	6,203	4	13,473	9	7,270	5
1993	120,966	9,754	8	93,364	77	83,610	69
1994	1,227	2,796	228		0	2,796-	228-
1995							
1996							
1997							
1998							
1999	90,023	46,996	52	804	1	46,192-	51-
2000	84,881	66,757	79	3,265	4	63,492-	75-
2001	59,466	52,230	88	173	0	52,057-	88-
2002	108,243	54,749	51		0	54,749-	51-
2003	578,028	40,090	7		0	40,090-	7-
2004	84,261	72,000	85		0	72,000-	85-
2005	116,511	58,223	50	460-	0	58,683-	50-
2006	184,704	60,264	33	22,491	12	37,773-	20-
2007	496,453	26,955	5	1,869	0	25,086-	5-
2008	610,344	3,486-	1-		0	3,486	1
2009	19,750	61,193	310	100,345	508	39,152	198
TOTAL	4,104,573	630,586	15	402,124	10	228,462-	6-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
80-82	124,820	4,303	3	24,064	19	19,761	16
81-83	131,471	7,467	6	24,611	19	17,144	13
82-84	124,683	9,291	7	20,974	17	11,683	9
83-85	93,052	8,550	9	12,468	13	3,918	4
84-86	84,687	7,358	9	8,827	10	1,469	2
85-87	96,862	5,144	5	7,741	8	2,597	3

KENTUCKY AMERICAN WATER COMPANY

ACCOUNTS 334.00 THRU 334.30 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	111,348	4,635	4	8,057	7	3,422	3
87-89	127,348	3,358	3	12,593	10	9,235	7
88-90	130,679	5,739	4	13,407	10	7,668	6
89-91	136,029	7,799	6	11,011	8	3,212	2
90-92	146,610	8,626	6	10,141	7	1,515	1
91-93	142,371	8,719	6	37,609	26	28,890	20
92-94	92,055	6,251	7	35,612	39	29,361	32
93-95	40,731	4,183	10	31,121	76	26,938	66
94-96	409	932	228		0	932-	228-
95-97							
96-98							
97-99	30,008	15,665	52	268	1	15,397-	51-
98-00	58,302	37,918	65	1,356	2	36,562-	63-
99-01	78,124	55,328	71	1,414	2	53,914-	69-
00-02	84,197	57,912	69	1,146	1	56,766-	67-
01-03	248,579	49,023	20	58	0	48,965-	20-
02-04	256,844	55,613	22		0	55,613-	22-
03-05	259,600	56,771	22	153-	0	56,924-	22-
04-06	128,492	63,496	49	7,344	6	56,152-	44-
05-07	265,889	48,481	18	7,967	3	40,514-	15-
06-08	430,500	27,911	6	8,120	2	19,791-	5-
07-09	375,515	28,220	8	34,071	9	5,851	2
FIVE-YEAR AVERAGE							
05-09	285,552	40,630	14	24,849	9	15,781-	6-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	12,294	2,498	20	9,619	78	7,121	58
1981	7,347	4,205	57	6,633	90	2,428	33
1982	8,316	4,213	51	7,109	85	2,896	35
1983	5,859	5,083	87	5,315	91	232	4
1984	9,155	15,650	171	8,870	97	6,780-	74-
1985	5,260	4,828	92	5,692	108	864	16
1986	4,060	6,489	160	6,416	158	73-	2-
1987	5,248	16,989	324	14,128	269	2,861-	55-
1988	15,368	7,826	51	1,174	8	6,652-	43-
1989	14,725	13,734	93	5,723	39	8,011-	54-
1990	15,761	20,197	128	3,281	21	16,916-	107-
1991	15,953	11,036	69	5,221	33	5,815-	36-
1992	60,190	28,345	47	1,943	3	26,402-	44-
1993	12,448	10,199	82	2,098	17	8,101-	65-
1994	5,440	5,777	106	2,610	48	3,167-	58-
1995							
1996							
1997							
1998							
1999	6,437	1,831	28	685	11	1,146-	18-
2000	8,303	2,385	29	263	3	2,122-	26-
2001	11,529	5,833	51		0	5,833-	51-
2002	19,766	846	4		0	846-	4-
2003	4,262		0		0		0
2004	10,660		0		0		0
2005	13,469	2,091	16		0	2,091-	16-
2006	17,275	898	5		0	898-	5-
2007	1,716	16	1		0	16-	1-
2008	35,914	1,770	5		0	1,770-	5-
2009	11,376	6,961	61		0	6,961-	61-
TOTAL	338,131	179,700	53	86,780	26	92,920-	27-

THREE-YEAR MOVING AVERAGES

80-82	9,319	3,639	39	7,787	84	4,148	45
81-83	7,174	4,500	63	6,352	89	1,852	26
82-84	7,777	8,315	107	7,098	91	1,217-	16-
83-85	6,758	8,520	126	6,626	98	1,894-	28-
84-86	6,158	8,989	146	6,993	114	1,996-	32-
85-87	4,856	9,435	194	8,745	180	690-	14-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
86-88	8,225	10,435	127	7,239	88	3,196-	39-
87-89	11,780	12,850	109	7,008	59	5,842-	50-
88-90	15,285	13,919	91	3,393	22	10,526-	69-
89-91	15,480	14,989	97	4,742	31	10,247-	66-
90-92	30,635	19,859	65	3,482	11	16,377-	53-
91-93	29,530	16,527	56	3,087	10	13,440-	46-
92-94	26,026	14,774	57	2,217	9	12,557-	48-
93-95	5,963	5,325	89	1,569	26	3,756-	63-
94-96	1,813	1,926	106	870	48	1,056-	58-
95-97							
96-98							
97-99	2,146	610	28	228	11	382-	18-
98-00	4,913	1,405	29	316	6	1,089-	22-
99-01	8,756	3,350	38	316	4	3,034-	35-
00-02	13,199	3,021	23	88	1	2,933-	22-
01-03	11,852	2,226	19		0	2,226-	19-
02-04	11,562	282	2		0	282-	2-
03-05	9,464	697	7		0	697-	7-
04-06	13,802	996	7		0	996-	7-
05-07	10,820	1,002	9		0	1,002-	9-
06-08	18,302	895	5		0	895-	5-
07-09	16,335	2,916	18		0	2,916-	18-
FIVE-YEAR AVERAGE							
05-09	15,950	2,347	15		0	2,347-	15-

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.10 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1982		140		12,200		12,060	
1983	32,127	100	0	8,100	25	8,000	25
1984	9,205		0	7,500	81	7,500	81
1985	87,029	315	0	17,700	20	17,385	20
1986	33,598		0	6,444	19	6,444	19
1987	53,418	11	0	10,875	20	10,864	20
1988	46,179	60	0	8,550	19	8,490	18
1989	50,554		0	22,509	45	22,509	45
1990	96,067	1,393	1	27,637	29	26,244	27
1991	118,677		0	36,945	31	36,945	31
1992	96,153		0	32,236	34	32,236	34
1993	72,282		0	23,220	32	23,220	32
1994	60,343	1,498	2	17,716	29	16,218	27
1995							
1996							
1997							
1998							
1999	44,574	2,850	6	11,675	26	8,825	20
2000	94,444	5,440	6	16,729	18	11,289	12
2001	90,536		0		0		0
2002		7,629		30,000		22,371	
2003	52,861	1,010	2	13,321	25	12,311	23
2004	27,211		0		0		0
2005	18,273		0		0		0
2006	197,839	11,832-	6-		0	11,832	6
2007	54,895		0		0		0
2008	130,678		0	26,576	20	26,576	20
2009	75,134		0	9,596	13	9,596	13
TOTAL	1,542,077	8,614	1	339,529	22	330,915	21

THREE-YEAR MOVING AVERAGES

82-84	13,777	80	1	9,267	67	9,187	67
83-85	42,787	138	0	11,100	26	10,962	26
84-86	43,277	105	0	10,548	24	10,443	24
85-87	58,015	109	0	11,673	20	11,564	20
86-88	44,398	24	0	8,623	19	8,599	19
87-89	50,050	24	0	13,978	28	13,954	28
88-90	64,267	484	1	19,565	30	19,081	30
89-91	88,433	464	1	29,030	33	28,566	32

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.10 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
90-92	103,632	464	0	32,273	31	31,809	31
91-93	95,704		0	30,800	32	30,800	32
92-94	76,259	499	1	24,391	32	23,892	31
93-95	44,208	499	1	13,645	31	13,146	30
94-96	20,114	499	2	5,905	29	5,406	27
95-97							
96-98							
97-99	14,858	950	6	3,892	26	2,942	20
98-00	46,340	2,763	6	9,468	20	6,705	14
99-01	76,518	2,763	4	9,468	12	6,705	9
00-02	61,660	4,356	7	15,576	25	11,220	18
01-03	47,799	2,880	6	14,440	30	11,560	24
02-04	26,691	2,880	11	14,440	54	11,560	43
03-05	32,782	337	1	4,440	14	4,103	13
04-06	81,108	3,944-	5-		0	3,944	5
05-07	90,335	3,944-	4-		0	3,944	4
06-08	127,804	3,944-	3-	8,859	7	12,803	10
07-09	86,902		0	12,057	14	12,057	14
FIVE-YEAR AVERAGE							
05-09	95,364	2,366-	2-	7,234	8	9,600	10

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.20 TRANSPORTATION EQUIPMENT - HEAVY DUTY TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1986	13,756		0	1,900	14	1,900	14
1987	41,200		0	7,300	18	7,300	18
1988	9,955		0	3,200	32	3,200	32
1989	41,315		0	19,767	48	19,767	48
1990							
1991	58,941		0	11,440	19	11,440	19
1992	79,570		0	17,458	22	17,458	22
1993	13,415		0	2,000	15	2,000	15
1994	25,100		0	5,500	22	5,500	22
1995							
1996							
1997							
1998							
1999							
2000	89,605	5,830	7	19,045	21	13,215	15
2001	18,235		0		0		0
2002		3,340		6,102		2,762	
2003							
2004							
2005							
2006	47,659	1,060-	2-		0	1,060	2
2007	65,892		0		0		0
2008				8,613		8,613	
2009	62,521		0	3,870	6	3,870	6
TOTAL	567,164	8,110	1	106,195	19	98,085	17

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
86-88	21,637		0	4,133	19	4,133	19
87-89	30,823		0	10,089	33	10,089	33
88-90	17,090		0	7,656	45	7,656	45
89-91	33,419		0	10,402	31	10,402	31
90-92	46,170		0	9,633	21	9,633	21
91-93	50,642		0	10,299	20	10,299	20
92-94	39,362		0	8,319	21	8,319	21
93-95	12,838		0	2,500	19	2,500	19
94-96	8,367		0	1,833	22	1,833	22
95-97							
96-98							
97-99							

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.20 TRANSPORTATION EQUIPMENT - HEAVY DUTY TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
98-00	29,868	1,943	7	6,348	21	4,405	15
99-01	35,947	1,943	5	6,348	18	4,405	12
00-02	35,947	3,057	9	8,382	23	5,325	15
01-03	6,078	1,113	18	2,034	33	921	15
02-04		1,113		2,034		921	
03-05							
04-06	15,886	353-	2-		0	353	2
05-07	37,850	353-	1-		0	353	1
06-08	37,850	353-	1-	2,871	8	3,224	9
07-09	42,804		0	4,161	10	4,161	10
FIVE-YEAR AVERAGE							
05-09	35,215	212-	1-	2,497	7	2,709	8

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.30 TRANSPORTATION EQUIPMENT - AUTOS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1982	34,922	120	0	4,400	13	4,280	12
1983	33,905	125	0	7,900	23	7,775	23
1984							
1985	39,613	175	0	7,600	19	7,425	19
1986	38,712		0	1,416	4	1,416	4
1987	49,853		0	16,125	32	16,125	32
1988	46,956		0	10,900	23	10,900	23
1989	57,313	50	0	23,047	40	22,997	40
1990	30,101		0	13,824	46	13,824	46
1991	9,700		0	1,000	10	1,000	10
1992	11,500		0	4,893	43	4,893	43
1993	12,323		0		0		0
1994	36,024	241	1		0	241-	1-
1995							
1996	42,288		0		0		0
1997	84,116		0		0		0
1998							
1999	32,082		0	5,300	17	5,300	17
2000							
2001							
2002	12,116	700	6		0	700-	6-
2003	2,900		0		0		0
2004							
2005							
2006							
2007	15,016-		0		0		0
2008	61,308		0	7,589	12	7,589	12
2009	15,899		0	125	1	125	1
TOTAL	636,615	1,411	0	104,119	16	102,708	16

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
82-84	22,942	82	0	4,100	18	4,018	18
83-85	24,506	100	0	5,167	21	5,067	21
84-86	26,108	58	0	3,005	12	2,947	11
85-87	42,726	58	0	8,380	20	8,322	19
86-88	45,174		0	9,480	21	9,480	21
87-89	51,374	17	0	16,691	32	16,674	32
88-90	44,790	17	0	15,924	36	15,907	36
89-91	32,371	17	0	12,624	39	12,607	39

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.30 TRANSPORTATION EQUIPMENT - AUTOS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
90-92	17,100		0	6,572	38	6,572	38
91-93	11,174		0	1,964	18	1,964	18
92-94	19,949	80	0	1,631	8	1,551	8
93-95	16,116	80	0		0	80-	0
94-96	26,104	80	0		0	80-	0
95-97	42,135		0		0		0
96-98	42,135		0		0		0
97-99	38,733		0	1,767	5	1,767	5
98-00	10,694		0	1,767	17	1,767	17
99-01	10,694		0	1,767	17	1,767	17
00-02	4,039	233	6		0	233-	6-
01-03	5,005	233	5		0	233-	5-
02-04	5,005	233	5		0	233-	5-
03-05	967		0		0		0
04-06							
05-07	5,005-		0		0		0
06-08	15,431		0	2,530	16	2,530	16
07-09	20,730		0	2,571	12	2,571	12
FIVE-YEAR AVERAGE							
05-09	12,438		0	1,543	12	1,543	12

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.40 TRANSPORTATION EQUIPMENT - OTHER

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1996	220		0		0		0
1997	2,993		0		0		0
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007	972		0		0		0
2008				82		82	
2009				25		25	
TOTAL	4,185		0	107	3	107	3
THREE-YEAR MOVING AVERAGES							
96-98	1,071		0		0		0
97-99	998		0		0		0
98-00							
99-01							
00-02							
01-03							
02-04							
03-05							
04-06							
05-07	324		0		0		0
06-08	324		0	27	8	27	8
07-09	324		0	36	11	36	11
FIVE-YEAR AVERAGE							
05-09	194		0	21	11	21	11

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 345 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1980	13,957	20	0	10,100	72	10,080	72
1981							
1982	4,745		0		0		0
1983	369-		0		0		0
1984							
1985	34,721	35	0	18,612	54	18,577	54
1986	3,106		0		0		0
1987							
1988	7,922		0		0		0
1989							
1990	479-		0		0		0
1991	65,103		0	8,554	13	8,554	13
1992	10,550		0		0		0
1993	4,132		0	152	4	152	4
1994	22,762		0	2,000	9	2,000	9
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							
2009	99,826		0	8,510	9	8,510	9
TOTAL	265,976	55	0	47,928	18	47,873	18

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
80-82	6,234	7	0	3,367	54	3,360	54
81-83	1,459		0		0		0
82-84	1,459		0		0		0
83-85	11,451	12	0	6,204	54	6,192	54
84-86	12,609	12	0	6,204	49	6,192	49
85-87	12,609	12	0	6,204	49	6,192	49

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 345 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
86-88	3,676		0		0		0
87-89	2,641		0		0		0
88-90	2,481		0		0		0
89-91	21,541		0	2,851	13	2,851	13
90-92	25,058		0	2,851	11	2,851	11
91-93	26,595		0	2,902	11	2,902	11
92-94	12,481		0	717	6	717	6
93-95	8,965		0	717	8	717	8
94-96	7,587		0	667	9	667	9
95-97							
96-98							
97-99							
98-00							
99-01							
00-02							
01-03							
02-04							
03-05							
04-06							
05-07							
06-08							
07-09	33,275		0	2,837	9	2,837	9
FIVE-YEAR AVERAGE							
05-09	19,965		0	1,702	9	1,702	9

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DEPRECIATION CALCULATIONS

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.10 STRUCTURES & IMPROVEMENTS - SOURCE OF SUPPLY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S1.5						
NET SALVAGE PERCENT.. -5						
1962	11,476.53	10,022	4,525	7,525	5.89	1,278
1974	221.53	167	75	158	9.89	16
1976	134.00	98	44	97	10.70	9
1984	3,200.00	1,966	888	2,472	14.52	170
1988	2,533.00	1,378	622	2,038	16.86	121
1989	40,782.95	21,411	9,667	33,155	17.50	1,895
1991	30,910.25	14,985	6,765	25,691	18.84	1,364
1997	983.90	342	154	879	23.40	38
1998	7,742.48	2,501	1,129	7,001	24.23	289
2001	38,882.00	9,484	4,282	36,544	26.87	1,360
2002	274,986.64	59,480	26,854	261,882	27.79	9,424
2003	475,545.09	89,578	40,442	458,880	28.72	15,978
2004	57,970.66	9,270	4,185	56,684	29.67	1,910
2005	3,999.15	524	237	3,962	30.63	129
2006	1,656,129.06	168,503	76,075	1,662,861	31.61	52,606
2007	1,775.08	128	58	1,806	32.59	55
2008	66,068.68	2,817	1,272	68,100	33.58	2,028
	2,673,341.00	392,654	177,274	2,629,735		88,670
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					29.7	3.32

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
KENTUCKY RIVER STATION						
INTERIM SURVIVOR CURVE.. IOWA 60-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2037						
NET SALVAGE PERCENT.. -20						
1934	1,498.45	1,534	1,193	605	8.82	69
1951	8,710.85	7,950	6,183	4,270	14.26	299
1954	741.84	659	513	377	15.42	24
1957	92,039.85	79,324	61,693	48,755	16.59	2,939
1958	25,756.94	21,973	17,089	13,819	16.98	814
1959	51,381.05	43,370	33,730	27,927	17.37	1,608
1964	138.59	111	86	80	19.25	4
1966	2,267.68	1,767	1,374	1,347	19.95	68
1967	74,428.89	57,277	44,546	44,769	20.29	2,206
1968	99.58	76	59	60	20.62	3
1969	221.46	166	129	137	20.94	7
1970	80,648.01	59,712	46,440	50,338	21.25	2,369
1971	17,572.79	12,838	9,985	11,102	21.55	515
1972	13,262.12	9,555	7,431	8,484	21.84	388
1973	3,602.44	2,560	1,991	2,332	22.11	105
1974	6,749.68	4,727	3,676	4,424	22.38	198
1978	6,162.43	4,053	3,152	4,243	23.34	182
1980	3,449.81	2,191	1,704	2,436	23.76	103
1985	743.96	427	332	561	24.65	23
1986	418.99	235	183	320	24.81	13
1988	20,588.96	10,962	8,526	16,181	25.09	645
1989	11,127.35	5,756	4,477	8,876	25.23	352
1990	8,602.65	4,321	3,361	6,962	25.35	275
1991	32,248.00	15,676	12,192	26,506	25.48	1,040
1992	1,958,914.33	919,828	715,382	1,635,315	25.59	63,904
1993	21,577.08	9,761	7,591	18,301	25.70	712
1995	1,752.80	728	566	1,537	25.91	59
1996	5,317.98	2,105	1,637	4,745	26.00	183
2005	6,250.40	1,040	809	6,691	26.66	251
2006	754,698.54	100,073	77,831	827,807	26.72	30,981
2007	3,208.80	312	243	3,608	26.77	135
2008	89,918.76	5,320	4,137	103,766	26.82	3,869
2009	8,182.42	162	126	9,693	26.87	361
	3,312,283.48	1,386,549	1,078,367	2,896,374		114,704

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.20 STRUCTURES & IMPROVEMENTS - POWER AND PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER STRUCTURES						
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT.. -20						
1934	26,220.50	26,824	20,862	10,603	8.85	1,198
1939	6,915.01	6,871	5,344	2,954	10.32	286
1941	400.28	392	305	175	10.98	16
1942	102.95	100	78	46	11.33	4
1948	2,274.24	2,106	1,638	1,091	13.70	80
1949	456.97	419	326	222	14.15	16
1951	167.69	151	117	84	15.08	6
1954	394.47	342	266	207	16.59	12
1955	6,204.43	5,321	4,138	3,307	17.12	193
1957	542.33	453	352	299	18.23	16
1958	402.83	332	258	225	18.80	12
1962	4,217.13	3,272	2,545	2,516	21.21	119
1963	2,755.27	2,102	1,635	1,671	21.85	76
1966	7,073.51	5,120	3,982	4,506	23.81	189
1969	207.00	141	110	138	25.87	5
1970	392.85	263	205	266	26.57	10
1971	10,030.76	6,564	5,105	6,932	27.28	254
1972	43,588.13	27,889	21,690	30,616	28.01	1,093
1974	1,039.00	634	493	754	29.48	26
1975	24,999.57	14,886	11,577	18,422	30.23	609
1987	266,561.62	107,638	83,714	236,160	39.81	5,932
1988	14,556.05	5,630	4,379	13,088	40.66	322
1989	447,765.79	165,602	128,794	408,525	41.51	9,842
1990	40.40	14	11	37	42.36	1
1997	1,948.81	447	348	1,991	48.52	41
1998	21,873.51	4,628	3,599	22,649	49.42	458
1999	778,890.09	150,668	117,180	817,488	50.33	16,243
2001	1,508.80	237	184	1,627	52.15	31
2005	3,297.98	274	213	3,745	55.85	67
2006	24,142.95	1,556	1,210	27,762	56.78	489
2007	189,396.76	8,636	6,717	220,559	57.72	3,821
2008	15,270.90	409	318	18,007	58.66	307
	1,903,638.58	549,921	427,693	1,856,672		41,774
	5,215,922.06	1,936,470	1,506,060	4,753,046		156,478

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 30.4 3.00

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
KENTUCKY RIVER STATION INTERIM SURVIVOR CURVE.. IOWA 60-R2.5 PROBABLE RETIREMENT YEAR.. 6-2037 NET SALVAGE PERCENT.. -20						
1925	7,081.54	7,561	2,795	5,703	6.62	861
1959	6,925.11	5,845	2,161	6,149	17.37	354
1960	3,833.51	3,200	1,183	3,417	17.76	192
1961	974.98	805	298	872	18.14	48
1966	19,358.74	15,084	5,577	17,653	19.95	885
1968	810.88	616	228	745	20.62	36
1969	118,087.90	88,594	32,753	108,952	20.94	5,203
1970	13,665.34	10,118	3,741	12,657	21.25	596
1971	67,377.02	49,223	18,198	62,654	21.55	2,907
1972	1,158.61	835	309	1,081	21.84	49
1973	5,501.25	3,909	1,445	5,157	22.11	233
1974	474.00	332	123	446	22.38	20
1975	723.00	499	184	684	22.63	30
1976	1,114.00	757	280	1,057	22.88	46
1977	1,434.51	959	355	1,366	23.11	59
1982	153,190.64	93,698	34,640	149,189	24.14	6,180
1984	11,400.01	6,688	2,473	11,207	24.49	458
1986	3,643.80	2,042	755	3,618	24.81	146
1987	102,491.44	56,034	20,716	102,274	24.95	4,099
1988	58,997.94	31,413	11,613	59,185	25.09	2,359
1989	58,912.65	30,477	11,267	59,428	25.23	2,355
1990	114,656.40	57,594	21,293	116,295	25.35	4,588
1991	62,459.04	30,363	11,225	63,726	25.48	2,501
1992	8,000.00	3,756	1,389	8,211	25.59	321
1993	843,479.45	381,590	141,074	871,101	25.70	33,895
1995	48,008.53	19,945	7,374	50,236	25.91	1,939
1996	1,396,484.89	552,840	204,384	1,471,398	26.00	56,592
1997	6,903.44	2,590	958	7,326	26.09	281
1999	131,023.48	43,364	16,032	141,196	26.26	5,377
2000	532,132.37	163,471	60,435	578,124	26.33	21,957
2001	153,164.99	43,174	15,961	167,837	26.41	6,355
2002	11,650.51	2,975	1,100	12,881	26.48	486
2003	11,333.94	2,579	953	12,648	26.54	477
2004	281,236.11	55,516	20,524	316,959	26.61	11,911
2005	247,778.20	41,210	15,236	282,098	26.66	10,581
2006	223,795.95	29,675	10,971	257,584	26.72	9,640

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
KENTUCKY RIVER STATION INTERIM SURVIVOR CURVE.. IOWA 60-R2.5 PROBABLE RETIREMENT YEAR.. 6-2037 NET SALVAGE PERCENT.. -20						
2008	21,152.39	1,251	462	24,921	26.82	929
2009	7,376.03	146	54	8,797	26.87	327
	4,737,792.59	1,840,728	680,519	5,004,832		195,273
RICHMOND ROAD STATION TREATMENT PLANT INTERIM SURVIVOR CURVE.. IOWA 60-R2.5 PROBABLE RETIREMENT YEAR.. 6-2038 NET SALVAGE PERCENT.. -20						
1925	5,156.56	5,505	2,035	4,153	6.62	627
1926	1,939.94	2,062	762	1,566	6.86	228
1929	563.66	591	218	458	7.57	61
1938	8,725.21	8,735	3,229	7,241	9.94	728
1941	369.39	363	134	309	10.84	29
1947	1,374.13	1,294	478	1,171	12.87	91
1960	1,321.79	1,098	406	1,180	18.01	66
1971	5,166.23	3,740	1,383	4,816	22.02	219
1972	42,389.94	30,246	11,182	39,686	22.33	1,777
1973	68,550.57	48,205	17,821	64,440	22.63	2,848
1974	14,784.38	10,244	3,787	13,954	22.91	609
1977	50,913.14	33,627	12,432	48,664	23.71	2,052
1983	1,276.58	754	279	1,253	25.01	50
1988	1,482,689.92	775,210	286,597	1,492,631	25.86	57,720
1989	63,725.94	32,386	11,973	64,498	26.00	2,481
1991	106,693.61	50,893	18,815	109,217	26.27	4,157
1994	10,388.09	4,418	1,633	10,833	26.63	407
1997	580,879.73	213,090	78,781	618,275	26.94	22,950
1999	10,008.73	3,230	1,194	10,816	27.13	399
2001	227,402.06	62,463	23,093	249,789	27.29	9,153
2003	19,988.05	4,421	1,634	22,352	27.44	815
2005	6,719.98	1,084	401	7,663	27.57	278
2006	24,821.65	3,196	1,182	28,604	27.63	1,035
2007	330,949.59	31,056	11,481	385,659	27.69	13,928
2008	59,873.34	3,427	1,267	70,581	27.74	2,544
2009	28,757.16	549	203	34,306	27.79	1,234
	3,155,429.37	1,331,887	492,400	3,294,115		126,486

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.30 STRUCTURES & IMPROVEMENTS - WATER TREATMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER STRUCTURES						
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT.. -20						
1974	1,607.00	981	363	1,565	29.48	53
1975	158.02	94	35	155	30.23	5
1976	1,539.04	893	330	1,517	30.98	49
1996	1,043,366.07	258,171	95,446	1,156,593	47.63	24,283
1997	12,571.95	2,886	1,067	14,019	48.52	289
2001	15,780.21	2,477	916	18,020	52.15	346
2006	272,796.29	17,579	6,499	320,857	56.78	5,651
2007	628,598.19	28,664	10,597	743,721	57.72	12,885
2008	13,112.31	351	130	15,605	58.66	266
2009	14,181.16	123	45	16,972	59.57	285
	2,003,710.24	312,219	115,428	2,289,024		44,112
	9,896,932.20	3,484,834	1,288,347	10,587,971		365,871

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 28.9 3.70

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.40 STRUCTURES & IMPROVEMENTS - TRANS. AND DISTR.

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-S2						
NET SALVAGE PERCENT.. -5						
1982	1,420.00	1,060	1,491			
1991	42,865.79	24,620	34,720	10,289	13.59	757
1992	412,979.52	227,351	320,621	113,007	14.27	7,919
1996	7,226.03	3,215	4,534	3,053	17.29	177
1997	26.54	11	16	12	18.12	1
1998	139,105.41	53,648	75,657	70,404	18.98	3,709
1999	51,995.27	18,453	26,023	28,572	19.86	1,439
2000	8,279.36	2,675	3,772	4,921	20.77	237
2002	21,163.70	5,438	7,669	14,553	22.66	642
2005	11,570.17	1,786	2,519	9,630	25.59	376
2006	89,907.46	10,762	15,177	79,226	26.58	2,981
2008	25,387.15	1,261	1,778	24,879	28.58	871
2009	217,413.28	3,493	4,926	223,358	29.54	7,561
	1,029,339.68	353,773	498,903	581,904		26,670

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 21.8 2.59

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MAIN OFFICE						
INTERIM SURVIVOR CURVE.. IOWA 55-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2043						
NET SALVAGE PERCENT.. -5						
1965	7,142.07	4,997	3,921	3,578	18.18	197
1970	672,941.10	434,552	340,964	365,624	20.76	17,612
1971	3,608.72	2,291	1,798	1,991	21.26	94
1972	19,896.38	12,409	9,736	11,155	21.76	513
1973	5,009.31	3,068	2,407	2,853	22.25	128
1977	4,946.00	2,803	2,199	2,994	24.13	124
1979	5,098.00	2,770	2,173	3,180	25.00	127
1982	72,896.87	36,970	29,008	47,534	26.21	1,814
1984	1,886.00	910	714	1,266	26.94	47
1985	1,224.56	575	451	835	27.29	31
1986	27,739.44	12,676	9,946	19,180	27.62	694
1987	141,027.26	62,578	49,101	98,978	27.94	3,543
1988	96,348.48	41,438	32,514	68,652	28.25	2,430
1989	44,800.88	18,656	14,638	32,403	28.54	1,135
1990	32,653.68	13,142	10,312	23,974	28.81	832
1991	3,265.27	1,267	994	2,435	29.08	84
1992	16,608.13	6,198	4,863	12,576	29.33	429
1994	27,097.92	9,273	7,276	21,177	29.80	711
1995	26,056.54	8,492	6,663	20,696	30.02	689
2008	1,813,158.40	78,056	61,246	1,842,570	32.01	57,562
	3,023,405.01	753,121	590,924	2,583,651		88,796
OTHER STRUCTURES						
SURVIVOR CURVE.. IOWA 55-R2.5						
NET SALVAGE PERCENT.. -5						
1985	1,748.00	724	568	1,267	33.29	38
1988	2,173.52	798	626	1,656	35.77	46
1989	7,375.00	2,590	2,032	5,712	36.61	156
1996	11,220.54	2,644	2,075	9,707	42.66	228
1997	2,103,494.75	459,845	360,810	1,847,859	43.55	42,431
1998	226,122.80	45,539	35,731	201,698	44.45	4,538
1999	167,972.15	30,953	24,287	152,084	45.35	3,354
2000	1,733.16	290	228	1,592	46.25	34
2001	55,334.12	8,279	6,496	51,605	47.16	1,094

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.60 STRUCTURES & IMPROVEMENTS - OFFICE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER STRUCTURES						
SURVIVOR CURVE.. IOWA 55-R2.5						
NET SALVAGE PERCENT.. -5						
2003	53,573.71	6,137	4,815	51,437	49.00	1,050
2004	14,508.35	1,408	1,105	14,129	49.92	283
2005	60,598.88	4,804	3,769	59,860	50.85	1,177
2006	59,716.30	3,668	2,878	59,824	51.78	1,155
2007	93,718.41	4,084	3,204	95,200	52.72	1,806
2008	293,123.40	7,510	5,893	301,887	53.66	5,626
2009	14,136.07	116	91	14,752	54.57	270
	3,166,549.16	579,389	454,608	2,870,269		63,286
	6,189,954.17	1,332,510	1,045,532	5,453,920		152,082
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					35.9	2.46

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.70 STRUCTURES & IMPROVEMENTS - SHOP & GARAGE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2.5						
NET SALVAGE PERCENT.. 0						
1957	13,694.36	10,712	9,993	3,701	10.89	340
1960	708.06	535	499	209	12.22	17
1971	723.87	458	427	297	18.37	16
1972	749.00	464	433	316	19.02	17
1977	5,650.00	3,113	2,904	2,746	22.45	122
1987	53,519.17	21,311	19,881	33,638	30.09	1,118
1988	42,525.48	16,245	15,155	27,370	30.90	886
1990	19,843.29	6,921	6,457	13,386	32.56	411
1993	546,102.20	162,738	151,817	394,285	35.10	11,233
1996	147,253.93	36,195	33,766	113,488	37.71	3,009
1999	74,138.37	14,279	13,321	60,817	40.37	1,506
2001	15,249.20	2,385	2,225	13,024	42.18	309
2002	66,881.08	9,243	8,623	58,258	43.09	1,352
2005	2,618.00	217	202	2,416	45.86	53
2009	739,495.95	6,360	5,933	733,563	49.57	14,799
	1,729,151.96	291,176	271,636	1,457,514		35,188

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 41.4 2.03

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 304.80 STRUCTURES & IMPROVEMENTS - MISCELLANEOUS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-R2						
NET SALVAGE PERCENT.. -10						
1934	291.39	321	321			
1958	21,159.37	23,275	23,275			
1966	5.31	6	6			
1971	333.59	335	205	162	2.19	74
1978	1,265.76	1,151	704	688	4.33	159
1985	29,000.00	22,713	13,895	18,005	7.20	2,501
1987	25,030.07	18,480	11,305	16,228	8.22	1,974
1989	67,361.16	46,415	28,394	45,703	9.34	4,893
1990	14,575.53	9,658	5,908	10,125	9.94	1,019
1991	7,998.00	5,085	3,111	5,687	10.55	539
1992	6,513.58	3,958	2,421	4,744	11.19	424
1993	4,040.72	2,338	1,430	3,015	11.85	254
1994	3,145.91	1,726	1,056	2,405	12.53	192
1995	1,893.23	981	600	1,483	13.22	112
1997	2,948.35	1,340	820	2,423	14.67	165
1998	34,995.42	14,751	9,024	29,471	15.42	1,911
2000	9,043.98	3,195	1,955	7,993	16.97	471
2001	28,255.39	8,989	5,499	25,582	17.77	1,440
2002	41,389.73	11,692	7,153	38,376	18.58	2,065
2003	726,932.51	179,116	109,574	690,052	19.40	35,570
2004	24,414.98	5,113	3,128	23,728	20.24	1,172
2005	459,721.06	78,888	48,259	457,434	21.10	21,679
2006	322,940.93	43,197	26,426	328,809	21.96	14,973
2007	90,111.37	8,564	5,239	93,884	22.84	4,111
	1,923,367.34	491,287	309,708	1,805,997		95,698

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 18.9 4.98

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1913	73,214.21	69,268	69,850	3,364	4.04	833
1934	28,430.15	24,345	24,550	3,880	10.78	360
1940	540.35	440	444	96	13.91	7
1953	182.14	127	128	54	22.67	2
1963	391.61	232	234	158	30.58	5
1972	5,066.11	2,468	2,489	2,577	38.47	67
1973	23,440.73	11,130	11,223	12,218	39.39	310
1977	5,152.00	2,191	2,209	2,943	43.11	68
1988	763,760.75	216,679	218,500	545,261	53.72	10,150
1989	2,284.00	618	623	1,661	54.70	30
1991	14,013.00	3,425	3,454	10,559	56.67	186
1992	9,151.62	2,116	2,134	7,018	57.66	122
1993	3,586.34	782	789	2,797	58.65	48
1994	70,338.87	14,405	14,525	55,814	59.64	936
1996	2,251.73	402	405	1,847	61.62	30
2005	3,282.30	193	195	3,087	70.59	44
	1,005,085.91	348,821	351,752	653,334		13,198

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 49.5 1.31

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 306.00 LAKE, RIVER AND OTHER INTAKES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-S1						
NET SALVAGE PERCENT.. 0						
1961	449.15	299	103	346	16.72	21
1962	165.61	109	38	128	17.15	7
1966	19,532.24	12,133	4,182	15,350	18.94	810
1970	34,431.98	20,081	6,922	27,510	20.84	1,320
1971	23,098.06	13,240	4,564	18,534	21.34	869
1972	50.00	28	10	40	21.85	2
1985	5,597.95	2,309	796	4,802	29.38	163
1990	5,779.41	1,982	683	5,096	32.85	155
1991	165,120.57	54,193	18,680	146,441	33.59	4,360
1992	22,301.43	6,985	2,408	19,893	34.34	579
1993	6,985.00	2,080	717	6,268	35.11	179
1994	169.67	48	17	153	35.90	4
1997	3,365.94	784	270	3,096	38.36	81
2002	245,293.78	35,371	12,191	233,103	42.79	5,448
2007	4,757.18	229	79	4,678	47.59	98
	537,097.97	149,871	51,660	485,438		14,096

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 34.4 2.62

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 309.00 SUPPLY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-S2.5						
NET SALVAGE PERCENT.. -10						
1934	224,728.69	204,609	116,119	131,083	11.20	11,704
1940	503.19	442	251	303	13.08	23
1941	433.53	378	215	262	13.42	20
1942	14.30	12	7	9	13.77	1
1944	41.85	36	20	26	14.50	2
1951	218.11	176	100	140	17.39	8
1953	1,895.90	1,498	850	1,235	18.32	67
1956	59,882.73	45,787	25,985	39,886	19.82	2,012
1959	109,730.59	80,896	45,910	74,794	21.44	3,489
1965	440,490.69	297,604	168,896	315,644	25.08	12,585
1967	2,875.37	1,877	1,065	2,098	26.42	79
1968	5,929.02	3,802	2,158	4,364	27.11	161
1970	3,226.09	1,990	1,129	2,420	28.54	85
1972	10,673.26	6,316	3,584	8,157	30.03	272
1976	127,784.70	68,792	39,041	101,522	33.19	3,059
1980	3,498.25	1,683	955	2,893	36.57	79
1981	2,370.70	1,106	628	1,980	37.44	53
1982	53,151.82	23,989	13,614	44,853	38.33	1,170
1983	358.65	156	89	306	39.23	8
1984	14,163.31	5,959	3,382	12,198	40.14	304
1987	96,069.30	35,898	20,373	85,303	42.92	1,987
1988	100,191.76	35,841	20,340	89,871	43.86	2,049
1989	1,976,228.33	675,198	383,187	1,790,664	44.81	39,961
1991	9,330.23	2,885	1,637	8,626	46.73	185
1992	1,765,551.22	516,989	293,400	1,648,706	47.70	34,564
1993	5,475.01	1,513	859	5,164	48.67	106
1994	29,331.77	7,621	4,325	27,940	49.65	563
2000	25,261.98	4,024	2,284	25,504	55.59	459
2002	14,520.00	1,824	1,035	14,937	57.58	259
2007	54,115.96	2,214	1,256	58,272	62.58	931
2008	5,868.61	141	80	6,375	63.58	100
	5,143,914.92	2,031,256	1,152,774	4,505,535		116,345

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 38.7 2.26

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 310.10 OTHER POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. 0						
1981	68,593.89	47,330	43,804	24,790	10.85	2,285
1988	190,970.08	107,879	99,842	91,128	15.23	5,983
1989	67,185.43	36,529	33,808	33,377	15.97	2,090
1996	209,151.84	78,516	72,667	136,485	21.86	6,244
2002	7,940.96	1,679	1,554	6,387	27.60	231
2003	14,111.02	2,584	2,391	11,720	28.59	410
2007	196,041.20	13,546	12,537	183,504	32.58	5,632
2008	149,645.91	6,076	5,623	144,023	33.58	4,289
2009	32,060.10	420	389	31,671	34.54	917
	935,700.43	294,559	272,615	663,085		28,081

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 23.6 3.00

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.20 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
1934	19,513.03	22,390	23,416			
1938	7,488.29	8,409	8,986			
1939	8,687.30	9,701	10,425			
1940	2,338.33	2,597	2,806			
1941	14.39	16	17			
1945	222.90	241	267			
1947	282.63	301	339			
1948	6,754.31	7,155	8,105			
1949	15,991.09	16,829	19,189			
1950	465.46	486	559			
1953	694.17	709	833			
1954	212.25	215	255			
1955	118,009.63	118,416	141,612			
1956	1,094.13	1,087	1,313			
1957	30.39	30	36			
1958	32,653.41	31,786	39,137	47	9.44	5
1959	53,397.77	51,403	63,290	787	9.89	80
1962	5,393.17	5,001	6,158	314	11.36	28
1965	11,420.61	10,142	12,487	1,218	13.00	94
1966	64,313.07	56,199	69,195	7,981	13.59	587
1967	69,144.44	59,425	73,167	9,806	14.19	691
1969	1,613.04	1,338	1,647	289	15.44	19
1970	128,359.61	104,464	128,622	25,410	16.09	1,579
1971	6,590.22	5,259	6,475	1,433	16.75	86
1973	4,998.98	3,825	4,710	1,289	18.12	71
1974	34,238.18	25,613	31,536	9,550	18.83	507
1976	153,438.04	109,444	134,753	49,373	20.28	2,435
1977	659.56	459	565	226	21.03	11
1979	1,944.95	1,281	1,577	757	22.55	34
1981	169,137.91	105,055	129,349	73,616	24.12	3,052
1982	23,778.00	14,312	17,622	10,912	24.92	438
1983	38,571.60	22,467	27,663	18,623	25.73	724
1984	24,908.51	14,019	17,261	12,629	26.55	476
1985	86,486.08	46,952	57,810	45,973	27.38	1,679
1986	80,067.10	41,853	51,532	44,549	28.22	1,579
1987	414,931.99	208,429	256,629	241,289	29.07	8,300
1988	650,875.46	313,514	386,015	395,036	29.93	13,199
1989	466,216.17	214,832	264,513	294,946	30.80	9,576

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.20 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
1990	132,717.97	58,385	71,887	87,375	31.67	2,759
1991	8,221.11	3,441	4,237	5,628	32.56	173
1992	4,096,910.59	1,627,293	2,003,610	2,912,683	33.45	87,076
1993	65,415.97	24,570	30,252	48,247	34.35	1,405
1995	32,134.00	10,658	13,123	25,438	36.18	703
1996	74,745.51	23,141	28,492	61,203	37.10	1,650
1997	825,680.53	237,202	292,056	698,761	38.03	18,374
1998	350,170.72	92,697	114,134	306,071	38.97	7,854
1999	380,271.26	92,086	113,381	342,945	39.91	8,593
2000	263,607.92	57,825	71,197	245,133	40.86	5,999
2001	133,332.70	26,208	32,269	127,730	41.81	3,055
2002	102,260.30	17,744	21,847	100,865	42.77	2,358
2003	117,282.28	17,649	21,731	119,008	43.73	2,721
2004	3,145.15	400	492	3,282	44.70	73
2005	75,949.01	7,893	9,719	81,420	45.67	1,783
2006	23,103.04	1,857	2,286	25,438	46.65	545
	9,389,884.23	3,934,703	4,830,584	6,437,280		190,371

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 33.8 2.03

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.30 DIESEL PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
1956	28,404.29	28,229	30,640	3,445	8.59	401
1961	284.69	267	290	52	10.85	5
1965	22,657.13	20,120	21,839	5,350	13.00	412
1972	1,003.12	784	851	353	17.43	20
1974	200.83	150	163	78	18.83	4
1977	2,841.30	1,975	2,144	1,266	21.03	60
1981	95,017.92	59,018	64,059	49,963	24.12	2,071
1987	102,813.48	51,645	56,056	67,320	29.07	2,316
1988	1,109.18	534	580	751	29.93	25
1989	42,237.49	19,463	21,125	29,560	30.80	960
1990	67,499.90	29,695	32,231	48,769	31.67	1,540
1991	13,075.00	5,473	5,940	9,750	32.56	299
1993	211,401.71	79,402	86,184	167,498	34.35	4,876
2006	129,930.05	10,446	11,338	144,578	46.65	3,099
	718,476.09	307,201	333,440	528,733		16,088

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 32.9 2.24

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.40 HYDRAULIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
1947	37.33	40	45			
1995	127.96	42	62	92	36.18	3
2004	6,712.72	854	1,252	6,803	44.70	152
2005	511.84	53	78	536	45.67	12
2006	1,015.16	82	120	1,098	46.65	24
	8,405.01	1,071	1,557	8,529		191

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 44.7 2.27

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.52 SOURCE OF SUPPLY PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
2007	806,707.11	46,079	30,487	937,562	47.62	19,688
2008	3,945,410.44	132,566	87,710	4,646,783	48.60	95,613
2009	3,634,039.90	39,248	25,968	4,334,880	49.55	87,485
	8,386,157.45	217,893	144,165	9,919,225		202,786
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					48.9	2.42

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 311.54 TRANS. AND DISTR. PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -20						
2006	5,609.22	451	398	6,333	46.65	136
2007	170,731.89	9,752	8,599	196,279	47.62	4,122
	176,341.11	10,203	8,997	202,612		4,258
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					47.6	2.41

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
KENTUCKY RIVER STATION						
INTERIM SURVIVOR CURVE.. IOWA 60-R3						
PROBABLE RETIREMENT YEAR.. 6-2037						
NET SALVAGE PERCENT.. -20						
1958	1,956,736.65	1,721,615	1,860,056	488,028	15.84	30,810
1959	552,488.60	480,532	519,173	143,813	16.30	8,823
1961	476.73	405	438	134	17.23	8
1962	4,219.69	3,540	3,825	1,239	17.68	70
1964	6,746.31	5,521	5,965	2,131	18.56	115
1966	1,150,696.48	917,703	991,499	389,337	19.41	20,059
1968	724.66	563	608	262	20.22	13
1970	451,865.93	341,285	368,729	173,510	20.97	8,274
1972	493.92	362	391	202	21.67	9
1976	1,013.11	699	755	461	22.91	20
1977	496,852.35	337,283	364,405	231,818	23.18	10,001
1978	747.80	499	539	358	23.44	15
1979	6,198.57	4,064	4,391	3,047	23.69	129
1981	117,907.49	74,522	80,515	60,974	24.14	2,526
1982	85,103.93	52,737	56,978	45,147	24.35	1,854
1984	1,818.96	1,080	1,167	1,016	24.74	41
1986	1,949,388.90	1,105,304	1,194,185	1,145,082	25.09	45,639
1987	224,340.46	123,971	133,940	135,269	25.26	5,355
1988	787,219.90	423,493	457,547	487,117	25.41	19,170
1989	35,434.08	18,535	20,025	22,496	25.55	880
1990	7,568.73	3,839	4,148	4,934	25.69	192
1991	509.01	250	270	341	25.82	13
1992	40,905.39	19,399	20,959	28,127	25.94	1,084
1993	19,390.91	8,852	9,564	13,705	26.06	526
1994	6,517.26	2,855	3,085	4,736	26.17	181
1996	204,724.75	81,710	88,280	157,390	26.37	5,969
1997	108,441.59	41,017	44,316	85,814	26.46	3,243
1999	9,193.35	3,069	3,316	7,716	26.62	290
2002	56,860.87	14,622	15,798	52,435	26.84	1,954
2003	3,474.74	796	860	3,310	26.90	123
2007	15,505.81	1,513	1,635	16,972	27.11	626
2008	265,157.05	15,719	16,982	301,206	27.15	11,094
	8,568,723.98	5,807,354	6,274,344	4,008,127		179,106

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
RICHMOND ROAD STATION TREATMENT PLANT						
INTERIM SURVIVOR CURVE.. IOWA 60-R3						
PROBABLE RETIREMENT YEAR.. 6-2038						
NET SALVAGE PERCENT.. -20						
1900	11,752.52	14,103	14,103			
1929	2,220.78	2,434	2,631	34	5.21	7
1934	1,506.01	1,610	1,740	67	6.54	10
1936	342.12	362	391	20	7.11	3
1938	138.71	145	157	9	7.71	1
1939	174.71	182	197	13	8.03	2
1941	165.26	170	184	14	8.69	2
1948	12,442.37	12,097	13,075	1,856	11.38	163
1950	27,758.17	26,505	28,647	4,663	12.24	381
1953	22,789.91	21,132	22,840	4,508	13.60	331
1955	1,870.44	1,698	1,835	410	14.54	28
1960	11,820.88	10,127	10,945	3,240	16.95	191
1964	3,494.94	2,846	3,076	1,118	18.83	59
1966	1,473.00	1,168	1,262	506	19.72	26
1968	4,540.05	3,501	3,784	1,664	20.58	81
1971	6,312.96	4,663	5,040	2,536	21.76	117
1972	11,330.58	8,244	8,910	4,687	22.13	212
1973	58,793.29	42,127	45,532	25,020	22.48	1,113
1974	39,714.75	28,018	30,283	17,375	22.82	761
1978	44,906.27	29,617	32,011	21,877	24.04	910
1988	3,511,877.18	1,857,643	2,007,784	2,206,469	26.18	84,281
1989	13,217.44	6,790	7,339	8,522	26.34	324
1991	1,190.30	574	620	808	26.63	30
1992	82,213.87	38,220	41,309	57,348	26.77	2,142
1994	8,864.67	3,806	4,114	6,524	27.01	242
1995	111,529.71	45,745	49,442	84,394	27.13	3,111
1997	666,063.49	246,417	266,333	532,943	27.33	19,500
1999	2,588.14	842	910	2,196	27.52	80
2002	981,756.84	246,225	266,126	911,982	27.75	32,864
2003	3,517.11	783	846	3,375	27.82	121
2007	624,519.59	59,055	63,828	685,596	28.05	24,442
2008	1,068,184.71	61,271	66,223	1,215,599	28.10	43,260
2009	153,749.22	2,970	3,210	181,289	28.14	6,442
	7,492,819.99	2,781,090	3,004,727	5,986,662		221,237

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.10 PURIFICATION SYSTEM - STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER STRUCTURES						
SURVIVOR CURVE.. IOWA 60-R3						
NET SALVAGE PERCENT.. -20						
1977	223.94	133	144	125	30.29	4
1996	2,262,216.60	586,909	634,105	2,080,555	47.03	44,239
2005	13,258.66	1,149	1,241	14,669	55.67	263
2006	10,736.70	722	780	12,104	56.64	214
	2,286,435.90	588,913	636,270	2,107,453		44,720
	18,347,979.87	9,177,357	9,915,341	12,102,242		445,063

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 27.2 2.43

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.11 PURIFICATION SYSTEM - EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
NET SALVAGE PERCENT.. -20						
1958	10,986.98	10,782	11,649	1,535	8.20	187
1960	434.81	418	452	70	8.91	8
1964	519.35	477	515	108	10.56	10
1966	113,572.09	101,452	109,610	26,677	11.50	2,320
1970	260,000.36	217,652	235,154	76,846	13.61	5,646
1971	77.18	63	68	25	14.18	2
1972	243.07	196	212	80	14.77	5
1973	8,082.02	6,384	6,897	2,801	15.38	182
1974	3,321.59	2,569	2,776	1,210	16.00	76
1976	18,933.34	13,991	15,116	7,604	17.29	440
1977	5,352.35	3,861	4,171	2,252	17.95	125
1978	2,245.29	1,579	1,706	988	18.63	53
1979	6,182.39	4,232	4,572	2,847	19.33	147
1980	509.39	339	366	245	20.03	12
1981	1,064,216.19	688,207	743,549	533,510	20.75	25,711
1982	3,186.41	1,999	2,160	1,664	21.48	77
1983	12,714.26	7,723	8,344	6,913	22.22	311
1984	19,035.54	11,184	12,083	10,760	22.97	468
1985	23,964.25	13,593	14,686	14,071	23.73	593
1986	555,769.32	303,850	328,284	338,639	24.50	13,822
1987	153,655.89	80,762	87,256	97,131	25.29	3,841
1988	1,588,733.35	801,484	865,935	1,040,545	26.08	39,898
1989	144,233.28	69,699	75,304	97,776	26.88	3,638
1990	310,867.57	143,397	154,928	218,113	27.70	7,874
1991	706,523.33	310,475	335,441	512,387	28.52	17,966
1992	616,694.91	257,384	278,081	461,953	29.35	15,739
1993	647,216.26	255,599	276,153	500,507	30.19	16,579
1994	41,871.54	15,586	16,839	33,407	31.04	1,076
1995	16,438.25	5,742	6,204	13,522	31.90	424
1996	607,357.81	198,242	214,183	514,646	32.76	15,710
1997	50,713.82	15,360	16,595	44,262	33.64	1,316
1998	94,747.90	26,480	28,609	85,088	34.52	2,465
1999	1,008,407.50	258,112	278,868	931,221	35.40	26,306
2000	507,556.75	117,733	127,201	481,867	36.30	13,275
2001	104,199.55	21,669	23,412	101,627	37.20	2,732
2002	675,094.53	124,028	134,001	676,112	38.11	17,741
2003	101,277.61	16,152	17,451	104,082	39.02	2,667
2004	26,691.92	3,600	3,889	28,141	39.94	705

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.11 PURIFICATION SYSTEM - EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
NET SALVAGE PERCENT.. -20						
2005	90,667.97	10,010	10,815	97,987	40.86	2,398
2006	70,008.21	5,990	6,472	77,538	41.79	1,855
2007	1,945,822.70	118,384	127,904	2,207,083	42.72	51,664
2008	300,277.30	10,738	11,601	348,732	43.66	7,987
2009	135,540.13	1,561	1,687	160,961	44.57	3,611
	12,053,944.26	4,258,738	4,601,199	9,863,533		307,662

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 32.1 2.55

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 320.20 PURIFICATION SYSTEM - FILTER MEDIA

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 5-L2.5						
NET SALVAGE PERCENT.. 0						
2007	27,968.19	12,362	1,082	26,886	2.79	9,637
2009	140,600.74	12,935	1,132	139,469	4.54	30,720
	168,568.93	25,297	2,214	166,355		40,357
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					4.1	23.94

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.00 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S2.5						
NET SALVAGE PERCENT.. 0						
2004	1,656,899.71	149,618	192,568	1,464,332	54.58	26,829
2008	11,716.56	278	358	11,359	58.58	194
	1,668,616.27	149,896	192,926	1,475,691		27,023
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					54.6	1.62

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.10 ELEVATED TANKS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S2.5						
NET SALVAGE PERCENT.. -25						
1949	29,865.15	29,014	31,246	6,085	13.37	455
1950	29,826.67	28,738	30,949	6,334	13.75	461
1952	467.23	442	476	108	14.55	7
1953	62.09	58	62	16	14.96	1
1954	86,170.71	80,085	86,247	21,466	15.39	1,395
1955	136.78	126	136	35	15.83	2
1956	187,466.86	170,759	183,897	50,437	16.28	3,098
1961	58.06	50	54	19	18.76	1
1965	367,671.17	298,595	321,569	138,020	21.02	6,566
1966	1,469.03	1,174	1,264	572	21.63	26
1968	174,702.28	135,110	145,505	72,873	22.88	3,185
1970	695.98	519	559	311	24.21	13
1972	1,161.38	832	896	556	25.60	22
1973	1,249.84	877	944	618	26.32	23
1974	23,368.00	16,036	17,270	11,940	27.06	441
1975	116,046.57	77,824	83,812	61,246	27.81	2,202
1976	10,828.67	7,086	7,631	5,905	28.59	207
1977	5,027.00	3,208	3,455	2,829	29.37	96
1980	18,486.15	10,854	11,689	11,419	31.82	359
1985	18,779.50	9,319	10,036	13,438	36.18	371
1987	771,137.18	353,277	380,458	583,463	38.01	15,350
1988	11,180.11	4,905	5,282	8,693	38.94	223
1989	1,071,150.38	449,214	483,777	855,161	39.87	21,449
1990	668,310.29	267,073	287,622	547,766	40.82	13,419
1991	21,644.73	8,220	8,852	18,204	41.77	436
1992	5,748.09	2,068	2,227	4,958	42.73	116
1994	26,620.29	8,502	9,156	24,119	44.67	540
1995	27,518.25	8,228	8,861	25,537	45.65	559
1996	1,021,559.19	284,504	306,394	970,555	46.63	20,814
1998	119,414.51	28,331	30,511	118,757	48.61	2,443
1999	804,672.52	174,312	187,724	818,117	49.60	16,494
2000	35,166.41	6,893	7,423	36,535	50.59	722
2001	908,985.58	159,300	171,557	964,675	51.59	18,699
2002	68,101.56	10,530	11,340	73,787	52.58	1,403
2005	3,333,636.69	307,111	330,740	3,836,306	55.58	69,023
2006	169,043.00	12,044	12,971	198,333	56.58	3,505
2008	23,377.89	693	746	28,476	58.58	486
2009	109,626.23	1,055	1,136	135,897	59.54	2,282
	10,270,432.02	2,956,966	3,184,474	9,653,566		206,894
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					46.7	2.01

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.20 GROUND LEVEL FACILITIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S2.5						
NET SALVAGE PERCENT.. 0						
2007	112,146.89	4,520	23,342	88,805	57.58	1,542
	112,146.89	4,520	23,342	88,805		1,542

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 57.6 1.37

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 330.40 CLEARWELLS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S2.5						
NET SALVAGE PERCENT.. 0						
2007	581.91	23	278	304	57.58	5
	581.91	23	278	304		5
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					60.8	0.86

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
NET SALVAGE PERCENT.. -15						
1906	30.00	32	23	12	5.77	2
1933	51,103.04	47,420	33,969	24,799	14.48	1,713
1934	438,252.01	403,595	289,115	214,875	14.94	14,383
1935	48,765.65	44,556	31,918	24,162	15.41	1,568
1936	37,687.79	34,157	24,468	18,873	15.89	1,188
1937	122,404.82	110,008	78,804	61,962	16.39	3,780
1938	16,870.43	15,032	10,768	8,633	16.89	511
1939	20,212.62	17,845	12,783	10,462	17.42	601
1940	16,104.95	14,089	10,093	8,428	17.95	470
1941	14,399.34	12,474	8,936	7,623	18.50	412
1942	1,841.93	1,580	1,132	986	19.06	52
1943	2,346.40	1,992	1,427	1,271	19.63	65
1944	734.38	617	442	403	20.21	20
1945	9,664.23	8,032	5,754	5,360	20.80	258
1946	14,467.49	11,888	8,516	8,122	21.41	379
1947	49,900.68	40,532	29,035	28,351	22.03	1,287
1948	121,336.66	97,397	69,770	69,767	22.65	3,080
1949	88,385.11	70,083	50,204	51,439	23.29	2,209
1950	128,586.40	100,673	72,117	75,757	23.94	3,164
1951	35,826.20	27,686	19,833	21,367	24.60	869
1952	152,032.15	115,934	83,049	91,788	25.27	3,632
1953	331,463.41	249,294	178,581	202,602	25.95	7,807
1954	150,572.77	111,653	79,982	93,177	26.64	3,498
1955	580,064.92	423,993	303,727	363,348	27.33	13,295
1956	1,047,809.37	754,438	540,441	664,540	28.04	23,700
1957	445,412.59	315,889	226,287	285,937	28.75	9,946
1958	650,710.99	454,154	325,333	422,985	29.48	14,348
1959	471,980.65	324,147	232,202	310,576	30.21	10,281
1960	434,706.63	293,599	210,319	289,594	30.95	9,357
1961	242,900.55	161,260	115,518	163,818	31.70	5,168
1962	324,960.83	212,003	151,868	221,837	32.45	6,836
1963	334,043.58	214,010	153,306	230,844	33.22	6,949
1964	441,083.50	277,362	198,688	308,558	33.99	9,078
1965	490,215.44	302,451	216,660	347,088	34.76	9,985
1966	4,351,164.88	2,632,020	1,885,444	3,118,396	35.55	87,719
1967	732,378.20	434,172	311,019	531,216	36.34	14,618
1968	589,332.21	342,119	245,077	432,655	37.14	11,649
1969	784,024.30	445,404	319,065	582,563	37.95	15,351

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
NET SALVAGE PERCENT.. -15						
1970	440,981.01	245,044	175,537	331,591	38.76	8,555
1971	586,026.57	318,297	228,012	445,919	39.58	11,266
1972	1,648,693.30	874,434	626,400	1,269,597	40.41	31,418
1973	864,139.64	447,292	320,417	673,344	41.24	16,327
1974	3,116,282.13	1,572,897	1,126,743	2,456,981	42.08	58,388
1975	666,102.47	327,549	234,639	531,379	42.93	12,378
1976	789,608.16	378,021	270,795	637,254	43.78	14,556
1977	1,330,843.26	619,534	443,802	1,086,668	44.64	24,343
1978	1,196,922.44	541,224	387,705	988,756	45.51	21,726
1979	1,471,555.92	645,778	462,602	1,229,687	46.38	26,513
1980	1,011,216.92	430,273	308,226	854,673	47.25	18,088
1981	502,695.78	207,018	148,297	429,803	48.14	8,928
1982	417,624.76	166,317	119,141	361,127	49.03	7,365
1983	555,440.67	213,600	153,012	485,745	49.92	9,730
1984	1,824,308.10	676,380	484,524	1,613,430	50.82	31,748
1985	5,130,040.00	1,831,219	1,311,791	4,587,755	51.72	88,704
1986	1,768,139.83	606,552	434,503	1,598,858	52.63	30,379
1987	8,230,951.34	2,708,106	1,939,948	7,525,646	53.54	140,561
1988	5,357,880.62	1,687,652	1,208,947	4,952,616	54.46	90,940
1989	3,496,669.68	1,051,536	753,267	3,267,903	55.39	58,998
1990	3,120,218.96	894,192	640,553	2,947,699	56.31	52,348
1991	1,934,511.66	526,584	377,218	1,847,470	57.25	32,270
1992	3,783,076.51	975,826	699,032	3,651,506	58.18	62,762
1993	3,248,833.69	790,945	566,592	3,169,567	59.12	53,612
1994	6,763,158.60	1,548,527	1,109,285	6,668,347	60.07	111,010
1995	3,757,213.33	805,828	577,254	3,743,541	61.01	61,359
1996	5,495,538.89	1,097,761	786,380	5,533,490	61.97	89,293
1997	6,258,954.19	1,159,565	830,654	6,367,143	62.92	101,194
1998	5,538,762.26	944,608	676,670	5,692,907	63.88	89,119
1999	6,903,561.35	1,075,747	770,611	7,168,485	64.84	110,557
2000	6,531,985.94	921,696	660,257	6,851,527	65.80	104,127
2001	6,933,362.85	874,678	626,575	7,346,792	66.77	110,031
2002	3,170,416.50	352,931	252,822	3,393,157	67.74	50,091
2003	2,774,701.87	267,717	191,779	2,999,128	68.71	43,649
2004	1,496,235.41	121,823	87,268	1,633,403	69.69	23,438
2005	1,213,985.25	80,833	57,905	1,338,178	70.66	18,938
2006	4,627,965.07	238,433	170,801	5,151,359	71.64	71,906
2007	32,855,714.22	1,197,755	858,011	36,926,060	72.62	508,483

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 331.00 MAINS AND ACCESSORIES - ALL MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
NET SALVAGE PERCENT.. -15						
2008	9,346,488.23	200,996	143,983	10,604,478	73.60	144,083
2009	3,358,586.47	23,174	16,601	3,845,773	74.55	51,586
9999	34,344,734.27-	7,682,917-	5,503,655-	33,992,789-		573,557-
	138,948,436.68	31,089,015	22,270,577	137,520,127		2,326,438

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 59.1 1.67

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT..-100						
1934	73,117.38	124,665	146,235			
1935	10,070.92	17,076	20,142			
1936	5,746.16	9,690	11,492			
1937	550.20	922	1,100			
1938	2,510.28	4,183	5,021			
1939	1,707.41	2,827	3,415			
1940	757.76	1,247	1,516			
1941	5,117.27	8,362	10,235			
1942	1,261.22	2,046	2,522			
1943	47.58	77	95			
1944	54.92	88	110			
1945	1,106.07	1,753	2,212			
1946	2,794.50	4,392	5,589			
1947	7,386.75	11,506	14,774			
1948	24,316.12	37,529	48,632			
1949	19,014.78	29,062	38,030			
1950	23,712.05	35,876	47,135	289	14.61	20
1951	20,888.89	31,279	41,095	683	15.08	45
1952	16,631.80	24,632	32,362	902	15.57	58
1953	21,833.28	31,973	42,007	1,660	16.07	103
1954	24,208.10	35,029	46,022	2,394	16.59	144
1955	39,038.03	55,801	73,313	4,763	17.12	278
1956	7,267.41	10,254	13,472	1,063	17.67	60
1957	11,643.77	16,213	21,301	1,987	18.23	109
1958	64,768.16	88,953	116,869	12,667	18.80	674
1959	58,094.78	78,660	103,345	12,845	19.38	663
1960	63,917.75	85,266	112,025	15,811	19.98	791
1961	55,626.50	73,071	96,002	15,251	20.59	741
1962	102,636.00	132,708	174,355	30,917	21.21	1,458
1963	106,020.62	134,816	177,124	34,917	21.85	1,598
1964	90,715.15	113,430	149,027	32,403	22.49	1,441
1965	126,207.85	155,059	203,720	48,696	23.14	2,104
1966	131,325.89	158,432	208,152	54,500	23.81	2,289
1967	148,558.06	175,893	231,092	66,024	24.48	2,697
1968	123,213.67	143,051	187,944	58,483	25.17	2,324
1969	129,018.59	146,772	192,833	65,204	25.87	2,520
1970	113,877.47	126,905	166,731	61,024	26.57	2,297
1971	117,635.96	128,294	168,556	66,716	27.28	2,446

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

SURVIVOR CURVE.. IOWA 60-R2.5
NET SALVAGE PERCENT..-100

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1972	216,893.26	231,295	303,881	129,906	28.01	4,638
1973	95,843.15	99,869	131,210	60,476	28.74	2,104
1974	255,900.65	260,353	342,058	169,743	29.48	5,758
1975	137,023.50	135,982	178,656	95,391	30.23	3,156
1976	211,623.57	204,725	268,973	154,274	30.98	4,980
1977	301,255.81	283,662	372,682	229,830	31.75	7,239
1978	347,453.29	318,267	418,147	276,760	32.52	8,510
1979	334,451.43	297,662	391,075	277,828	33.30	8,343
1980	296,023.56	255,646	335,874	256,173	34.09	7,515
1981	174,082.29	145,707	191,433	156,732	34.89	4,492
1982	272,261.84	220,641	289,883	254,641	35.69	7,135
1983	261,441.23	204,813	269,088	253,794	36.50	6,953
1984	374,274.94	282,952	371,749	376,801	37.32	10,096
1985	464,635.68	338,534	444,774	484,497	38.14	12,703
1986	558,052.12	391,195	513,961	602,143	38.97	15,451
1987	720,904.31	485,169	637,427	804,382	39.81	20,206
1988	742,927.19	478,891	629,179	856,675	40.66	21,069
1989	796,887.93	491,202	645,353	948,423	41.51	22,848
1990	768,713.30	452,003	593,851	943,576	42.36	22,275
1991	756,785.63	423,043	555,803	957,768	43.23	22,155
1992	929,879.08	492,836	647,498	1,212,260	44.10	27,489
1993	772,840.35	387,193	508,702	1,036,979	44.97	23,059
1994	860,174.12	405,658	532,962	1,187,386	45.85	25,897
1995	1,018,614.69	450,228	591,519	1,445,710	46.74	30,931
1996	1,133,959.65	467,645	614,402	1,653,517	47.63	34,716
1997	1,118,610.02	427,980	562,289	1,674,931	48.52	34,520
1998	1,445,789.90	509,786	669,768	2,221,812	49.42	44,958
1999	1,665,976.47	537,111	705,668	2,626,285	50.33	52,181
2000	1,945,889.64	568,200	746,513	3,145,266	51.24	61,383
2001	10,242,312.37	2,679,389	3,520,238	16,964,387	52.15	325,300
2002	735,830.12	169,977	223,319	1,248,341	53.07	23,523
2003	704,374.60	141,157	185,455	1,223,294	53.99	22,658
2004	604,391.29	102,384	134,514	1,074,269	54.92	19,561
2005	802,649.81	111,087	145,948	1,459,352	55.85	26,130
2006	1,214,020.44	130,386	171,304	2,256,737	56.78	39,745
2007	1,164,702.15	88,517	116,295	2,213,109	57.72	38,342
2008	2,533,487.90	112,994	148,454	4,918,522	58.66	83,848
2009	3,915,867.89	56,388	74,084	7,757,652	59.57	130,227

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 333.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT..-100						
9999	23,035,342.81-	8,684,324-	11,409,647-	34,661,039-		695,667-
	19,613,861.46	7,393,995	9,689,944	29,537,782		591,287
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					50.0	3.01

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.10 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1986	1,458.98	645	1,442	163	23.93	7
1988	2,096.80	854	1,909	397	25.19	16
2002	56,623.00	8,359	18,688	43,597	34.63	1,259
2003	30,783.47	3,945	8,820	25,042	35.34	709
2006	14,424.07	995	2,225	13,641	37.49	364
2008	189,372.24	5,458	12,203	196,106	38.95	5,035
2009	1,383,090.70	12,932	28,912	1,492,488	39.66	37,632
	1,677,849.26	33,188	74,199	1,771,434		45,022

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 39.3 2.68

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.11 METERS - BRONZE CASE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1963	131.76	102	129	16	11.74	1
1971	7,069.74	4,769	6,019	1,758	15.47	114
2006	37,862.01	2,611	3,295	38,353	37.49	1,023
2007	483,417.38	23,663	29,863	501,896	38.22	13,132
2008	2,849,373.88	82,119	103,637	3,030,674	38.95	77,809
2009	269,121.17	2,516	3,175	292,858	39.66	7,384
	3,646,975.94	115,780	146,118	3,865,555		99,463

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 38.9 2.73

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.12 METERS - PLASTIC CASE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1972	47.23	31	31	21	15.97	1
1974	1,108.53	701	696	523	17.01	31
1976	403.13	243	241	202	18.07	11
1977	1,218.00	716	711	629	18.62	34
1978	1,466.17	839	833	780	19.18	41
1979	6,279.61	3,499	3,475	3,433	19.74	174
1980	404.24	219	217	228	20.32	11
1981	5,217.28	2,740	2,721	3,018	20.90	144
1983	42,035.84	20,701	20,558	25,681	22.09	1,163
1984	54,132.47	25,765	25,586	33,960	22.69	1,497
1985	43,718.71	20,063	19,924	28,167	23.31	1,208
1986	1,094.32	484	481	723	23.93	30
1987	8,737.25	3,710	3,684	5,927	24.56	241
1988	43,792.11	17,833	17,709	30,462	25.19	1,209
1989	38,593.21	15,028	14,924	27,529	25.84	1,065
1990	38,506.65	14,317	14,218	28,139	26.48	1,063
1991	51,857.52	18,339	18,212	38,831	27.14	1,431
1992	48,383.82	16,233	16,120	37,102	27.80	1,335
1993	57,457.41	18,234	18,108	45,095	28.46	1,585
1994	67,639.04	20,215	20,075	54,328	29.13	1,865
1995	100,113.50	28,049	27,855	82,270	29.81	2,760
1997	9,316.26	2,262	2,246	8,002	31.17	257
2001	282,416.70	47,127	46,800	263,858	33.93	7,777
2007	6,542.94	320	318	6,879	38.22	180
	910,481.94	277,668	275,743	725,787		25,113
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					28.9	2.76

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.13 METERS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1934	1,096.08	1,156	727	479	1.66	289
1935	317.50	332	209	140	2.00	70
1936	184.20	191	120	83	2.32	36
1937	954.77	981	617	433	2.63	165
1939	69.91	71	45	32	3.22	10
1940	126.80	127	80	59	3.52	17
1941	411.17	409	257	195	3.82	51
1944	126.81	123	77	62	4.73	13
1946	166.54	159	100	83	5.36	15
1949	21.51	20	13	11	6.35	2
1950	63.27	58	36	34	6.70	5
1951	768.50	696	438	407	7.05	58
1952	56.86	51	32	31	7.40	4
1953	888.22	787	495	482	7.76	62
1954	628.72	551	346	346	8.13	43
1956	1,671.24	1,430	899	939	8.88	106
1957	566.29	479	301	322	9.27	35
1958	94.99	79	50	54	9.66	6
1959	828.81	682	429	483	10.06	48
1960	1,132.35	919	578	668	10.47	64
1961	782.01	626	394	466	10.89	43
1962	333.51	263	165	202	11.31	18
1963	1,615.14	1,255	789	988	11.74	84
1964	1,232.54	943	593	763	12.18	63
1965	3,869.15	2,913	1,831	2,425	12.62	192
1966	4,154.23	3,075	1,933	2,637	13.08	202
1967	3,381.70	2,461	1,547	2,173	13.54	160
1969	1,452.26	1,019	641	956	14.49	66
1971	1,120.46	756	475	758	15.47	49
1974	4,132.36	2,612	1,642	2,904	17.01	171
1977	594.85	350	220	434	18.62	23
1978	2,329.73	1,334	839	1,724	19.18	90
1980	1,774.76	961	604	1,348	20.32	66
1981	2,808.79	1,475	927	2,163	20.90	103
1982	7,628.38	3,883	2,441	5,950	21.49	277
1983	376.27	185	116	298	22.09	13
1984	5,938.07	2,826	1,777	4,755	22.69	210
1985	10,870.72	4,989	3,136	8,822	23.31	378

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.13 METERS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1986	8,085.38	3,573	2,246	6,648	23.93	278
1987	157.20	67	42	131	24.56	5
1988	2,180.02	888	558	1,840	25.19	73
1989	6,433.87	2,505	1,575	5,502	25.84	213
1990	3,578.24	1,330	836	3,100	26.48	117
1992	11,596.71	3,891	2,446	10,310	27.80	371
1993	9,288.99	2,948	1,853	8,365	28.46	294
1994	10,008.78	2,991	1,880	9,130	29.13	313
1995	9,026.06	2,529	1,590	8,339	29.81	280
1996	186,288.21	48,770	30,660	174,257	30.48	5,717
1997	194,714.60	47,271	29,718	184,468	31.17	5,918
1998	227,926.45	51,071	32,107	218,612	31.85	6,864
1999	207,430.64	42,554	26,753	201,421	32.54	6,190
2000	367,107.35	68,245	42,904	360,914	33.24	10,858
2001	963,762.06	160,823	101,105	959,033	33.93	28,265
2002	832,583.35	122,906	77,268	838,574	34.63	24,215
2003	1,016,025.83	130,204	81,856	1,035,772	35.34	29,309
2004	1,180,860.80	128,206	80,600	1,218,347	36.05	33,796
2005	451,622.80	40,091	25,204	471,581	36.77	12,825
2006	1,754,095.83	120,980	76,056	1,853,449	37.49	49,438
2007	62,355.61	3,052	1,919	66,672	38.22	1,744
2008	26,645.66	768	483	28,827	38.95	740
2009	193,889.84	1,813	1,140	212,139	39.66	5,349
9999	619,053.92-	81,777-	51,411-	629,548-		18,014-
	7,171,179.83	946,926	595,307	7,292,992		208,465

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 35.0 2.91

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.20 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1934	30,566.78	32,228	31,150	2,473	1.66	1,490
1935	2,738.58	2,862	2,766	246	2.00	123
1936	775.64	804	777	76	2.32	33
1938	2,825.46	2,881	2,785	323	2.92	111
1939	2,017.17	2,040	1,972	247	3.22	77
1940	1,614.22	1,619	1,565	211	3.52	60
1941	3,434.95	3,418	3,304	474	3.82	124
1942	1,064.55	1,050	1,015	156	4.12	38
1943	39.59	39	38	6	4.42	1
1945	280.47	270	261	48	5.04	10
1946	448.62	427	413	80	5.36	15
1947	6,623.74	6,249	6,040	1,246	5.69	219
1948	21,009.66	19,632	18,975	4,136	6.02	687
1949	20,132.24	18,629	18,006	4,139	6.35	652
1950	2,277.52	2,086	2,016	489	6.70	73
1951	8,985.34	8,141	7,869	2,015	7.05	286
1952	17,950.65	16,093	15,555	4,191	7.40	566
1953	19,638.24	17,411	16,828	4,774	7.76	615
1954	20,592.16	18,046	17,442	5,209	8.13	641
1955	24,329.02	21,075	20,370	6,392	8.50	752
1956	22,829.18	19,537	18,883	6,229	8.88	701
1957	33,189.72	28,046	27,108	9,401	9.27	1,014
1958	23,694.07	19,769	19,108	6,955	9.66	720
1959	16,240.22	13,371	12,924	4,940	10.06	491
1960	36,024.13	29,252	28,273	11,354	10.47	1,084
1961	33,938.17	27,166	26,257	11,075	10.89	1,017
1962	31,149.88	24,575	23,753	10,512	11.31	929
1963	51,370.76	39,923	38,587	17,921	11.74	1,526
1964	68,245.24	52,211	50,464	24,606	12.18	2,020
1965	73,731.57	55,516	53,658	27,447	12.62	2,175
1966	71,241.50	52,740	50,975	27,391	13.08	2,094
1967	65,501.82	47,662	46,067	25,985	13.54	1,919
1968	57,662.65	41,210	39,831	23,598	14.01	1,684
1969	45,769.46	32,106	31,032	19,314	14.49	1,333
1970	50,185.37	34,541	33,385	21,819	14.97	1,458
1971	56,695.26	38,242	36,962	25,403	15.47	1,642
1972	96,187.68	63,558	61,431	44,375	15.97	2,779
1973	74,319.24	48,070	46,462	35,289	16.48	2,141

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.20 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
1974	149,361.38	94,422	91,263	73,035	17.01	4,294
1975	88,402.52	54,602	52,775	44,468	17.54	2,535
1976	106,264.23	64,079	61,935	54,956	18.07	3,041
1977	152,810.13	89,845	86,839	81,252	18.62	4,364
1978	201,335.06	115,274	111,417	110,052	19.18	5,738
1979	208,758.91	116,310	112,418	117,217	19.74	5,938
1980	213,139.42	115,351	111,491	122,962	20.32	6,051
1981	169,998.49	89,292	86,304	100,694	20.90	4,818
1982	200,777.09	102,190	98,771	122,084	21.49	5,681
1983	183,597.83	90,416	87,391	114,567	22.09	5,186
1984	272,996.53	129,938	125,590	174,706	22.69	7,700
1985	386,914.19	177,563	171,621	253,985	23.31	10,896
1986	366,628.21	162,002	156,581	246,710	23.93	10,310
1987	454,790.35	193,104	186,642	313,627	24.56	12,770
1988	386,524.89	157,401	152,134	273,043	25.19	10,839
1989	512,183.54	199,444	192,770	370,632	25.84	14,343
1990	353,665.90	131,493	127,093	261,939	26.48	9,892
1991	408,485.45	144,461	139,627	309,707	27.14	11,411
1992	519,151.59	174,175	168,347	402,720	27.80	14,486
1993	490,162.24	155,553	150,348	388,830	28.46	13,662
1994	429,065.08	128,235	123,944	348,028	29.13	11,947
1995	383,277.95	107,383	103,790	317,816	29.81	10,661
1996	491,246.97	128,608	124,305	416,067	30.48	13,650
1997	698,596.55	169,598	163,923	604,533	31.17	19,395
1998	527,028.10	118,091	114,139	465,592	31.85	14,618
1999	756,093.39	155,113	149,923	681,780	32.54	20,952
2000	541,983.78	100,755	97,384	498,798	33.24	15,006
2001	243,153.56	40,575	39,217	228,252	33.93	6,727
2002	541,068.58	79,873	77,200	517,975	34.63	14,957
2003	781,916.62	100,203	96,850	763,258	35.34	21,598
2004	691,031.06	75,025	72,515	687,619	36.05	19,074
2005	818,293.89	72,640	70,209	829,914	36.77	22,570
2006	1,228,246.81	84,712	81,878	1,269,193	37.49	33,854
2007	171,803.62	8,410	8,128	180,856	38.22	4,732
2008	130,814.41	3,770	3,644	140,252	38.95	3,601
2009	1,205,452.81	11,271	10,894	1,315,104	39.66	33,159
	16,560,341.65	4,783,672	4,623,607	13,592,768		463,756

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 29.3 2.80

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 334.30 METER VAULTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
2008	38,974.21	1,123	2,660	40,212	38.95	1,032
2009	103,307.07	966	2,289	111,349	39.66	2,808
	142,281.28	2,089	4,949	151,561		3,840

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 39.5 2.70

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R3						
NET SALVAGE PERCENT.. -25						
1934	7,001.92	6,737	8,420	332	18.42	18
1935	189.90	181	226	11	18.95	1
1936	26.06	25	31	2	19.49	
1937	151.72	142	177	13	20.04	1
1938	117.38	109	136	11	20.61	1
1939	683.31	628	785	69	21.18	3
1940	354.86	323	404	40	21.77	2
1941	675.03	608	760	84	22.37	4
1942	147.02	131	164	20	22.98	1
1945	15.82	14	17	3	24.86	
1946	946.38	806	1,007	176	25.51	7
1947	478.45	402	502	96	26.17	4
1948	1,935.58	1,608	2,010	409	26.84	15
1949	1,872.49	1,536	1,920	421	27.51	15
1950	2,032.11	1,645	2,056	484	28.20	17
1951	1,697.22	1,355	1,693	429	28.89	15
1952	4,301.90	3,388	4,234	1,143	29.60	39
1953	9,633.30	7,479	9,347	2,695	30.31	89
1954	4,963.31	3,798	4,747	1,457	31.03	47
1955	19,730.37	14,874	18,589	6,074	31.75	191
1956	15,939.21	11,833	14,789	5,135	32.49	158
1957	20,413.63	14,917	18,643	6,874	33.23	207
1958	17,327.50	12,458	15,570	6,089	33.98	179
1959	37,425.48	26,464	33,074	13,708	34.74	395
1960	23,861.09	16,589	20,732	9,094	35.50	256
1961	28,795.28	19,674	24,588	11,406	36.27	314
1962	44,672.89	29,981	37,469	18,372	37.05	496
1963	27,876.45	18,364	22,951	11,895	37.84	314
1964	43,343.08	28,016	35,014	19,165	38.63	496
1965	57,506.94	36,452	45,557	26,327	39.43	668
1966	106,648.92	66,269	82,821	50,490	40.23	1,255
1967	62,318.25	37,936	47,411	30,487	41.04	743
1968	67,519.39	40,233	50,282	34,117	41.86	815
1969	59,019.25	34,408	43,002	30,772	42.69	721
1970	68,095.43	38,814	48,509	36,610	43.52	841
1971	56,582.29	31,516	39,388	31,340	44.35	707
1972	77,836.25	42,323	52,894	44,401	45.20	982
1973	139,353.54	73,944	92,413	81,779	46.04	1,776

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 335.00 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 80-R3						
NET SALVAGE PERCENT.. -25						
1974	366,503.61	189,528	236,866	221,264	46.90	4,718
1975	100,785.47	50,771	63,452	62,530	47.76	1,309
1976	71,870.25	35,234	44,034	45,804	48.62	942
1977	126,550.47	60,333	75,402	82,786	49.49	1,673
1978	138,945.41	64,332	80,400	93,282	50.37	1,852
1979	149,322.58	67,083	83,838	102,815	51.25	2,006
1980	129,018.54	56,155	70,181	91,092	52.14	1,747
1981	72,840.50	30,693	38,359	52,692	53.03	994
1982	77,534.51	31,586	39,475	57,443	53.93	1,065
1983	60,248.76	23,693	29,611	45,700	54.83	833
1984	160,419.29	60,799	75,985	124,539	55.74	2,234
1985	164,279.59	59,942	74,914	130,435	56.65	2,302
1986	111,297.79	39,010	48,753	90,369	57.57	1,570
1987	221,996.95	74,619	93,257	184,239	58.49	3,150
1988	230,979.31	74,318	92,880	195,844	59.41	3,296
1989	222,956.15	68,475	85,578	193,117	60.34	3,200
1990	342,995.68	100,326	125,384	303,361	61.28	4,950
1991	202,622.54	56,329	70,398	182,880	62.21	2,940
1992	330,976.58	87,130	108,893	304,828	63.15	4,827
1993	228,011.77	56,632	70,777	214,238	64.10	3,342
1994	275,820.75	64,439	80,534	264,242	65.05	4,062
1995	216,035.95	47,258	59,062	210,983	66.00	3,197
1996	319,371.52	65,112	81,375	317,839	66.95	4,747
1997	263,368.18	49,744	62,168	267,042	67.91	3,932
1998	270,789.51	47,084	58,844	279,643	68.87	4,060
1999	366,272.06	58,191	72,723	385,117	69.83	5,515
2000	255,768.76	36,767	45,949	273,762	70.80	3,867
2001	392,469.84	50,481	63,088	427,499	71.77	5,957
2002	474,071.87	53,748	67,171	525,419	72.74	7,223
2003	558,845.23	54,907	68,619	629,938	73.71	8,546
2004	555,936.45	46,212	57,753	637,168	74.68	8,532
2005	751,818.46	50,936	63,657	876,116	75.66	11,580
2006	990,260.69	51,989	64,973	1,172,853	76.64	15,303
2007	689,397.43	25,594	31,986	829,761	77.62	10,690
2008	505,701.91	11,062	13,825	618,302	78.60	7,866
2009	475,246.47	3,327	4,158	589,900	79.55	7,415
9999	2,049,890.80-	453,641-	566,933-	1,995,431-		29,928-
	9,832,929.03	2,176,178	2,719,721	9,571,441		143,307

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 66.8 1.46

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 339.10 OTHER SOURCE OF SUPPLY PLANT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	8,374.81	4,053	5,059	3,316	2.58	1,285
	8,374.81	4,053	5,059	3,316		1,285
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					2.6	15.34

KENTUCKY AMERICAN WATER COMPANY

ACCOUTN 339.60 OTHER P/E COMPANY PLANNING STUDY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	63,554.70	15,380	17,706	45,849	7.58	6,049
2008	31,736.46	4,507	5,189	26,547	8.58	3,094
2009	140,244.29	6,451	7,426	132,818	9.54	13,922
	235,535.45	26,338	30,321	205,214		23,065
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					8.9	9.79

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.10 OFFICE FURNITURE AND EQUIPMENT - FURNITURE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1985	13,328.13	13,328	13,328			
1986	4,204.57	4,205	4,205			
1987	73,736.59	73,737	73,737			
1988	38,777.51	38,778	38,778			
1989	64,982.83	64,983	64,982			
	195,029.63	195,031	195,030			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1990	62,045.01	60,246	59,493	2,552	0.58	2,552
1991	16,969.33	15,629	15,434	1,535	1.58	972
1992	15,664.85	13,644	13,474	2,191	2.58	849
1993	31,687.21	26,015	25,690	5,997	3.58	1,675
1994	16,095.12	12,409	12,254	3,841	4.58	839
1995	19,715.35	14,215	14,037	5,678	5.58	1,018
1996	16,689.34	11,199	11,059	5,630	6.58	856
1997	3,242.18	2,013	1,988	1,254	7.58	165
1998	188,662.31	107,726	106,380	82,282	8.58	9,590
1999	22,561.83	11,755	11,608	10,954	9.58	1,143
2000	1,453.20	684	675	778	10.58	74
2001	12,147.12	5,114	5,050	7,097	11.58	613
2002	1,169.72	434	429	741	12.58	59
2003	7,390.01	2,372	2,342	5,048	13.58	372
2004	6,504.78	1,763	1,741	4,764	14.58	327
2005	14,130.29	3,123	3,084	11,046	15.58	709
2006	22,626.63	3,869	3,821	18,806	16.58	1,134
2007	59,479.26	7,197	7,107	52,372	17.58	2,979
2008	20,089.99	1,426	1,408	18,682	18.58	1,005
	538,323.53	300,833	297,074	241,248		26,931
	733,353.16	495,864	492,104	241,248		26,931

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 9.0 3.67

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.21 OFFICE FURNITURE AND EQUIPMENT - MAINFRAME

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1992	15,773.28	15,773	15,773			
1996	11,522.24	11,522	11,523			
	27,295.52	27,295	27,296			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	42,968.95	29,391	29,395	13,574	1.58	8,591
2008	6,658.85	1,891	1,891	4,768	3.58	1,332
2009	12,358.43	1,137	1,137	11,221	4.54	2,472
	61,986.23	32,419	32,423	29,563		12,395
	89,281.75	59,714	59,719	29,563		12,395

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 2.4 13.88

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.22 OFFICE FURNITURE AND EQUIPMENT - PERSONAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1992	15,652.95	15,653	15,653			
1993	18,955.37	18,955	18,955			
1995	35,043.42	35,043	35,043			
1996	50,099.99	50,100	50,100			
1997	7,797.53	7,798	7,798			
1999	189,128.75	189,129	189,129			
2000	4,809.72	4,810	4,810			
2001	64,058.65	64,059	64,059			
2002	16,727.17	16,727	16,727			
2004	59,181.74	59,182	59,181			
	461,455.29	461,456	461,455			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2005	148,835.29	131,570	122,113	26,722	0.58	26,722
2006	23,828.32	16,299	15,127	8,701	1.58	5,507
2007	148,367.01	71,810	66,649	81,718	2.58	31,674
2008	41,457.82	11,774	10,928	30,530	3.58	8,528
2009	37,597.57	3,459	3,210	34,388	4.54	7,574
	400,086.01	234,912	218,027	182,059		80,005
	861,541.30	696,368	679,482	182,059		80,005

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 2.3 9.29

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.23 OFFICE FURNITURE AND EQUIPMENT - PERIPH OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1990	5,510.50	5,511	5,511			
1993	10,024.91	10,025	10,025			
1995	1,246.04	1,246	1,246			
1996	5,733.92	5,734	5,734			
1997	7,682.12	7,682	7,682			
1999	53,548.55	53,549	53,549			
2000	8,264.01	8,264	8,264			
2002	1,985.91	1,986	1,986			
2004	7,979.16	7,979	7,978			
	101,975.12	101,976	101,975			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2005	13,752.68	12,157	11,711	2,042	0.58	2,042
2006	17,701.62	12,108	11,664	6,038	1.58	3,822
2007	36,050.33	17,448	16,808	19,242	2.58	7,458
2008	42,757.78	12,143	11,698	31,060	3.58	8,676
2009	66,345.07	6,104	5,880	60,465	4.54	13,318
	176,607.48	59,960	57,761	118,847		35,316
	278,582.60	161,936	159,736	118,847		35,316

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 3.4 12.68

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.30 OFFICE FURNITURE & EQUIPMENT - COMP SOFTWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1993	48,583.72	48,584	48,584			
1996	2,000.42	2,000	2,000			
1997	29,274.67	29,275	29,275			
1999	712,217.90	712,218	712,218			
2003	3,174,231.95	3,174,232	3,174,232			
2004	10,216.71	10,217	10,216			
	3,976,525.37	3,976,526	3,976,525			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2005	562,532.11	497,278	450,377	112,155	0.58	112,155
2006	8,461.11	5,787	5,241	3,220	1.58	2,038
	570,993.22	503,065	455,618	115,375		114,193
	4,547,518.59	4,479,591	4,432,143	115,375		114,193
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					1.0	2.51

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.32 OFFICE FURNITURE & EQUIP - COMP SOFT PERSONAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1993	400.00	400	400			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	92,626.36	44,831	44,825	47,801	2.58	18,528
2008	5,000.00	1,420	1,420	3,580	3.58	1,000
2009	2,703.83	249	249	2,455	4.54	541
	100,330.19	46,500	46,494	53,836		20,069
	100,730.19	46,900	46,894	53,836		20,069

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 2.7 19.92

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.33 OFFICE FURNITURE AND EQUIP - SOFTWARE OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1993	1,603.58	1,604	1,604			
1994	3,024.78	3,025	3,025			
1995	1,298.90	1,299	1,299			
1996	14,161.58	14,162	14,162			
1997	34,911.43	34,911	34,911			
1999	44,917.16	44,917	44,917			
2000	9,351.59	9,352	9,352			
2001	5,906.95	5,907	5,907			
2002	412,697.73	412,698	412,697			
	527,873.70	527,875	527,874			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	4,470.43	2,164	2,163	2,307	2.58	894
	532,344.13	530,039	530,037	2,307		894

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 2.6 0.17

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 340.50 OFFICE FURNITURE AND EQUIPMENT - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1990	3,811.41	3,811	3,811			
1991	1,066.45	1,066	1,066			
1992	9,653.06	9,653	9,653			
1993	1,326.09	1,326	1,326			
1994	2,958.74	2,959	2,960			
	18,815.75	18,815	18,816			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
1995	5,934.08	5,704	5,634	300	0.58	300
1996	106.75	96	95	12	1.58	8
1997	5,592.90	4,631	4,574	1,019	2.58	395
1998	5,250.49	3,997	3,948	1,302	3.58	364
1999	17,296.77	12,016	11,868	5,429	4.58	1,185
2000	1,008.57	633	625	384	5.58	69
2001	23,187.91	13,015	12,856	10,332	6.58	1,570
2002	665.20	329	325	340	7.58	45
2005	3,965.82	1,169	1,155	2,811	10.58	266
2006	6,544.92	1,492	1,473	5,072	11.58	438
	69,553.41	43,082	42,553	27,001		4,640
	88,369.16	61,897	61,369	27,001		4,640

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 5.8 5.25

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.10 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 13-S2.5						
NET SALVAGE PERCENT.. +20						
1974	738.63	591	1,501	910-		
1982	20,145.98	16,117	40,935	24,818-		
1987	1,567.00	1,190	3,022	1,768-		
1988	8,945.47	6,688	16,987	9,831-		
1989	12,472.57	9,180	23,316	13,338-		
1990	24,313.11	17,610	44,727	25,277-		
1991	16,288.41	11,597	29,455	16,424-		
1992	12,572.73	8,782	22,305	12,247-		
1995	73,036.90	47,462	120,548	62,118-		
1997	127,987.18	77,499	196,838	94,448-		
1998	96,005.13	55,537	141,057	64,253-		
1999	172,210.90	94,316	239,551	101,782-		
2000	50,201.90	25,703	65,283	25,121-		
2001	145,027.88	68,453	173,862	57,840-		
2002	145,690.46	62,216	158,021	41,469-		
2006	510,346.96	106,765	271,171	137,107		
2007	291,500.91	43,235	109,811	123,390		
2008	181,016.60	15,814	40,166	104,647		
	1,890,068.72	668,755	1,698,556	186,500-		

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 0.0 0.00

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.20 TRANSPORTATION EQUIPMENT - HEAVY DUTY TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 14-S2						
NET SALVAGE PERCENT.. +15						
1979	12,423.75	10,560	10,560			
1988	19,540.47	15,043	16,609			
1991	28,900.31	20,915	24,565			
1994	16,692.38	11,128	14,189			
1997	123,096.63	73,096	104,632			
1999	84,706.37	45,101	72,000			
2000	43,489.19	21,599	36,966			
2001	99,956.08	45,761	84,963			
2005	163,022.19	42,859	126,023	12,546	9.67	1,297
2006	65,331.82	13,444	39,531	16,001	10.61	1,508
2007	199,307.32	29,156	85,730	83,681	11.59	7,220
2008	304,470.54	26,242	77,162	181,638	12.58	14,439
	1,160,937.05	354,904	692,930	293,866		24,464
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					12.0	2.11

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.30 TRANSPORTATION EQUIPMENT - AUTOS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 10-S3						
NET SALVAGE PERCENT.. +15						
1990	33,214.57	28,232	89,198	60,966-		
1992	12,899.13	10,613	33,532	22,568-		
1997	20,554.68	15,322	48,410	30,939-		
1998	734.03	530	1,675	1,051-		
1999	16,925.58	11,768	37,180	22,793-		
2004	16,174.78	7,232	22,849	9,100-		
2006	17,008.17	4,930	15,576	1,119-		
2007	56,037.74	11,527	36,420	11,212		
2008	34,308.13	4,141	13,083	16,079		
	207,856.81	94,295	297,923	121,245-		

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 0.0 0.00

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 341.40 TRANSPORTATION EQUIPMENT - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 16-L3						
NET SALVAGE PERCENT.. 0						
1956	220.10	220	220			
1991	2,626.00	1,907	2,626			
2001	5,219.99	2,584	4,173	1,047	8.08	130
2002	16,103.89	7,145	11,538	4,566	8.90	513
2004	59,336.84	19,694	31,802	27,535	10.69	2,576
2006	49,739.50	10,599	17,115	32,625	12.59	2,591
2007	92,750.78	14,024	22,646	70,105	13.58	5,162
2008	176,121.58	15,622	25,226	150,896	14.58	10,350
2009	14,207.52	408	659	13,549	15.54	872
	416,326.20	72,203	116,005	300,323		22,194

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 13.5 5.33

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 342 STORES EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1971	590.73	591	591			
1972	1,677.10	1,677	1,677			
	2,267.83	2,268	2,268			
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1985	550.20	537	537	13	0.58	13
1986	330.23	309	309	21	1.58	13
1987	27,616.12	24,766	24,747	2,869	2.58	1,112
1997	3,162.25	1,571	1,570	1,592	12.58	127
	31,658.80	27,183	27,163	4,495		1,265
	33,926.63	29,451	29,431	4,495		1,265
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					3.6	3.73

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 343 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1933	3,604.69	3,605	3,605			
1961	461.04	461	461			
1964	242.66	243	243			
1966	94.49	94	94			
1968	345.64	346	346			
1969	698.97	699	699			
1970	1,516.38	1,516	1,516			
1971	1,576.22	1,576	1,576			
1972	1,663.72	1,664	1,664			
1973	582.77	583	583			
1974	4,306.67	4,307	4,307			
1976	4,532.74	4,533	4,533			
1977	5,553.15	5,553	5,553			
1978	5,046.54	5,047	5,047			
1979	2,916.15	2,916	2,916			
1980	1,698.74	1,699	1,699			
1982	14,283.29	14,283	14,283			
1983	3,029.86	3,030	3,030			
1984	11,794.34	11,794	11,794			
1985	5,402.39	5,402	5,402			
1986	26,123.53	26,124	26,124			
1987	29,491.25	29,491	29,491			
1988	16,774.64	16,775	16,775			
1989	25,390.59	25,391	25,389			
	167,130.46	167,132	167,130			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1990	20,980.71	20,372	20,284	697	0.58	697
1991	42,931.59	39,540	39,369	3,563	1.58	2,255
1992	33,381.41	29,075	28,949	4,432	2.58	1,718
1993	17,504.80	14,371	14,309	3,196	3.58	893
1994	25,135.75	19,380	19,296	5,840	4.58	1,275
1995	62,049.81	44,738	44,545	17,505	5.58	3,137

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 343 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1996	35,091.84	23,547	23,445	11,647	6.58	1,770
1997	79,116.83	49,132	48,920	30,197	7.58	3,984
1998	48,588.10	27,744	27,624	20,964	8.58	2,443
1999	84,231.29	43,885	43,695	40,536	9.58	4,231
2000	89,130.06	41,980	41,798	47,332	10.58	4,474
2001	46,735.28	19,676	19,591	27,144	11.58	2,344
2002	5,440.16	2,018	2,009	3,431	12.58	273
2004	4,144.40	1,123	1,118	3,026	14.58	208
2005	127,524.66	28,183	28,061	99,464	15.58	6,384
2006	633,358.10	108,304	107,836	525,522	16.58	31,696
2007	238,682.81	28,881	28,757	209,926	17.58	11,941
2008	117,147.48	8,317	8,281	108,866	18.58	5,859
2009	27,452.41	631	628	26,824	19.54	1,373
	1,738,627.49	550,897	548,515	1,190,112		86,955
	1,905,757.95	718,029	715,645	1,190,112		86,955
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					13.7	4.56

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 344 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1972	340.13	340	340			
1976	1,273.80	1,274	1,274			
1978	2,032.80	2,033	2,033			
1982	2,906.99	2,907	2,907			
1983	3,221.40	3,221	3,221			
1984	3,950.78	3,951	3,951			
1985	571.20	571	571			
1986	1,918.14	1,918	1,918			
1987	31,608.39	31,608	31,608			
1989	2,514.10	2,514	2,514			
1990	8,173.99	8,174	8,174			
1991	46,577.09	46,577	46,577			
1992	19,592.64	19,593	19,593			
1993	7,880.14	7,880	7,880			
1994	17,835.02	17,835	17,836			
	150,396.61	150,396	150,397			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
1995	11,661.75	11,210	11,162	500	0.58	500
1996	10,432.54	9,334	9,294	1,139	1.58	721
1997	22,524.63	18,650	18,571	3,954	2.58	1,533
1998	40,722.08	31,002	30,871	9,851	3.58	2,752
1999	69,710.61	48,428	48,223	21,488	4.58	4,692
2000	198,389.55	124,589	124,061	74,329	5.58	13,321
2001	212,735.92	119,409	118,903	93,833	6.58	14,260
2002	60,915.26	30,135	30,007	30,908	7.58	4,078
2006	3,520.19	803	800	2,720	11.58	235
2007	20,166.18	3,253	3,239	16,927	12.58	1,346
2008	20,257.16	1,918	1,910	18,347	13.58	1,351
2009	6,594.63	202	201	6,394	14.54	440
	677,630.50	398,933	397,242	280,390		45,229
	828,027.11	549,329	547,639	280,390		45,229

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 6.2 5.46

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 345 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 18-L4						
NET SALVAGE PERCENT.. +15						
1941	5,386.77	4,579	4,579			
1978	12,962.26	10,314	11,018			
1979	1,617.00	1,275	1,374			
1985	10,177.50	7,517	8,651			
1986	1,652.04	1,203	1,404			
1987	4,500.00	3,230	3,825			
1988	59,533.98	42,143	50,604			
1989	18,388.76	12,861	15,630			
1990	47,797.49	33,087	40,628			
1991	33,312.89	22,842	28,316			
1992	4,439.80	3,008	3,774			
1993	11,703.75	7,787	9,948			
1994	37,806.05	24,458	32,135			
1995	55,860.83	34,742	47,482			
1997	70,631.94	39,288	60,037			
1999	55,639.33	26,669	47,293			
2001	45,456.79	17,924	38,032	606	9.65	63
2003	20,754.79	6,282	13,330	4,312	11.59	372
2005	992,362.64	207,166	439,576	403,932	13.58	29,745
2008	31,893.02	2,139	4,539	22,570	16.58	1,361
2009	4,156.88	90	191	3,342	17.54	191
	1,526,034.51	508,604	862,366	434,762		31,732
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					13.7	2.08

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 346.10 COMMUNICATION EQUIPMENT - NON-TELEPHONE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1968	65.92	66	66			
1972	38,739.35	38,739	38,739			
1976	1,361.65	1,362	1,362			
1977	1,566.05	1,566	1,566			
1983	4,698.67	4,699	4,699			
1985	4,452.50	4,453	4,453			
1986	16,294.66	16,295	16,295			
1987	22,247.66	22,248	22,248			
1988	33,798.43	33,798	33,798			
1989	38,765.32	38,765	38,765			
1990	12,871.59	12,872	12,872			
1991	4,416.26	4,416	4,416			
1992	1,598.00	1,598	1,598			
1993	12,195.94	12,196	12,196			
1994	36,776.17	36,776	36,775			
	229,848.17	229,849	229,848			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
1995	162,902.94	156,599	154,762	8,141	0.58	8,141
1996	36,117.75	32,315	31,936	4,182	1.58	2,647
1997	274,365.78	227,175	224,509	49,857	2.58	19,324
1998	66,638.95	50,732	50,137	16,502	3.58	4,609
1999	204,301.60	141,928	140,263	64,039	4.58	13,982
2000	592,411.63	372,035	367,669	224,743	5.58	40,277
2001	194,793.82	109,338	108,055	86,739	6.58	13,182
2002	32,924.97	16,288	16,097	16,828	7.58	2,220
2003	45,153.44	19,326	19,099	26,054	8.58	3,037
2004	8,683.27	3,137	3,100	5,583	9.58	583
2005	64,700.85	19,067	18,844	45,857	10.58	4,334
2006	8,645.09	1,971	1,948	6,697	11.58	578
2008	599.38	57	56	543	13.58	40
	1,692,239.47	1,149,968	1,136,475	555,765		112,954
	1,922,087.64	1,379,817	1,366,323	555,765		112,954

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 4.9 5.88

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 346.19 REMOTE CONTROL AND INSTRUMENTATION

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	22,310.63	2,113	2,107	20,204	13.58	1,488
	22,310.63	2,113	2,107	20,204		1,488
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					13.6	6.67

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 346.20 COMMUNICATION EQUIPMENT - TELEPHONE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	240,675.02	22,792	22,777	217,898	13.58	16,046
2009	125.00	4	4	121	14.54	8
	240,800.02	22,796	22,781	218,019		16,054
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					13.6	6.67

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 347.00 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1956	69.30	69	69			
1957	73.00	73	73			
1958	116.20	116	116			
1959	77.52	78	78			
1960	35.54	36	36			
1963	33.48	33	33			
1966	49.96	50	50			
1972	502.78	503	503			
1973	615.88	616	616			
1974	1,419.23	1,419	1,419			
1976	530.25	530	530			
1977	14,000.00	14,000	14,000			
1979	1,363.70	1,364	1,364			
1981	1,510.17	1,510	1,510			
1982	5,272.16	5,272	5,272			
1983	9,211.49	9,211	9,211			
1984	3,358.88	3,359	3,359			
1985	4,532.74	4,533	4,533			
1986	9,225.30	9,225	9,225			
1987	16,476.38	16,476	16,476			
1988	20,651.55	20,652	20,652			
1989	26,837.20	26,837	26,838			
	115,962.71	115,962	115,963			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1990	33,258.66	32,294	31,941	1,318	0.58	1,318
1991	4,481.09	4,127	4,082	399	1.58	253
1992	6,094.17	5,308	5,250	844	2.58	327
1993	2,501.94	2,054	2,032	470	3.58	131
1994	5,381.89	4,149	4,104	1,278	4.58	279
1995	4,370.33	3,151	3,117	1,253	5.58	225
1996	6,733.50	4,518	4,469	2,265	6.58	344
1997	18,394.58	11,423	11,298	7,097	7.58	936

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 347.00 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	42,103.37	24,041	23,778	18,325	8.58	2,136
1999	91,111.14	47,469	46,950	44,161	9.58	4,610
2001	27,827.48	11,715	11,587	16,240	11.58	1,402
2002	91,113.68	33,803	33,434	57,680	12.58	4,585
2003	77,970.14	25,028	24,754	53,216	13.58	3,919
2004	24,723.93	6,700	6,627	18,097	14.58	1,241
2005	642,306.45	141,950	140,399	501,907	15.58	32,215
2006	29,888.24	5,111	5,055	24,833	16.58	1,498
2007	12,596.30	1,524	1,507	11,089	17.58	631
2008	2,753.50	195	193	2,561	18.58	138
2009	11,393.29	262	259	11,134	19.54	570
	1,135,003.68	364,822	360,836	774,167		56,758
	1,250,966.39	480,784	476,799	774,167		56,758

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT.. 13.6 4.54

KENTUCKY AMERICAN WATER COMPANY

ACCOUNT 348.00 OTHER TANGIBLE PROPERTY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT NOVEMBER 30, 2009

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUT. BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1991	10,638.34	9,798	9,800	838	1.58	530
1998	107,321.54	61,281	61,292	46,030	8.58	5,365
2001	9,718.30	4,091	4,092	5,626	11.58	486
2002	500.00	186	186	314	12.58	25
2003	5,603.90	1,799	1,799	3,805	13.58	280
2005	4,702.50	1,039	1,039	3,664	15.58	235
	138,484.58	78,194	78,208	60,277		6,921
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PCT..					8.7	5.00

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	

DIRECT TESTIMONY OF EDWARD L. SPITZNAGEL, JR.

FEBRUARY 26, 2010

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1. Q. Please state your name, business address, and employer.

A. My name is Edward L. Spitznagel, Jr., and my business address is Campus Box 1146, One Brookings Drive, St Louis, Missouri 63130. I am employed by Washington University.

2. Q. What is your present position?

A. I am Professor of Mathematics in the College of Arts and Sciences at Washington University. I also hold a joint appointment in the Division of Biostatistics of the Washington University School of Medicine.

3. Q. Please review your educational background and work experience.

A. I hold a Bachelor of Science, summa cum laude, in mathematics, awarded in 1962 by Xavier University, Cincinnati, Ohio. I hold a Master of Science (1963) and Ph.D. (1965) in mathematics awarded by the University of Chicago. I have served on the Faculty of Arts and Sciences of Washington University since 1969. I have held a joint appointment in the Division of Biostatistics since 1978. From 1965 to 1969 I was on the faculty of Northwestern University.

Attached to my testimony is Appendix A, which provides a more detailed listing of my education and qualifications in the area of mathematics and statistics.

4. Q. What is the purpose of your testimony in this case?

A. I have been employed by Kentucky American Water Company to make weather-normalized predictions of water utilization by residential and commercial customers for the period October 2010 to September 2011, from ten years of monthly consumption data spanning January 2000 to December 2009.

5. Q. Please describe the consumption data.

A. The data were extracted from the national system in the form of total monthly consumption and bill days, from which gallons per customer day were computed separately for residential and commercial customer classes. A small number of records had bill days greater than 35, meaning the consumption spanned more than a normal month. Since my weather normalization is on a month-by-month basis, I did not use them in the normalization calculations, but accounted for them after normalization.

6. **Q.** **What is weather normalization?**

A. From one year to the next, variations in temperature and precipitation lead to changes in water consumption. More water will generally be used during hotter, drier periods. The regulatory question is how to reflect those weather-related differences when setting rates.

For ratemaking purposes, revenues need to be set to as "normal" a level as possible, factoring out the potential or actual results of unusual weather conditions. This can be accomplished by building statistical models that predict water utilization from meteorological data and other possible predictors. An estimate of future utilization can then be made by using a long-term average of meteorological data (since there is no better way to forecast next year's weather than as an average) and known values of the other predictors.

7. **Q.** **What are examples of these other, non-meteorological predictors?**

A. One is the year itself. Since 1993, the Environmental Protection Agency has required all new toilets manufactured in the United States to use at most 1.6 gallons per flush, which is a reduction of over 50% from the previous 3.5 gallons per flush. In addition, new faucets, showerheads, clothes washing machines, and dishwashers have all been redesigned to use less water. It appears that the introduction of these toilets, other plumbing fixtures, and appliances in new construction and replacement in old construction has led to a gradual decline in water consumption over time for both residential and commercial customer classes.

Another is the month of the year. While water utilization increases during the warmer summer months, analysis of variance shows that month as a categorical variable is a powerful predictor even after temperature and moisture have been included in the model.

8. Q. What model for water utilization did you employ?

A. In a case before this Commission in 1997, I screened a large number of candidate predictors by examining data from sixteen different operating companies in five states, Kentucky, Missouri, Ohio, Tennessee, and Virginia.

I used as candidate predictors only those variables that correlated consistently with utilization for most or all of these operating companies.

I then fitted the surviving candidates in a multivariate model to predict utilization for Kentucky American Water Company. I found that calendar month was a strong predictor even in the presence of heat and moisture variables. Therefore I included month as a categorical variable. With month included, I added drought severity index, temperature, and calendar year as potential numeric predictors. In that investigation I found that temperature was not a useful additional predictor in the presence of the drought index, the calendar month, and calendar year.

Since eleven years had elapsed between that original investigation and the previous case, 2008-00427, I re-screened for KAWC the original list of candidate variables. I found drought severity index, month, and year still to be useful predictors, each one adding to the predictive value of the others. In addition, I found a measurement of temperature called cooling degree days to be a useful predictor in the presence of the other three.

These four variables are useful predictors in the present case as well. The evidence for the usefulness of these four variables, drought severity index, month, year, and cooling degree days can be found in the multivariate analyses in Appendix B.

9. Q. What are cooling degree days?

A. Cooling degrees are a daily measure of the amount by which the average daily temperature exceeds 65 degrees Fahrenheit. For example, if the average temperature on a summer day is 84 degrees, the cooling degrees for that day are 84 − 65 = 19. If the average temperature on a winter day is 54 degrees, the cooling degrees for that day are 0. The primary use of cooling degrees is to aid in estimating the amount of electricity that will be used for air conditioning on a given day. Cooling degree days are the sum of cooling degrees over a given time period, such as a month, which is the form in which NOAA reports them. For water consumption, cooling degrees can act as an additional factor explaining outside water usage.

10. Q. What is the drought severity index?

A. There are a total of four drought severity indices provided by NOAA. They are reported on a monthly basis from 1895 to the present. They are: the Palmer Drought Severity Index (PDSI), the Modified Palmer Drought Severity Index (PMDI), the Palmer Hydrological Drought Index (PHDI), and the Palmer "Z" Index (ZNDX). The PDSI and PMDI are very similar to each other, differing only when the weather transitions between wet and dry spells. In my original investigations, both PDSI and PMDI turned out to be excellent predictors, much better than PHDI or ZNDX. Because PDSI worked slightly better than PMDI, I used PDSI in all weather normalizations prior to 2008. In the previous and present cases, however, PMDI gave predictive models that fitted the data slightly better, so I have shifted over to using PMDI rather than PDSI.

11. Q. Although PMDI is referred to as a drought severity index, low values of PMDI are associated with higher water consumption. Why is that?

A. PMDI and the other three variants are actually measures of available moisture, so high positive values indicate relative abundance of moisture rather than absence of moisture. Thus, people will be induced to use more outside water when PMDI is low, and particularly when it is negative.

12. Q. To summarize, in your weather normalization, what variables were found to predict utilization?

A. The calendar year, the month of the year (as a categorical variable), the Modified Palmer Drought Severity Index (PMDI), and cooling degree days (CDD). For commercial customers, the month of the year was found to interact with PMDI, meaning that the effect of PMDI on consumption varies by month. I therefore accounted for this interaction by running separate models for each month. In these separate models I omitted PMDI for the months of January through April, due to there being no weather-driven consumption during these months. I omitted CDD for the months of November through April because its value is essentially zero during those six months. These separate models are found in Appendix C.

13. Q. Once you had estimated the coefficients in these monthly models, how did you project weather-normalized utilization for October 2010 through September 2011?

A. I put the coefficients from the monthly regressions into Excel spreadsheets, one for each of the two customer classes. I then calculated the monthly mean PMDI and CDD over the 30 year period from January 1980 to December 2009. These spreadsheets are given in Appendix D.

14. Q. Having inserted the mean drought severity indices in the spreadsheets, how did you proceed?

A. I then projected an average daily utilization for each month under average weather. I then computed a weighted average of the 12 projected daily utilizations from October 2010 through September 2011, using as weights the number of days from the preceding month. Using the days from the preceding month allows for the fact that bills in March, for example, March include utilization from the latter part of February.

15. Q. What are your projections of daily utilization under average weather for the two customer classes?

A. For residential customers: 155.67 gallons / customer / day

For commercial customers: 1,184.00 gallons / customer / day

16. Q. These values are based on all records for which the bill days were no greater than 35. What adjustments can be made to take the rest of the consumption into account?

A. For commercial utilization in which bill days exceeded 35, the total bill days per month followed a pattern in 2009 similar to that of earlier years. I calculated a weighted average of the weather-normalized GCD consumption for the bill days less than or equal to 35 with the unnormalized GCD consumption for the year 2009. The weights are the total bill days for each group. This should be slightly conservative (i.e., produce overestimates) since the unnormalized consumption is not adjusted for a decrease over time. These calculations are shown in Appendix E. For residential consumption in which bill days exceeded 35, the total bill days per month in 2009 followed a pattern very different from that of earlier years. This suggests that the pattern in 2009 is not likely to repeat in the future, so a similar adjustment for residential customers cannot be justified. My final estimates are:

For residential customers: 155.67 gallons / customer / day (unchanged)

For commercial customers: 1,205.10 gallons / customer / day

17. Q. Does this conclude your testimony?

A. Yes, it does.

Edward L. Spitznagel, Jr.

Born: Cincinnati, Ohio, September 4, 1941.

Education:

Xavier University, 1959-1962
Awarded Bachelor of Science Degree (Summa cum Laude), 1962
University of Chicago, 1962-1965
Awarded Master of Science Degree, 1963
Awarded Ph.D. in Mathematics, 1965

Scholarships and Fellowships:

Xavier University, 1959-1962
Honorary Woodrow Wilson Fellow, 1962-1963
National Science Foundation Fellow, 1962-1965

Positions:

Assistant Professor of Mathematics
Northwestern University, 1965-1969
Associate Professor of Mathematics
Washington University, 1969-1980
Professor of Mathematics
Washington University, 1980-present
Joint appointment, Division of Biostatistics,
Washington University School of Medicine, 1978-present

Consulting Experience:

Litton Industries (USACDCEC, Fort Ord, CA)
Price Waterhouse (Advanced Auditing Methods, NY)
Mallinckrodt, Inc.
St. Louis County Juvenile Court
Monsanto Company
American Red Cross
Carboline Corporation
Regional Justice Information Service
Harris-Stowe State College
Equal Employment Opportunity Commission
American Optometric Association
Petrolite Corporation
U.S. Army Atmospheric Sciences Laboratory (White Sands, NM)
St. Louis County Water Company
Gateway Medical Research, Inc.
MasterCard
Simmons Market Research Bureau
Transactional Data Solutions
Missouri-American Water Company
Capital City Water Company
Kentucky-American Water Company
Tennessee-American Water Company
Iowa-American Water Company
New Jersey-American Water Company
Anheuser-Busch, Inc.
Partek, Inc.
Santa Clara County Mental Health Administration (San Jose, CA)
and many law firms

Publications:

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23. Interfacing SAS with Mark IV. *Proceedings of the Fourth Annual Conference of SAS Users Group International,* 41-44 (1979).
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Check Correlations between Weather Variables and Consumption

The GLM Procedure

Class Level Information

Class	Levels	Values
month	12	1 2 3 4 5 6 7 8 9 10 11 12

Data for Analysis of residential

Number of Observations Read	120
Number of Observations Used	120

Data for Analysis of commercial

Number of Observations Read	120
Number of Observations Used	119

NOTE: Variables in each group are consistent with respect to the presence or absence of missing values.

Check Correlations between Weather Variables and Consumption

The GLM Procedure

Dependent Variable: residential

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	36	0.07345481	0.00204041	21.90	<.0001
Error	83	0.00773179	0.00009315		
Corrected Total	119	0.08118660			

R-Square	Coeff Var	Root MSE	residential Mean
0.904765	5.714427	0.009652	0.168899

Source	DF	Type I SS	Mean Square	F Value	Pr > F
pmdi	1	0.00539985	0.00539985	57.97	<.0001
cdd	1	0.04855281	0.04855281	521.21	<.0001
year	1	0.00425506	0.00425506	45.68	<.0001
month	11	0.01291507	0.00117410	12.60	<.0001
pmdi*month	11	0.00204841	0.00018622	2.00	0.0386
year*month	11	0.00028362	0.00002578	0.28	0.9886

Source	DF	Type III SS	Mean Square	F Value	Pr > F
pmdi	1	0.00207994	0.00207994	22.33	<.0001
cdd	1	0.00169830	0.00169830	18.23	<.0001
year	1	0.00401923	0.00401923	43.15	<.0001
month	11	0.00358251	0.00032568	3.50	0.0005
pmdi*month	11	0.00205423	0.00018675	2.00	0.0380
year*month	11	0.00028362	0.00002578	0.28	0.9886

Check Correlations between Weather Variables and Consumption

The GLM Procedure

Dependent Variable: commercial

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	36	4.27025548	0.11861821	31.80	<.0001
Error	82	0.30591405	0.00373066		
Corrected Total	118	4.57616954			

R-Square	Coeff Var	Root MSE	commercial Mean
0.933151	4.487882	0.061079	1.360979

Source	DF	Type I SS	Mean Square	F Value	Pr > F
pmdi	1	0.14735008	0.14735008	39.50	<.0001
cdd	1	2.10969775	2.10969775	565.50	<.0001
year	1	0.77658232	0.77658232	208.16	<.0001
month	11	1.13581885	0.10325626	27.68	<.0001
pmdi*month	11	0.08068388	0.00733490	1.97	0.0425
year*month	11	0.02012260	0.00182933	0.49	0.9042

Source	DF	Type III SS	Mean Square	F Value	Pr > F
pmdi	1	0.03585944	0.03585944	9.61	0.0026
cdd	1	0.02962276	0.02962276	7.94	0.0061
year	1	0.77754885	0.77754885	208.42	<.0001
month	11	0.40675526	0.03697775	9.91	<.0001
pmdi*month	11	0.07028175	0.00638925	1.71	0.0849
year*month	11	0.02012260	0.00182933	0.49	0.9042

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, JANUARY

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	318.98744	318.98744	5.40	0.0487
Error	8	472.75811	59.09476		
Corrected Total	9	791.74555			

Root MSE	7.68731	R-Square	0.4029
Dependent Mean	149.62930	Adj R-Sq	0.3283
Coeff Var	5.13757		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	158.47785	4.51825	35.08	<.0001
since_2000	1	-1.96635	0.84635	-2.32	0.0487

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, FEBRUARY

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	458.03468	458.03468	13.87	0.0058
Error	8	264.25857	33.03232		
Corrected Total	9	722.29325			

Root MSE	5.74738	R-Square	0.6341
Dependent Mean	151.06840	Adj R-Sq	0.5884
Coeff Var	3.80449		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	161.67155	3.37804	47.86	<.0001
since_2000	1	-2.35625	0.63277	-3.72	0.0058

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, MARCH

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	173.94960	173.94960	18.27	0.0027
Error	8	76.15228	9.51903		
Corrected Total	9	250.10188			

Root MSE	3.08529	R-Square	0.6955
Dependent Mean	147.00780	Adj R-Sq	0.6575
Coeff Var	2.09873		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	153.54207	1.81339	84.67	<.0001
since_2000	1	-1.45206	0.33968	-4.27	0.0027

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, APRIL

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	373.36189	373.36189	52.64	<.0001
Error	8	56.73907	7.09238		
Corrected Total	9	430.10096			

Root MSE	2.66315	R-Square	0.8681
Dependent Mean	146.26740	Adj R-Sq	0.8516
Coeff Var	1.82074		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	155.84045	1.56528	99.56	<.0001
since_2000	1	-2.12735	0.29320	-7.26	<.0001

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, MAY

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1436.05195	478.68398	4.43	0.0577
Error	6	648.70667	108.11778		
Corrected Total	9	2084.75862			

Root MSE	10.39797	R-Square	0.6888
Dependent Mean	162.14680	Adj R-Sq	0.5333
Coeff Var	6.41269		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	172.00225	11.85075	14.51	<.0001
pmdi	1	-1.31798	1.60441	-0.82	0.4428
cdd	1	0.05782	0.09565	0.60	0.5677
since_2000	1	-3.41776	1.23312	-2.77	0.0324

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, JUNE

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2678.33486	892.77829	12.48	0.0055
Error	6	429.13697	71.52283		
Corrected Total	9	3107.47183			

Root MSE	8.45712	R-Square	0.8619
Dependent Mean	181.70560	Adj R-Sq	0.7929
Coeff Var	4.65430		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	130.29132	13.90145	9.37	<.0001
pmdi	1	-4.52566	1.47082	-3.08	0.0217
cdd	1	0.25819	0.06137	4.21	0.0056
since_2000	1	-1.56323	0.98820	-1.58	0.1648

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, JULY

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3730.02207	1243.34069	8.55	0.0138
Error	6	872.32164	145.38694		
Corrected Total	9	4602.34370			

Root MSE	12.05765	R-Square	0.8105
Dependent Mean	203.48200	Adj R-Sq	0.7157
Coeff Var	5.92566		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	174.93276	26.29527	6.65	0.0006
pmdi	1	-5.09229	2.30905	-2.21	0.0696
cdd	1	0.12779	0.07568	1.69	0.1422
since_2000	1	-2.35875	1.45539	-1.62	0.1562

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, AUGUST

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3041.36891	1013.78964	3.19	0.1054
Error	6	1907.21476	317.86913		
Corrected Total	9	4948.58366			

Root MSE	17.82888	R-Square	0.6146
Dependent Mean	202.69810	Adj R-Sq	0.4219
Coeff Var	8.79578		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	196.84424	35.04664	5.62	0.0014
pmdi	1	-6.01842	4.62863	-1.30	0.2412
cdd	1	0.05135	0.10340	0.50	0.6371
since_2000	1	-2.58293	1.97177	-1.31	0.2381

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, SEPTEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3116.55272	1038.85091	6.30	0.0277
Error	6	990.13860	165.02310		
Corrected Total	9	4106.69132			

Root MSE	12.84613	R-Square	0.7589
Dependent Mean	195.72740	Adj R-Sq	0.6383
Coeff Var	6.56328		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	169.36768	17.95074	9.44	<.0001
pmdi	1	-2.30716	2.79132	-0.83	0.4401
cdd	1	0.24971	0.12470	2.00	0.0921
since_2000	1	-2.45925	1.56953	-1.57	0.1682

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, OCTOBER

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1670.31278	556.77093	2.95	0.1201
Error	6	1131.58616	188.59769		
Corrected Total	9	2801.89894			

Root MSE	13.73309	R-Square	0.5961
Dependent Mean	180.41350	Adj R-Sq	0.3942
Coeff Var	7.61201		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	193.95841	11.88013	16.33	<.0001
pmdi	1	-4.84769	1.90295	-2.55	0.0436
cdd	1	-0.10577	0.34771	-0.30	0.7713
since_2000	1	-1.36117	1.51697	-0.90	0.4041

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, NOVEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	640.64351	320.32175	34.48	0.0002
Error	7	65.02870	9.28981		
Corrected Total	9	705.67221			

Root MSE	3.04792	R-Square	0.9078
Dependent Mean	157.11470	Adj R-Sq	0.8815
Coeff Var	1.93993		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	167.60968	1.83866	91.16	<.0001
pmdi	1	-2.27152	0.34942	-6.50	0.0003
since_2000	1	-1.87539	0.33627	-5.58	0.0008

Run regressions by month: Lexington, JAN2000-DEC2009
Residential Model, DECEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: residential

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	633.63910	316.81955	42.57	0.0001
Error	7	52.10221	7.44317		
Corrected Total	9	685.74130			

Root MSE	2.72822	R-Square	0.9240
Dependent Mean	149.53220	Adj R-Sq	0.9023
Coeff Var	1.82450		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	162.46667	1.64988	98.47	<.0001
pmdi	1	-0.63689	0.34736	-1.83	0.1094
since_2000	1	-2.72416	0.30040	-9.07	<.0001

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, JANUARY

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	52294	52294	21.08	0.0018
Error	8	19844	2480.50546		
Corrected Total	9	72138			

Root MSE	49.80467	R-Square	0.7249
Dependent Mean	1157.26910	Adj R-Sq	0.6905
Coeff Var	4.30364		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1270.56391	29.27289	43.40	<.0001
since_2000	1	-25.17662	5.48331	-4.59	0.0018

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, FEBRUARY

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	39774	39774	14.14	0.0055
Error	8	22504	2813.01564		
Corrected Total	9	62278			

Root MSE	53.03787	R-Square	0.6387
Dependent Mean	1215.23920	Adj R-Sq	0.5935
Coeff Var	4.36440		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1314.04551	31.17321	42.15	<.0001
since_2000	1	-21.95696	5.83928	-3.76	0.0055

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, MARCH

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	32744	32744	42.09	0.0002
Error	8	6223.09386	777.88673		
Corrected Total	9	38967			

Root MSE	27.89062	R-Square	0.8403
Dependent Mean	1217.77590	Adj R-Sq	0.8203
Coeff Var	2.29029		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1307.42602	16.39282	79.76	<.0001
since_2000	1	-19.92225	3.07066	-6.49	0.0002

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, APRIL

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	50745	50745	21.29	0.0017
Error	8	19069	2383.65079		
Corrected Total	9	69815			

Root MSE	48.82265	R-Square	0.7269
Dependent Mean	1220.11240	Adj R-Sq	0.6927
Coeff Var	4.00149		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1331.71742	28.69570	46.41	<.0001
since_2000	1	-24.80112	5.37520	-4.61	0.0017

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, MAY

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	110638	36879	19.11	0.0018
Error	6	11580	1929.93995		
Corrected Total	9	122218			

Root MSE	43.93108	R-Square	0.9053
Dependent Mean	1319.62360	Adj R-Sq	0.8579
Coeff Var	3.32906		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1388.91223	50.06905	27.74	<.0001
pmdi	1	6.43417	6.77858	0.95	0.3792
cdd	1	0.86552	0.40412	2.14	0.0760
since_2000	1	-32.05394	5.20988	-6.15	0.0008

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, JUNE

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	111123	37041	19.58	0.0017
Error	6	11352	1891.91948		
Corrected Total	9	122474			

Root MSE	43.49620	R-Square	0.9073
Dependent Mean	1424.96430	Adj R-Sq	0.8610
Coeff Var	3.05244		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1417.18902	71.49721	19.82	<.0001
pmdi	1	-17.72572	7.56463	-2.34	0.0576
cdd	1	0.63420	0.31562	2.01	0.0912
since_2000	1	-30.48543	5.08248	-6.00	0.0010

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, JULY

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	155553	51851	10.76	0.0079
Error	6	28923	4820.41682		
Corrected Total	9	184475			

Root MSE	69.42922	R-Square	0.8432
Dependent Mean	1557.55430	Adj R-Sq	0.7648
Coeff Var	4.45758		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1642.28074	151.41093	10.85	<.0001
pmdi	1	-19.50687	13.29576	-1.47	0.1927
cdd	1	0.23614	0.43576	0.54	0.6074
since_2000	1	-34.94072	8.38029	-4.17	0.0059

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, AUGUST

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	136839	45613	6.75	0.0238
Error	6	40559	6759.81741		
Corrected Total	9	177398			

Root MSE	82.21811	R-Square	0.7714
Dependent Mean	1625.21220	Adj R-Sq	0.6571
Coeff Var	5.05892		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1642.25795	161.61797	10.16	<.0001
pmdi	1	-21.43001	21.34496	-1.00	0.3541
cdd	1	0.36764	0.47681	0.77	0.4700
since_2000	1	-31.02046	9.09284	-3.41	0.0143

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, SEPTEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	114444	38148	5.33	0.0395
Error	6	42904	7150.73179		
Corrected Total	9	157349			

Root MSE	84.56200	R-Square	0.7273
Dependent Mean	1563.50730	Adj R-Sq	0.5910
Coeff Var	5.40848		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1504.23439	118.16400	12.73	<.0001
pmdi	1	-10.41050	18.37435	-0.57	0.5915
cdd	1	1.27253	0.82085	1.55	0.1721
since_2000	1	-29.27078	10.33175	-2.83	0.0298

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, OCTOBER

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	9
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	145401	48467	3.61	0.1004
Error	5	67128	13426		
Corrected Total	8	212529			

Root MSE	115.86857	R-Square	0.6841
Dependent Mean	1520.72200	Adj R-Sq	0.4946
Coeff Var	7.61931		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1680.16657	102.45477	16.40	<.0001
pmdi	1	-26.73212	16.33704	-1.64	0.1627
cdd	1	0.48539	2.93372	0.17	0.8751
since_2000	1	-31.29661	13.04371	-2.40	0.0617

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, NOVEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	101039	50519	16.65	0.0022
Error	7	21236	3033.74980		
Corrected Total	9	122275			

Root MSE	55.07949	R-Square	0.8263
Dependent Mean	1338.74530	Adj R-Sq	0.7767
Coeff Var	4.11426		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1499.23064	33.22682	45.12	<.0001
pmdi	1	-15.96346	6.31450	-2.53	0.0393
since_2000	1	-32.45298	6.07678	-5.34	0.0011

Run regressions by month: Lexington, JAN2000-DEC2009
Commercial Model, DECEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: commercial

Number of Observations Read	10
Number of Observations Used	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	107124	53562	61.47	<.0001
Error	7	6099.75560	871.39366		
Corrected Total	9	113224			

Root MSE	29.51938	R-Square	0.9461
Dependent Mean	1186.99260	Adj R-Sq	0.9307
Coeff Var	2.48690		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1354.47713	17.85171	75.87	<.0001
pmdi	1	-6.59608	3.75847	-1.75	0.1227
since_2000	1	-35.66357	3.25033	-10.97	<.0001

		Projections of Residential Water Utilization, Gallons per Day, Kentucky-American									
Month	**Slope of PMDI**	**Slope of CDD**	**Slope of SINCE_2000**	**Intercept**	**30-yr Avg PMDI**	**30-yr Avg CDD**	**Days**	**2009 Gal/Day**	**2010 Gal/Day**	**2011 Gal/Day**	**2012 Gal/Day**
Jan	0	0	-1.96635	158.4779	0.06433	1.333	31	140.78	138.81	136.85	134.88
Feb	0	0	-2.35625	161.6716	-0.00200	0.000	31	140.47	138.11	135.75	133.40
Mar	0	0	-1.45206	153.5421	-0.25600	5.133	28	140.47	139.02	137.57	136.12
Apr	0	0	-2.12735	155.8405	-0.26700	6.867	31	136.69	134.57	132.44	130.31
May	-1.31798	0.05782	-3.41776	172.0023	0.14867	87.567	30	146.11	142.69	139.27	135.86
Jun	-4.52566	0.25819	-1.56323	130.2913	0.20100	219.467	31	171.98	170.41	168.85	167.29
Jul	-5.09229	0.12779	-2.35875	174.9328	-0.05133	336.367	30	196.95	194.59	192.23	189.87
Aug	-6.01842	0.05135	-2.58293	196.8442	-0.26500	309.233	31	191.07	188.49	185.91	183.32
Sep	-2.30716	0.24971	-2.45925	169.3677	-0.33600	138.567	31	182.61	180.15	177.69	175.23
Oct	-4.84769	-0.10577	-1.36117	193.9584	0.21933	19.900	30	178.54	177.18	175.82	174.46
Nov	-2.27152	0	-1.87539	167.6097	0.29800	0.200	31	150.05	148.18	146.30	144.43
Dec	-0.63689	0	-2.72416	162.4667	0.31933	0.400	30	137.75	135.02	132.30	129.57
				Annual projections:				159.55	157.36	155.17	152.94
KAWC2009.XLS			**Projection: Oct 2010 to Sep 2011**						155.67		

		Projections of Commercial Water Utilization, Gallons per Day, Kentucky-American									
Month	Slope of PMDI	Slope of CDD	Slope of SINCE_2000	Intercept	30-yr Avg PMDI	30-yr Avg CDD	Days	2009 Gal/Day	2010 Gal/Day	2011 Gal/Day	2012 Gal/Day
Jan	0	0	-25.17662	1270.564	0.06433	1.333	31	1,043.97	1,018.80	993.62	968.44
Feb	0	0	-21.95696	1314.046	-0.00200	0.000	31	1,116.43	1,094.48	1,072.52	1,050.56
Mar	0	0	-19.92225	1307.426	-0.25600	5.133	28	1,128.13	1,108.20	1,088.28	1,068.36
Apr	0	0	-24.80112	1331.717	-0.26700	6.867	31	1,108.51	1,083.71	1,058.91	1,034.10
May	6.43417	0.86552	-32.05394	1388.912	0.14867	87.567	30	1,177.17	1,145.12	1,113.07	1,081.01
Jun	-17.72572	0.63420	-30.48543	1417.189	0.20100	219.467	31	1,278.44	1,247.96	1,217.47	1,186.99
Jul	-19.50687	0.23614	-34.94072	1642.281	-0.05133	336.367	30	1,408.25	1,373.30	1,338.36	1,303.42
Aug	-21.43001	0.36764	-31.02046	1642.258	-0.26500	309.233	31	1,482.44	1,451.42	1,420.40	1,389.38
Sep	-10.41050	1.27253	-29.27078	1504.234	-0.33600	138.567	31	1,420.63	1,391.36	1,362.08	1,332.81
Oct	-26.73212	0.48539	-31.29661	1680.167	0.21933	19.900	30	1,402.29	1,371.00	1,339.70	1,308.40
Nov	-15.96346	0	-32.45298	1499.231	0.29800	0.200	31	1,202.40	1,169.94	1,137.49	1,105.04
Dec	-6.59608	0	-35.66357	1354.477	0.31933	0.400	30	1,031.40	995.74	960.07	924.41
				Annual projections:				1,233.97	1,204.85	1,175.74	1,146.41
KAWC2009.XLS			**Projection: Oct 2010 to Sep 2011**						1,184.00		

	A	B	C	D	E	F	G
1	**Adjustment of Commercial Consumption to Reflect Bills with Days Greater than 35**						
2	**Calculation of Gallons per Day for Customers with Bills Covering More Than 35 Days:**						
3	**Bill Month**	**Bill Year**	**Total Consumption (1000 gals)**	**Total Bill Days**			
4	1	2009	17,626	14,097			
5	2	2009	6,721	2,027			
6	3	2009	1,821	1,965			
7	4	2009	5,617	2,615			
8	5	2009	2,504	1,505			
9	6	2009	9,278	2,955			
10	7	2009	12,464	3,797			
11	8	2009	12,493	3,155			
12	9	2009	9,484	1,556			
13	10	2009	17,006	1,851			
14	11	2009	7,854	1,650			
15	12	2009	14,177	4,792			
16							
17		Totals:	117,042	**41,965**	(sums of C4:C15 and of D4:D15)		
18							
19	Gallons per customer day:		**2789.04**	(= C17/D17*1000)			
20							
21							
22	**Calculation of Bill Days for Customers with Bills Covering 35 Days or Less:**						
23							
24	1	2009		280,483			
25	2	2009		253,255			
26	3	2009		243,511			
27	4	2009		270,721			
28	5	2009		252,640			
29	6	2009		262,369			
30	7	2009		276,210			
31	8	2009		270,504			
32	9	2009		263,915			
33	10	2009		261,328			
34	11	2009		249,607			
35	12	2009		265,916			
36							
37		Total:		**3,150,459**	(sum of D24:D35)		
38							
39	Gallons per customer day:		**1184.00**	(From Appendix D, Page 2)			
40							
41	Adjusted Gallons per Day, Obtained as an Average of 2789.04 and 1184.00,						
42	Weighted by Total Bill Days:						
43	(2789.04 x 41956 + 1184.00 x 3150459) / (41965+3150459) =					**1,205.10**	

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	

DIRECT TESTIMONY OF JAMES H. VANDER WEIDE

February 26, 2010

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I. WITNESS IDENTIFICATION

Q. 1 What is your name and business address?

A. 1 My name is James H. Vander Weide. I am Research Professor of Finance and Economics at Duke University, the Fuqua School of Business. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina.

Q. 2 Would you please describe your educational background and prior academic experience?

A. 2 I graduated from Cornell University with a Bachelor's Degree in Economics and from Northwestern University with a Ph.D. in Finance. After joining the faculty of the School of Business at Duke University, I was named Assistant Professor, Associate Professor, and then Professor. I have published research in the areas of finance and economics and taught courses in corporate finance, investment management, and management of financial institutions at Duke for more than 35 years. My research publications and teaching experience are described in Appendix 1. I am now retired from my teaching duties at Duke.

Q. 3 Have you previously testified on financial or economic issues?

A. 3 Yes. As an expert on financial and economic theory and practice, I have participated in more than 400 regulatory and legal proceedings before the U.S. Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the National Energy Board (Canada), the public service commissions of 43 states and three Canadian provinces, the insurance commissions of five states, the Iowa State Board of Tax Review, the National Association of Securities Dealers, and the North Carolina Property Tax Commission. In addition, I have prepared expert testimony in proceedings before the U.S. District Court for the District of Nebraska; the U.S. District Court for the District of New Hampshire; the U.S. District Court for the District of Northern Illinois; the U.S. District Court for the Eastern District of North Carolina; the U.S. District Court for the Northern District of California; Montana Second Judicial District Court, Silver Bow County; the Superior Court, North Carolina; the U.S. Bankruptcy Court for the Southern District of West Virginia; and the U.S. District Court for the Eastern District of Michigan.

II. PURPOSE OF TESTIMONY

Q. 4 What is the purpose of your testimony?

A. 4 I have been asked by Kentucky American Water Company (KAWC) to prepare an independent appraisal of its cost of equity capital and to recommend a rate of return on equity that is fair, that allows KAWC to attract capital on reasonable terms, and that allows KAWC to maintain its financial integrity.

Q. 5 How do you estimate KAWC's cost of equity?

A. 5 I estimate KAWC's cost of equity by applying several standard cost of equity estimation techniques, including the discounted cash flow (DCF) model, the risk premium method, and the Capital Asset Pricing Model (CAPM) to groups of comparable risk companies.

Q. 6 Do you generally give equal weight to the results of these standard cost of equity methods?

A. 6 I generally give equal weight to the results of these standard cost of equity methods when the average Value Line beta for the proxy companies is relatively close to 1.0, and the average company in my proxy group has a relatively large market value capitalization. If the average Value Line beta for the proxy companies is significantly less than 1.0, as it is in this present case, and/or the average market value capitalization for the proxy companies is relatively small, I generally give little or no weight to the results of the application of the CAPM.

Q. 7 Why do you give little or no weight to the result of the CAPM when the average Value Line beta is significantly less than 1.0?

A. 7 I give little or no weight to the result of the CAPM when the average Value Line beta is significantly less than 1.0 because financial research provides strong support for the conclusion that the CAPM underestimates the cost of equity for companies whose betas are significantly less than 1.0. I present a summary of this research in the CAPM section of my testimony.

Q. 8 Why is it appropriate to give less weight to the result of the CAPM when the companies in the proxy group have small market capitalization?

A. 8 It is appropriate to give less weight to the result of the CAPM in this case because financial research also supports the conclusion that the CAPM underestimates the cost of equity for small market capitalization companies.

Q. 9 What cost of equity do you find for your comparable companies in this proceeding?

A. 9 I find that the cost of equity for my comparable companies is in the range 10.8 percent to 12.1 percent. Because the average beta of my proxy companies is significantly less than 1.0, my conclusion is based on the results of my DCF and risk premium studies.

Q. 10 What is your recommendation regarding KAWC's cost of equity?

A. 10 I conservatively recommend that KAWC be allowed a fair rate of return on common equity in the range 10.8 percent to 12.1 percent. My recommended return on equity is conservative in that I use: (1) the lower simple average DCF result for the proxy water companies, even though a market-value weighted average is generally more appropriate for estimating the cost of equity; and (2) the lower average result for the LDC proxy group obtained by eliminating outlier low and high results.

Q. 11 Do you have an exhibit to accompany your testimony?

A. 11 Yes. I have an Exhibit___(JVW-1), consisting of eight schedules and five appendices that were prepared by me or under my direction and supervision.

III. ECONOMIC AND LEGAL PRINCIPLES

Q. 12 How do economists define the required rate of return, or cost of capital, associated with particular investment decisions such as the decision to invest in water treatment, storage, and distribution facilities?

A. 12 Economists define the cost of capital as the return investors expect to receive on alternative investments of comparable risk.

Q. 13 How does the cost of capital affect a firm's investment decisions?

A. 13 The goal of a firm is to maximize the value of the firm. This goal can be accomplished by accepting all investments in plant and equipment with an expected rate of return greater than or equal to the cost of capital. Thus, a firm should continue to invest in plant and equipment only so long as the return on its investment is greater than or equal to its cost of capital.

Q. 14 How does the cost of capital affect investors' willingness to invest in a company?

A. 14 The cost of capital measures the return investors can expect on investments of comparable risk. The cost of capital also measures the investor's required rate of return on investment because rational investors will not invest in a particular investment opportunity if the expected return on that opportunity is less than the cost of capital. Thus, the cost of capital is a hurdle rate for both investors and the firm.

Q. 15 Do all investors have the same position in the firm?

A. 15 No. Debt investors have a fixed claim on a firm's assets and income that must be paid prior to any payment to the firm's equity investors. Since the firm's equity investors have a residual claim on the firm's assets and income, equity investments are riskier than debt investments. Thus, the cost of equity exceeds the cost of debt.

Q. 16 What is the economic definition of the cost of equity?

A. 16 As I noted above, the cost of equity is the return investors expect to receive on alternative equity investments of comparable risk. Since the return on an equity investment of comparable risk is not a contractual return, the cost of equity is more difficult to measure than the cost of debt. However, as I have already noted, the cost of equity is greater than the cost of debt. The cost of equity, like the cost of debt, is both forward looking and market based.

Q. 17 How do economists measure the percentages of debt and equity in a firm's capital structure?

A. 17 Economists measure the percentages of debt and equity in a firm's capital structure by first calculating the market value of the firm's debt and the market value of its equity. Economists then calculate the percentage of debt by the ratio of the market value of debt to the combined market value of debt and equity, and the percentage of equity by the ratio of the market value of equity to the combined market values of debt and equity. For example, if a firm's debt has a market value of $25 million and its equity has a market value of $75 million, then its total market capitalization is $100 million, and its capital structure contains 25 percent debt and 75 percent equity.

Q. 18 Why do economists measure a firm's capital structure in terms of the market values of its debt and equity?

A. 18 Economists measure a firm's capital structure in terms of the market values of its debt and equity because: (1) the weighted average cost of capital is defined as the return investors expect to earn on a portfolio of the company's debt and equity securities; (2) investors measure the expected return and risk on their portfolios using market value weights, not book value weights; and (3) market values are the best measures of the amounts of debt and equity investors have invested in the company on a going forward basis.

Q. 19 Why do investors measure the expected return and risk on their investment portfolios using market value weights rather than book value weights?

A. 19 Investors measure the expected return and risk on their investment portfolios using market value weights because market values are the best measure of the amounts the investors currently have invested in each security in the portfolio. From the point of view of investors, the historical cost or book value of their investment is irrelevant to the current risk and required return on their portfolios because if they were to sell their investments, they would receive market value, not historical cost. Thus, the return can only be measured in terms of market values.

Q. 20 Is the economic definition of the weighted average cost of capital consistent with regulators' traditional definition of the average cost of capital?

A. 20 No. The economic definition of the weighted average cost of capital is based on the market costs of debt and equity, the market value percentages of debt and equity in a company's capital structure, and the future expected risk of investing in the company. In contrast, regulators have traditionally defined the weighted average cost of capital using the embedded cost of debt and the book values of debt and equity in a company's capital structure.

Q. 21 Does the required rate of return on an investment vary with the risk of that investment?

A. 21 Yes. Since investors are averse to risk, they require a higher rate of return on investments with greater risk.

Q. 22 Are these economic principles regarding the fair return for capital recognized in any Supreme Court cases?

A. 22 Yes. These economic principles, relating to the supply of and demand for capital, are recognized in two United States Supreme Court cases: (1) *Bluefield Water Works and Improvement Co. v. Public Service*

Comm'n.; and (2) *Federal Power Comm'n v. Hope Natural Gas Co*. In the *Bluefield Water Works* case, the Court states:

> A public utility is entitled to such rates as will permit it to earn a return upon the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties, but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return…should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties. [*Bluefield Water Works and Improvement Co. v. Public Service Comm'n.* 262 U.S. 679, 692 (1923)].

The Court clearly recognizes here that: (1) a regulated firm cannot remain financially sound unless the return it is allowed an opportunity to earn on the value of its property is at least equal to the cost of capital (the principle relating to the demand for capital); and (2) a regulated firm will not be able to attract capital if it does not offer investors an opportunity to earn a return on their investment equal to the return they expect to earn on other investments of the same risk (the principle relating to the supply of capital).

In the *Hope Natural Gas* case, the Court reiterates the financial soundness and capital attraction principles of the *Bluefield* case:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock... By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return,

> moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. [*Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944)]

IV. BUSINESS AND FINANCIAL RISKS IN THE WATER UTILITY INDUSTRY

Q. 23 What are the major factors that affect business risk in the water utility industry?

A. 23 Business risk in the water utility industry is affected by the following economic factors:

1. High Operating Leverage. The water utility business requires a large commitment to fixed costs in relation to variable costs, a situation called high operating leverage. The relatively high degree of fixed costs in the water utility business arises because of the average water company's large investment in fixed, long-lived water treatment, storage, and distribution facilities. High operating leverage causes the average water company's net income to be highly sensitive to sales fluctuations.

2. Demand Uncertainty. The business risk of the water utility business is increased by the high degree of demand uncertainty in the industry. Demand uncertainty is caused primarily by: (i) wide fluctuations in average temperature and rainfall from year to year; (ii) the state of the economy; and (iii) customer growth in the service territory.

3. Supply Uncertainty. The risk of the water utility business is further increased by the need to assure a safe and reliable supply of

water to meet customer needs on any given day of the year. The Safe Drinking Water Act Amendments of 1996 authorize the Environmental Protection Agency (EPA) to periodically test the drinking water for impurities and to issue regulations requiring water utilities to reduce drinking water contaminants to an acceptable level. The EPA has exercised its authority by requiring the water utilities to meet increasingly stringent drinking water standards over time. The rising costs and uncertainty of meeting ever more stringent drinking water standards is a major risk facing the water utilities.

V. COST OF EQUITY ESTIMATION METHODS

Q. 24 What methods do you use to estimate the cost of common equity capital for KAWC?

A. 24 I review the results of three generally accepted methods for estimating the cost of common equity. These are the Discounted Cash Flow (DCF), the risk premium method, and the Capital Asset Pricing Model (CAPM). The DCF method assumes that the current market price of a firm's stock is equal to the discounted value of all expected future cash flows. The risk premium method assumes that the investor's required return on an equity investment is equal to the interest rate on a long-term bond plus an additional equity risk premium to compensate the investor for the risks of investing in equities compared to bonds. The CAPM assumes that the investor's required rate of return on equity is equal to a risk-free rate of interest plus the product of a company-specific risk factor, beta, and the expected risk premium on the market portfolio.

VI. DISCOUNTED CASH FLOW (DCF) APPROACH

Q. 25 Please describe the DCF model.

A. 25 The DCF model is based on the assumption that investors value an asset on the basis of the future cash flows they expect to receive from owning the asset. Thus, investors value an investment in a bond because they expect to receive a sequence of semi-annual coupon payments over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF approach is that investors value a dollar received in the future less than a dollar received today. A future dollar is valued less than a current dollar because investors could invest a current dollar in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles noted above to an investment in a bond leads to the conclusion that investors value their investment in the bond on the basis of the present value of the bond's future cash flows. Thus, the price of the bond should reflect the timing, magnitude, and relative risk of the expected cash flows. Algebraically this can be expressed as:

EQUATION 1

$$P_B = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \cdots + \frac{C+F}{(1+i)^n}$$

where:

P_B	=	Bond price;
C	=	Cash value of the constant coupon payment (assumed for notational convenience to occur annually rather than semi-annually);
F	=	Face value of the bond;
i	=	The rate of interest investors could earn by investing their money in an alternative bond of equal risk; and
n	=	The number of periods before the bond matures.

Applying these same principles to an investment in a firm's stock suggests that the price of the stock should be equal to:

EQUATION 2

$$P_s = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n + P_n}{(1+k)^n}$$

where:

P_S	=	Current price of the firm's stock;
D_1, D_2...D_n	=	Expected annual dividend per share on the firm's stock;
P_n	=	Price per share of stock at the time the investor expects to sell the stock; and
k	=	Return the investor expects to earn on alternative investments of the same risk, i.e., the investor's required rate of return.

Equation (2) is frequently called the annual discounted cash flow model of stock valuation. Assuming that dividends grow at a constant annual rate, *g*, this equation can be solved for *k*, the cost of equity. The resulting cost of equity equation is $k = D_1/P_s + g$, where *k* is the cost of equity, D_1 is the expected next period annual dividend, P_s is the current price of the stock, and *g* is the constant annual growth rate in earnings, dividends, and book value per share. The term D_1/P_s is called the dividend yield component of the annual DCF model, and the term *g* is called the growth component of the annual DCF model. As in the case of the price of a bond, the price of a stock is related to the timing, magnitude, and relative risk of the expected cash flows.

Q. 26 Are you recommending that the annual DCF model be used to estimate KAWC's cost of equity?

A. 26 No. The DCF model assumes that a company's stock price is equal to the present discounted value of all expected future dividends. The annual DCF model is only a correct expression for the present discounted value of future dividends if dividends are paid annually at the end of each year. Since the companies in my proxy group all pay dividends quarterly, the current market price that investors are willing to pay reflects the expected quarterly receipt of dividends. Therefore, a quarterly DCF model must be used to estimate the cost of equity for these firms. The quarterly DCF model differs from the annual DCF model in that it expresses a company's price as the present discounted value of a quarterly stream of dividend payments. A complete analysis of the implications of the quarterly payment of dividends on the DCF model is provided in Exhibit__(JVW-1), Appendix 2. For the reasons cited there, I employed the quarterly DCF model throughout my calculations.

Q. 27 Please describe the quarterly DCF model you used.

A. 27 The quarterly DCF model I used is described on Exhibit__(JVW-1), Schedule 1 and in Appendix 2. The quarterly DCF equation shows that the cost of equity is: the sum of the future expected dividend yield and the growth rate, where the dividend in the dividend yield is the equivalent future value of the four quarterly dividends at the end of the year, and the growth rate is the expected growth in dividends or earnings per share.

Q. 28 In Appendix 2, you demonstrate that the quarterly DCF model provides the theoretically correct valuation of stocks when dividends are paid quarterly. Do investors, in practice, recognize the actual timing and magnitude of cash flows when they value stocks and other securities?

A. 28 Yes. In valuing long-term government or corporate bonds, investors recognize that interest is paid semi-annually. Thus, the price of a long-term government or corporate bond is simply the present value of the semi-annual interest and principal payments on these bonds. Likewise, in valuing mortgages, investors recognize that interest is paid monthly.

Thus, the value of a mortgage loan is simply the present value of the monthly interest and principal payments on the loan. In valuing stock investments, stock investors correctly recognize that dividends are paid quarterly. Thus, a firm's stock price is the present value of the stream of quarterly dividends expected from owning the stock.

Q. 29 When valuing bonds, mortgages, or stocks, would investors assume that cash flows are received only at the end of the year, when, in fact, the cash flows are received semi-annually, quarterly, or monthly?

A 29 No. Assuming that cash flows are received at the end of the year when they are received semi-annually, quarterly, or monthly would lead investors to make serious mistakes in valuing investment opportunities. No rational investor would make the mistake of assuming that dividends or other cash flows are paid annually when, in fact, they are paid more frequently.

Q. 30 How do you estimate the growth component of the quarterly DCF model?

A. 30 I use both the average analysts' estimates of future earnings per share (EPS) growth reported by I/B/E/S Thomson Reuters (I/B/E/S) and the estimate of future earnings per share growth reported by Value Line.

Q. 31 Do you generally rely on EPS growth estimates from both I/B/E/S and Value Line?

A. 31 In applying the DCF model, I generally rely on the analysts' estimates reported by I/B/E/S. However, as I discuss in this testimony, the water companies have such small market capitalization that there are generally only one or two I/B/E/S analysts' long-term growth forecasts available. To supplement the available I/B/E/S growth forecasts, I therefore also rely on the earnings growth forecasts reported by Value Line for American States, Aqua America, California Water, Connecticut Water, Middlesex Water, SJW, and York.

Q. 32 What are the analysts' estimates of future EPS growth?

A. 32 As part of their research, financial analysts working at Wall Street firms periodically estimate EPS growth for each firm they follow. The EPS forecasts for each firm are then published. Investors who are contemplating purchasing or selling shares in individual companies review the forecasts. These estimates represent five-year forecasts of EPS growth.

Q. 33 What is I/B/E/S?

A. 33 I/B/E/S is a division of Thomson Reuters that reports analysts' EPS growth forecasts for a broad group of companies. The forecasts are expressed in terms of a mean forecast and a standard deviation of forecast for each firm. Investors use the mean forecast as an estimate of future firm performance.

Q. 34 Why do you use the I/B/E/S growth estimates?

A. 34 The I/B/E/S growth rates: (1) are widely circulated in the financial community, (2) include the projections of reputable financial analysts who develop estimates of future EPS growth, (3) are reported on a timely basis to investors, and (4) are widely used by institutional and other investors.

Q. 35 Why do you rely on analysts' projections of future EPS growth in estimating the investors' expected growth rate rather than looking at historical growth rates?

A. 35 I rely on analysts' projections of future EPS growth because there is considerable empirical evidence that investors use analysts' forecasts to estimate future earnings growth.

Q. 36 Have you performed any studies concerning the use of analysts' forecasts as an estimate of investors' expected growth rate, g?

A. 36 Yes, I prepared a study in conjunction with Willard T. Carleton, Professor Emeritus of Finance at the University of Arizona, on why analysts' forecasts are the best estimate of investors' expectation of future long-term growth. This study is described in a paper entitled "Investor Growth Expectations and Stock Prices: the Analysts versus History," published in the Spring 1988 edition of *The Journal of Portfolio Management*.

Q. 37 Please summarize the results of your study.

A. 37 First, we performed a correlation analysis to identify the historically oriented growth rates which best described a firm's stock price. Then we did a regression study comparing the historical growth rates with the average analysts' forecasts. In every case, the regression equations containing the average of analysts' forecasts statistically outperformed the regression equations containing the historical growth estimates. These results are consistent with those found by Cragg and Malkiel, the early major research in this area (John G. Cragg and Burton G. Malkiel, *Expectations and the Structure of Share Prices*, University of Chicago Press, 1982). These results are also consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy and sell decisions. They provide overwhelming evidence that the analysts' forecasts of future growth are superior to historically oriented growth measures in predicting a firm's stock price.

Q. 38 Has your study been updated to include more recent data?

A. 38 Yes. Researchers at State Street Financial Advisors updated my study using data through year-end 2003. Their results continue to confirm that analysts' growth forecasts are superior to historically-oriented growth measures in predicting a firm's stock price.

Q. 39 What price do you use in your DCF model?

A. 39 I use a simple average of the monthly high and low stock prices for each firm for the three-month period ending December 2009. These high and low stock prices were obtained from Thomson Reuters.

Q. 40 Why do you use the three-month average stock price in applying the DCF method?

A. 40 I use the three-month average stock price in applying the DCF method because stock prices fluctuate daily, while financial analysts' forecasts for a given company are generally changed less frequently, often on a quarterly basis. Thus, to match the stock price with an earnings forecast, it is appropriate to average stock prices over a three-month period.

Q. 41 Do you include an allowance for flotation costs in your DCF analysis?

A. 41 Yes. I include a five percent allowance for flotation costs in my DCF calculations.

Q. 42 Please explain your inclusion of flotation costs.

A. 42 All firms that have sold securities in the capital markets have incurred some level of flotation costs, including underwriters' commissions, legal fees, printing expense, etc. These costs are withheld from the proceeds of the stock sale or are paid separately, and must be recovered over the life of the equity issue. Costs vary depending upon the size of the issue, the type of registration method used and other factors, but in general these costs range between three and five percent of the proceeds from the issue [see Lee, Inmoo, Scott Lochhead, Jay Ritter, and Quanshui Zhao, "The Costs of Raising Capital," *The Journal of Financial Research*, Vol. XIX No 1 (Spring 1996), 59-74, and

Clifford W. Smith, "Alternative Methods for Raising Capital," *Journal of Financial Economics* 5 (1977) 273-307]. In addition to these costs, for large equity issues (in relation to outstanding equity shares), there is likely to be a decline in price associated with the sale of shares to the public. On average, the decline due to market pressure has been estimated at two to three percent [see Richard H. Pettway, "The Effects of New Equity Sales Upon Utility Share Prices," *Public Utilities Fortnightly*, May 10, 1984, 35—39]. Thus, the total flotation cost, including both issuance expense and market pressure, could range anywhere from five to eight percent of the proceeds of an equity issue. I believe a combined five percent allowance for flotation costs is a conservative estimate that should be used in applying the DCF model in this proceeding.

Q. 43 Does KAWC issue equity in the capital markets?

A. 43 No. Although KAWC does not issue equity in the capital markets, its parent must issue equity to provide KAWC the necessary financing to make investments in its water supply operations. If the parent is not able to recover its flotation costs through KAWC's rates, it will have no incentive to invest in KAWC.

Q. 44 Is a flotation cost adjustment only appropriate if a company issues stock during the test year?

A. 44 No. As described in Exhibit__(JVW-1), Appendix 3, a flotation cost adjustment is required whether or not a company issued new stock during the test year. Previously incurred flotation costs have not been recovered in previous rate cases; rather, they are a permanent cost associated with past issues of common stock. Just as an adjustment is made to the embedded cost of debt to reflect previously incurred debt issuance costs (regardless of whether additional bond issuances were made in the test year), so should an adjustment be made to the cost of equity regardless of whether additional stock was issued during the test year.

Q. 45 How do you apply the DCF approach to obtain the cost of equity capital for KAWC?

A. 45 I apply the DCF approach to the publicly-traded water companies shown on Exhibit__(JVW-1), Schedule 1 and the publicly-traded natural gas distribution companies (LDCs) shown on Exhibit__(JVW-1), Schedule 2.

Q. 46 How do you select your group of publicly-traded water companies?

A. 46 I select all the water companies included in the Value Line Investment Survey that: (1) pay dividends; (2) did not decrease dividends during any quarter of the past two years; (3) have at least one analyst's long-term growth forecast; and (4) have not announced a merger. In addition, all of the companies included in my group, with the exception of Southwest Water, have a Value Line Safety Rank of 3, where 3 is the average Safety Rank of the Value Line universe of companies. The Value Line Safety Rank for Southwest Water is 4.

Q. 47 Why do you eliminate companies that have either decreased or eliminated their dividend in the past two years?

A. 47 The DCF model requires the assumption that dividends will grow at a constant rate into the indefinite future. If a company has either decreased or eliminated its dividend in recent years, an assumption that the company's dividend will grow at the same rate into the indefinite future is questionable.

Q. 48 Why do you eliminate companies that do not have any analyst's long-term growth forecasts?

A. 48 As noted above, my studies indicate that the analysts' growth forecasts best approximate the growth forecasts used by investors in making stock buy and sell decisions; and thus, the average of the analysts' growth forecasts is the best available estimate of the growth term in the DCF Model. In my opinion, it is difficult to apply the DCF model to companies that do not have any analysts' long-term growth estimates.

Q. 49 Are the Value Line water companies widely followed by analysts in the investment community?

A. 49 No. As a result of their small size and low investor turnover, the water companies are generally followed by very few analysts. The number of analysts' estimates for each of the Value Line water companies is shown below in Table 1:

Table 1

NUMBER OF LONG-TERM GROWTH FORECASTS FOR WATER COMPANIES

Line No.	Company	I/B/E/S Analysts' Estimates	Value Line Estimate	Value Line Edition
1	Amer. States Water	1	1	Standard
2	Amer. Water Works	3	0	Standard
3	Aqua America	3	1	Standard
4	Artesian Res. 'A'	1	0	Plus
5	California Water	2	1	Standard
6	Connecticut Water	NA	1	Plus
7	Middlesex Water	1	1	Plus
8	Pennichuck	NA	0	Plus
9	SJW Corp.	NA	1	Plus
10	Southwest Water	1	0	Standard
11	York Water	1	1	Plus

Q. 50 Do you normally include companies in your proxy groups that have only one or two analysts' long-term growth forecasts?

A. 50 No. I normally include a company in my proxy group only if there are at least three analysts' estimates of long-term growth. On the basis of my professional judgment, I believe that cost of equity estimates based on three or more analysts' estimates are more reliable than cost of equity estimates based on just one or two forecasts.

Q. 51 Recognizing the greater uncertainty associated with DCF results based on just one or two analysts' forecasts, do you supplement your DCF results for the water companies with a DCF analysis of an additional proxy group?

A. 51 Yes. Given the greater uncertainty in applying the DCF model to companies with only one or two analysts' growth forecasts, as noted above, I also apply the DCF model to an additional proxy group consisting of natural gas distribution companies ("LDCs"), and each of the companies in the LDC proxy group has at least two analysts' estimates of long-term growth.

Q. 52 You note above that you also eliminate from your proxy groups companies that have announced mergers. Why do you eliminate companies that have announced mergers that are not yet completed?

A. 52 A merger announcement can sometimes have a significant impact on a company's stock price because of anticipated merger-related cost savings and new market opportunities. Analysts' growth forecasts, on the other hand, are necessarily related to companies as they currently exist, and do not reflect investors' views of the potential cost savings and new market opportunities associated with mergers. The use of a stock price that includes the value of potential mergers in conjunction with growth forecasts that do not include the growth enhancing prospects of potential mergers produces DCF results that tend to distort a company's cost of equity.

Q. 53 Please summarize the result of your application of the DCF model to your water company proxy group.

A. 53 As shown in Exhibit__(JVW-1), Schedule 1, my application of the DCF model to the Value Line water companies produces a market-weighted average DCF result of 13.2 percent and a simple average DCF result of 12.1 percent.

Q. 54 Is it generally more appropriate to use a market-weighted average DCF result or a simple average DCF result to estimate a company's cost of equity?

A. 54 It is generally more appropriate to refer to a market value weighted average result, as I do in reporting the average result for the proxy group of LDCs. However, two companies in the water company group, American Water Works and Aqua America, represent two-thirds of the market value of all companies in the water company group. Thus, referring to a market-weighted average result would effectively cause a market-weighted average result to depend primarily on the result for two companies, American Water Works and Aqua America, which, in this case, have higher than average DCF results than the smaller companies. I therefore conservatively use the 12.1 percent simple average rather than the 13.2 percent market-weighted average DCF result for the water companies to arrive at my recommendation in this proceeding.

Q. 55 You note above that you also apply your DCF method to a proxy group of LDCs. Why do you apply your DCF model to a proxy group of LDCs?

A. 55 I apply my DCF model to a proxy group of LDCs because: (1) the companies in the water company group are generally followed by only one or two analysts; (2) the LDCs are a conservative proxy for the risk of investing in water companies; and (3) it is useful to examine the cost of equity results for a larger group of companies of similar risk that have a wider following in the investment community in order to test the reasonableness of the results obtained by applying cost of equity methodologies to the small group of publicly-traded water companies. Financial theory does not require that companies be in exactly the same industry to be comparable in risk.

Q. 56 How do you select your proxy group of LDCs?

A. 56 I select all the companies in Value Line's natural gas industry groups that: (1) are in the business of natural gas distribution; (2) paid dividends during every quarter of the last two years; (3) did not decrease dividends during any quarter of the past two years; (4) have at least two analysts included in the I/B/E/S consensus growth forecast;[1] and (5) have not announced a merger. In addition, all of the LDCs included in my group have an investment grade bond rating and a Value Line Safety Rank of 1, 2, or 3. The LDCs in my DCF proxy group and the average DCF result are shown on Exhibit__(JVW-1), Schedule 2.

Q. 57 How are the LDCs similar to KAWC?

A. 57 Like KAWC, the LDCs are regulated public utilities that: (1) invest primarily in a capital-intensive physical network that connects the

[1] As I note above, on the basis of my professional judgment, I normally specify that the I/B/E/S long-term earnings growth forecast must include the forecasts of at least three analysts. However, in December 2009 there are only five natural gas companies with growth forecasts from at least three analysts. In this study, therefore, I also include results for companies that have growth forecasts based on two analysts' growth forecasts.

customer to the source of supply; and (2) sell their products and services at regulated rates to customers whose demand is primarily dependent on weather and the state of the economy.

Q. 58 Does your LDC proxy group meet the standards of the *Hope* and *Bluefield* cases you cite above?

A. 58 Yes. The *Hope* and *Bluefield* standard states that a public utility should be allowed to earn a return on its investment that is commensurate with the returns investors are able to earn on investments having similar risk. The LDCs are a group of companies that meet the standards of the *Hope* and *Bluefield* cases because they are a conservative proxy for the risk of investing in KAWC.

Q. 59 Do you have any empirical evidence that the LDCs in your proxy group are a conservative proxy for KAWC?

A. 59 Yes. The average Value Line Safety Rank for my proxy group of LDCs is approximately 2, on a scale where 1 is the most safe and 5 is the least safe, whereas the water companies have an average Value Line Safety Rank of 3.

Q. 60 Please summarize the results of your application of the DCF method to the LDC proxy group.

A. 60 My application of the DCF method to the LDC proxy group produces a market-weighted average result of 11.8 percent, which is reduced to 11.4 percent when the 5.0 percent DCF result for Energen and the high 17.6 percent DCF result for MDU Resources are eliminated from the sample, as shown on Exhibit__(JVW-1), Schedule 2. I conservatively rely on the 11.4 percent result obtained from eliminating these outlier highest and lowest results.

VII. RISK PREMIUM APPROACH

Q. 61 Please describe the risk premium approach to estimating KAWC's cost of equity.

A. 61 The risk premium approach is based on the principle that investors expect to earn a return on an equity investment in KAWC that reflects a "premium" over and above the return they expect to earn on an investment in a portfolio of long-term bonds. This equity risk premium compensates equity investors for the additional risk they bear in making equity investments versus bond investments.

Q. 62 How do you measure the required risk premium on an equity investment in KAWC?

A. 62 I use two methods to estimate the required risk premium on an equity investment in KAWC. The first is called the ex ante risk premium method and the second is called the ex post risk premium method.

A. Ex Ante Risk Premium Approach

Q. 63 Please describe your ex ante risk premium approach for measuring the required risk premium on an equity investment in KAWC.

A. 63 My ex ante risk premium method is based on studies of the DCF expected return on a comparable group of natural gas distribution companies, which I compared to the interest rate on Moody's A-rated utility bonds. Specifically, for each month in my study period, I calculate the risk premium using the equation,

$$RP_{PROXY} = DCF_{PROXY} – I_A$$

where:

RP_{PROXY}	=	the required risk premium on an equity investment in the proxy group of companies;
DCF_{PROXY}	=	average DCF estimated cost of equity on a portfolio of proxy companies; and
I_A	=	the yield to maturity on an investment in A-rated utility bonds.

I then perform a regression analysis to determine if there is a relationship between the calculated risk premium and interest rates. Finally, I use the results of the regression analysis to estimate the investors' required risk premium. To estimate the cost of equity, I then add the required risk premium to the interest rate on A-rated utility bonds. A detailed description of my ex ante risk premium studies is contained in Appendix 4, and the underlying DCF results and interest rates are displayed in Exhibit__(JVW-1), Schedule 3.

Q. 64 Why do you apply your ex ante risk premium study to LDCs rather than to water companies?

A. 64 I apply my ex ante risk premium approach to LDCs rather than to water companies because the LDCs are similar in risk to the water companies and there is sufficient data to apply the DCF method to the sample companies over a relatively long period of time. In contrast, as discussed above, the water companies are generally followed by only one or two analysts, and there are relatively few companies with consistent data extending back for a reasonably long study period.

Q. 65 What estimated risk premium do you obtain from your ex ante risk premium method?

A. 65 As described in Appendix 4, my analyses produce an estimated risk premium over the yield on A-rated utility bonds equal to 4.9 percent.

Q. 66 What cost of equity result do you obtain from your ex ante risk premium study?

A. 66 To estimate the cost of equity using the ex ante risk premium method, one may add the estimated risk premium over the yield on A-rated utility bonds to the forecasted yield to maturity on A-rated utility bonds.[2] The forecasted yield to maturity on A-rated utility bonds, 6.3 percent, is obtained by adding Value Line's forecasted 50-basis point increase in the yield on AAA-rated corporate bonds over the period Q4 2009 to Q4 2010 to the 5.8 percent average yield on Moody's A-rated utility bonds in December 2009.[3] My analyses produce an estimated risk premium over the yield on A-rated utility bonds equal to 4.9 percent. Adding an estimated risk premium of 4.9 percent to the 6.3 percent yield to maturity on A-rated utility bonds produces a cost of equity estimate of 11.2 percent using the ex ante risk premium method (see Appendix 4).

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2 One could use the yield to maturity on other debt investments to measure the interest rate component of the risk premium approach as long as one uses the yield on the same debt investment to measure the expected risk premium component of the risk premium approach. I choose to use the yield on A-rated utility bonds because it is a frequently-used benchmark for utility bond yields.

3 Value Line Selection & Opinion, November 27, 2009, p. 3182.

B. Ex Post Risk Premium Approach

Q. 67 Please describe your ex post risk premium approach for measuring the required risk premium on an equity investment in KAWC.

A. 67 I first perform a study of the comparable returns received by bond and stock investors over the 72 years of my study. I estimate the returns on stock and bond portfolios using stock price and dividend yield data on the S&P 500 and bond yield data on Moody's A-rated utility bonds. My study consists of investing one dollar in the S&P 500 and Moody's A-rated utility bonds at the beginning of 1937 and reinvesting the principal plus return each year to 2009. The return associated with each stock portfolio is the sum of the annual dividend yield and capital gain (or loss) which accrue to this portfolio during the year(s) in which it is held. The return associated with the bond portfolio, on the other hand, is the sum of the annual coupon yield and capital gain (or loss) which accrue to the bond portfolio during the year(s) in which it is held. The resulting annual returns on the stock and bond portfolios purchased in each year between 1937 and 2009 are shown on Exhibit__(JVW-1), Schedule 4. The average annual return on an investment in the S&P 500 stock portfolio is 10.8 percent, while the average annual return on an investment in the Moody's A-rated utility bond portfolio is 6.3 percent. The risk premium on the S&P 500 stock portfolio is, therefore, 4.5 percent.

I also conduct a second study using stock data on the S&P Utilities rather than the S&P 500. The S&P Utility stock portfolio shows an average annual return of 10.5 percent per year. Thus, the return on the S&P Utility stock portfolio exceeded the return on the Moody's A–rated utility bond portfolio by 4.2 percent (see Exhibit__(JVW-1), Schedule 5).

Q. 68 Why is it appropriate to perform your ex post risk premium analysis using both the S&P 500 and the S&P Utility Stock indices?

A. 68 I perform my ex post risk premium analysis on both the S&P 500 and the S&P Utilities because I believe utilities today face risks that are somewhere in between the average risk of the S&P Utilities and the S&P 500 over the years 1937 to 2009. Thus, I use the average of the two historically-based risk premiums as my estimate of the required risk premium in my ex post risk premium method. I note that the spread between the average risk premium on the S&P 500 and the average risk premium on the S&P Utilities is just 30 basis points.

Q. 69 Why do you analyze investors' experiences over such a long time frame?

A. 69 Because day-to-day stock price movements can be somewhat random, it is inappropriate to rely on short-run movements in stock prices in order to derive a reliable risk premium. Rather than buying and selling frequently in anticipation of highly volatile price movements, most investors employ a strategy of buying and holding a diversified portfolio of stocks. This buy-and-hold strategy will allow an investor to achieve a much more predictable long-run return on stock investments and at the same time will minimize transaction costs. The situation is very similar to the problem of predicting the results of coin tosses. I cannot predict with any reasonable degree of accuracy the result of a single, or even a few, flips of a balanced coin; but I can predict with a good deal of confidence that approximately 50 heads will appear in 100 tosses of this coin. Under these circumstances, it is most appropriate to estimate future experience from long-run evidence of investment performance.

Q. 70 Would your study provide a different ex post risk premium if you started with a different time period?

A. 70 Yes, the ex post risk premium results vary somewhat depending on the historical time period chosen. My policy is to go back as far in history as I can get reliable data. I believe it is most meaningful to begin after the passage and implementation of the Public Utility Holding Company Act of 1935. This Act significantly changed the structure of the public utility industry. Since the Public Utility Holding Company Act of 1935 was not implemented until the beginning of 1937, I feel that numbers taken from before this date are not comparable to those taken after. (The repeal of the 1935 Act does not have a material impact on the structure of the public utility industry; thus, the Act's repeal does not have any impact on my choice of time period.)

Q. 71 Why is it necessary to examine the yield from debt investments in order to determine the investors' required rate of return on equity capital?

A. 71 As previously explained, investors expect to earn a return on their equity investment that exceeds currently available bond yields because the return on equity, being a residual return, is less certain than the yield on bonds and investors must be compensated for this uncertainty. Second, investors' current expectations concerning the amount by which the return on equity will exceed the bond yield will be influenced by historical differences in returns to bond and stock investors. For these reasons, we can estimate investors' current expected returns from an equity investment from knowledge of current bond yields and past differences between returns on stocks and bonds.

Q. 72 Has there been any significant trend in the ex post equity risk premium over the 1937 to 2009 time period of your study?

A. 72 No. Statisticians test for trends in data series by regressing the data observations against time. I have performed such a time series regression on my two data sets of historical risk premiums. As shown below in Tables 2 and 3, there is no statistically significant trend in my risk premium data. Indeed, the coefficient on the time variable is insignificantly different from zero (if there were a trend, the coefficient on the time variable should be significantly different from zero).

TABLE 2

REGRESSION OUTPUT FOR RISK PREMIUM ON S&P 500

Line No.		Intercept	Time	Adjusted R Square	F
1	Coefficient	3.096	(0.002)	0.023	2.66
2	T Statistic	1.654	(1.630)		

TABLE 3

REGRESSION OUTPUT FOR RISK PREMIUM ON S&P UTILITIES

Line No.		Intercept	Time	Adjusted R Square	F
1	Coefficient	1.383	(0.001)	-0.006	0.56
2	T Statistic	0.776	(0.751)		

Q. 73 Is your conclusion that there is no significant trend in the equity risk premium supported in the financial literature?

A. 73 Yes. Ibbotson® SBBI® 2009 Valuation Edition Yearbook Stocks, Bonds, Bills, and Inflation® ("Ibbotson® SBBI®") published by Morningstar, Inc., contains an analysis of "trends" in historical risk premium data. Ibbotson® SBBI® uses correlation analysis to determine if there is any pattern or "trend" in risk premiums over time. This analysis also demonstrates that there are no trends in risk premiums over time.

Q. 74 Why is it significant that historical risk premiums have no trend or other statistical pattern over time?

A. 74 The significance of this evidence is that the average historical risk premium is a reasonable estimate of the future expected risk premium. As noted in Ibbotson® SBBI®:

> The significance of this evidence is that the realized equity risk premium next year will not be dependent on the realized equity risk premium from this year. That is, there is no discernable pattern in the realized equity risk premium—it is virtually impossible to forecast next year's realized risk premium based on the premium of the previous year. For example, if this

> year's difference between the riskless rate and the return on the stock market is higher than last year's, that does not imply that next year's will be higher than this year's. It is as likely to be higher as it is lower. The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean) of its past values. [Ibbotson® SBBI®, page 61.]

Q. 75 What conclusions do you draw from your ex post risk premium analyses about the required return on an equity investment in KAWC?

A. 75 My studies provide strong evidence that investors today require an equity return of approximately 4.2 to 4.5 percentage points above the expected yield on A-rated utility bonds. The forecasted yield on A-rated utility bonds at 2010 is 6.3 percent. As described above, this forecasted yield to maturity on A-rated utility bonds is obtained by adding Value Line's forecasted 50-basis point increase in the yield on AAA-rated corporate bonds over the period Q4 2009 to Q4 2010 to the 5.8 percent average yield on Moody's A-rated utility bonds in December 2009. Adding a 4.2 to 4.5 percentage point risk premium to a yield of 6.3 percent on A-rated utility bonds, I obtain an expected return on equity in the range 10.5 percent to 10.8 percent, with a midpoint of 10.6 percent. Because the ex post methodology does not reflect flotation costs, I add a 19 basis-point allowance for flotation costs, which I determine by calculating the difference in my DCF results with and without a flotation cost allowance. Adding a 19 basis-point allowance for flotation costs, I obtain an estimate of 10.8 percent as the cost of equity for KAWC using the ex post risk premium method.

VIII. CAPITAL ASSET PRICING MODEL

Q. 76 What is the CAPM?

A. 76 The CAPM is an equilibrium model of the security markets in which the expected or required return on a given security is equal to the risk-free rate of interest, plus the company equity "beta," times the market risk premium:

Cost of equity = Risk-free rate + Equity beta x Market risk premium

The risk-free rate in this equation is the expected rate of return on a risk-free government security, the equity beta is a measure of the company's risk relative to the market as a whole, and the market risk premium is the premium investors require to invest in the market basket of all securities compared to the risk-free security.

Q. 77 How do you use the CAPM to estimate the cost of equity for your proxy companies?

A. 77 The CAPM requires an estimate of the risk-free rate, the company-specific risk factor or beta, and the expected return on the market portfolio. For my estimate of the risk-free rate, I use the forecast yield to maturity on 20-year Treasury bonds[4] of 4.7 percent, using data from

4 I use the 20-year Treasury bond to estimate the risk-free rate because SBBI estimates the risk premium using 20-year Treasury bonds and the analyst should use the same maturity to estimate the risk-free rate as is used to estimate the risk premium on the market portfolio.

Value Line.[5] For my estimate of the company-specific risk, or beta, I use the average Value Line beta of 0.73 for my proxy companies. For my estimate of the expected risk premium on the market portfolio, I use two approaches. First, I use the Ibbotson® SBBI® 6.5 percent risk premium on the market portfolio, which is measured from the difference between the arithmetic mean return on the S&P 500 (11.7 percent) and the income return on 20-year Treasury bonds (5.2 percent), as reported by Ibbotson® SBBI® (11.7 – 5.2 = 6.5). Second, I estimate the risk premium on the market portfolio from the difference between the DCF cost of equity for the S&P 500 (13.1 percent) and the forecast yield to maturity on 20-year Treasury bonds, (4.70 percent). My second approach produces a risk premium equal to 8.4 percent (13.1 - 4.7 = 8.4).

Q. 78 Why do you recommend that the risk premium on the market portfolio be estimated using the arithmetic mean return on the S&P 500?

A. 78 As explained in Ibbotson® SBBI®, the arithmetic mean return is the best approach for calculating the return investors expect to receive in the future:

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric

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5 Value Line Investment Survey, Selection & Opinion, November 27, 2009, p. 3182. Value Line projects a 30-basis point increase in long-term Treasury bond yields over the period Q4 2009 to Q4 2010. Adding 30 basis points to the 4.4 percent average yield on 20-year Treasury bonds at December 2009 produces a forecasted yield of 4.7 percent.

> average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return. [SBBI, p. 59.]

A discussion of the importance of using arithmetic mean returns in the context of CAPM or risk premium studies is contained in Schedule 6.

Q. 79 Why do you recommend that the risk premium on the market portfolio be estimated using the income return on 20-year Treasury bonds rather than the total return on these bonds?

A. 79 As discussed above, the CAPM requires an estimate of the risk-free rate of interest. When Treasury bonds are issued, the income return on the bond is risk free, but the total return, which includes both income and capital gains or losses, is not. Thus, the income return should be used in the CAPM because it is only the income return that is risk free.

Q. 80 What CAPM result do you obtain when you estimate the expected return on the market portfolio from the arithmetic mean difference between the return on the market and the yield on 20-year Treasury bonds?

A. 80 I obtain a CAPM estimate of 9.6 percent [see Schedule 7].

Q. 81 What CAPM result do you obtain when you estimate the risk premium on the market portfolio by applying the DCF model to the S&P 500?

A. 81 I obtain a CAPM result of 11.0 percent [see Schedule 8].

Q. 82 Can a reasonable application of the CAPM produce higher cost of equity results than you have just reported?

A. 82 Yes. The CAPM tends to underestimate the cost of equity for small market capitalization companies such as my water companies.[6]

Q. 83 Does the finance literature support an adjustment to the CAPM equation to account for a company's size as measured by market capitalization supported in the finance literature?

A. 83 Yes. For example, Ibbotson® SBBI® supports such an adjustment. Their estimates of the size premium required to be added to the basic CAPM cost of equity are shown below in Table 4.

TABLE 4
IBBOTSON® ESTIMATES OF PREMIUMS FOR COMPANY SIZE[7]

Size	Smallest Mkt. Cap. ($Millions)	Premium
Large-Cap (No Adjustment)	>7,360.271	--
Mid-Cap	1,849.950	0.94%
Low-Cap	453.398	1.74%
Micro-Cap	1.575	3.74%

Q. 84 Are there other reasons to believe that the CAPM may produce cost of equity estimates at this time that are unreasonably low?

6 In addition, as discussed above, these estimates, based on current interest rates rather than forecasted rates, are conservative. If one were to use a forecasted interest rate on Treasury bonds, the CAPM cost of equity estimates would be significantly higher.

7 Ibbotson® SBBI® 2009 Valuation Yearbook.

A. 84 Yes. There is considerable evidence in the finance literature that the CAPM tends to underestimate the cost of equity for companies whose equity beta is less than 1.0 and to overestimate the cost of equity for companies whose equity beta is greater than 1.0.[8]

Q. 85 Can you briefly summarize the evidence that the CAPM underestimates the required returns for securities or portfolios with betas less than 1.0 and overestimates required returns for securities or portfolios with betas greater than 1.0?

A. 85 Yes. The CAPM conjectures that security returns increase with increases in security betas in line with the equation

$$ER_i = R_f + \beta_i \left\lfloor ER_m - R_f \right\rfloor,$$

where ER_i is the expected return on security or portfolio *i*, R_f is the risk-free rate, $ER_m – R_f$ is the expected risk premium on the market portfolio, and β_i is a measure of the risk of investing in security or portfolio *i*. If the CAPM correctly predicts the relationship between risk and return in the marketplace, then the realized returns on portfolios of securities and the corresponding portfolio betas should lie on the solid straight line with intercept R_f and slope $[R_m – R_f]$ shown below.

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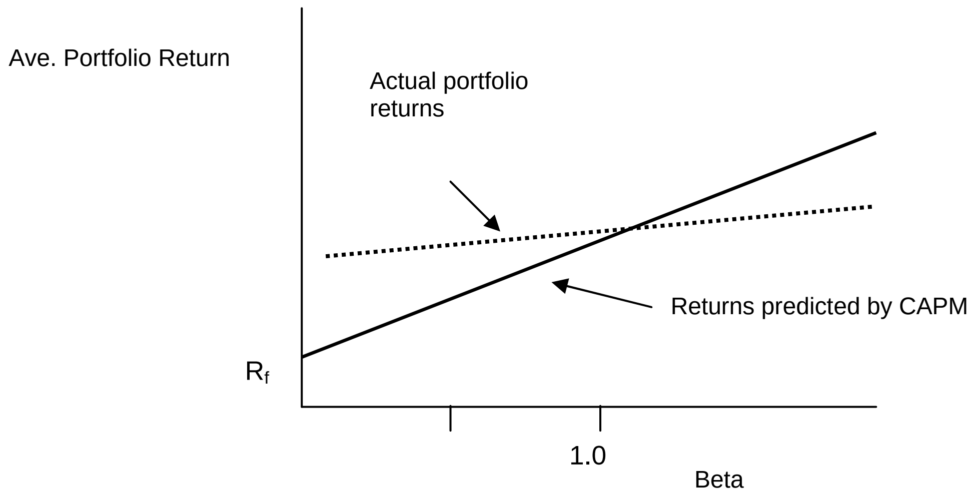
8 *See*, for example, Fischer Black, Michael C. Jensen, and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," in *Studies in the Theory of Capital Markets*, M. Jensen, ed. New York: Praeger, 1972; Eugene Fama and James MacBeth, "Risk, Return, and Equilibrium: Empirical Tests," *Journal of Political Economy* 81 (1973), pp. 607-36; Robert Litzenberger and Krishna Ramaswamy, "The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence," *Journal of Financial Economics* 7 (1979), pp. 163-95.; Rolf Banz, "The Relationship between Return and Market Value of Common Stocks," *Journal of Financial Economics* (March 1981), pp. 3-18; and Eugene Fama and Kenneth French, "The Cross-Section of Expected Returns," *Journal of Finance* (June 1992), pp. 427-465.

Figure 1
Average Returns Compared to Beta for Portfolios Formed on Prior Beta



Financial scholars have found that the relationship between realized returns and betas is inconsistent with the relationship posited by the CAPM. As described in Fama and French (1992) and Fama and French (2004), the actual relationship between portfolio betas and returns is shown by the dotted line in the figure above. Although financial scholars disagree on the reasons why the return/beta relationship looks more like the dotted line in the figure than the solid line, they generally agree that the dotted line lies above the solid line for portfolios with betas less than 1.0 and below the solid line for portfolios with betas greater than 1.0. Thus, in practice, scholars generally agree that the CAPM underestimates portfolio returns for companies with betas less than 1.0, and overestimates portfolio returns for portfolios with betas greater than 1.0.

Q. 86 What conclusions do you reach from your review of the literature on the CAPM to predict the relationship between risk and return in the marketplace?

A. 86 I conclude that the financial literature strongly supports the proposition that the CAPM underestimates the cost of equity for companies such as public utilities with betas less than 1.0. I also conclude that the results of the CAPM should be given little or no weight in this proceeding because the average beta for my proxy group of water companies is significantly less than 1.0.

IX. FAIR RATE OF RETURN ON EQUITY

Q. 87 Please summarize your findings concerning KAWC's cost of equity.

A. 87 Based on my application of several cost of equity methods to my comparable companies, I conclude that my comparable companies' cost of equity is in the range 10.8 percent to 12.1 percent.

TABLE 5
COST OF EQUITY MODEL RESULTS

METHOD	MODEL RESULT
DCF--Water	12.1%
DCF--LDC	11.4%
Ex Ante Risk Premium	11.2%
Ex Post Risk Premium	10.8%
Range of Results	10.8% - 12.1%

Q. 88 What is your recommendation as to a fair rate of return on common equity for KAWC?

A. 88 I conservatively recommend that KAWC be allowed a fair rate of return on common equity in the range 10.8 percent to 12.1 percent. My recommended return on equity is conservative in that I use: (1) the lower simple average DCF result for the proxy water companies, even though a market-value weighted average is generally more appropriate for estimating the cost of equity; and (2) the lower average result for the LDC proxy group obtained by eliminating outlier low and high results.

Q. 89 Does this conclude your testimony?

A. 89 Yes, it does.

LIST OF SCHEDULES AND APPENDICES

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 1
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS
FOR PROXY WATER COMPANY COMPANIES

LINE NO.	COMPANY	D_4	3-MO. AVE. PRICE	I/B/E/S GROWTH	VALUE LINE FORECASTED OR REPORTED EPS GROWTH	AVERAGE GROWTH	MARKET VALUE	COST OF EQUITY
1	Amer. States Water	0.250	34.367	4.00%	9.50%	6.8%	581	10.1%
2	Amer. Water Works	0.210	20.783	9.88%		9.9%	3,278	14.7%
3	Aqua America	0.145	16.528	7.00%	10%	8.5%	2,803	12.5%
4	Artesian Res. 'A'	0.187	16.938	5.00%		5.0%	104	9.9%
5	California Water	0.295	37.225	10.00%	9%	9.5%	938	13.3%
6	Connecticut Water	0.228	23.383		9.00%	9.0%	197	13.6%
7	Middlesex Water	0.180	16.175	8.00%	7.50%	7.8%	228	13.0%
8	Pennichuck	0.175	22.650	9.00%		9.0%	85	12.7%
9	SJW Corp.	0.165	22.173	10.00%	10%	10.0%	542	13.6%
10	Southwest Water	0.050	5.728	5.00%		5.0%	87	7.5%
11	York Water	0.126	14.463	8.00%	7.50%	7.8%	134	11.9%
12	Average[9]							12.1%
13	Market-weighted Average							13.2%

Notes:

d_0	=	Most recent quarterly dividend.
d_1,d_2,d_3,d_4	=	Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per *Value Line* by the factor (1 + g).
P_0	=	Average of the monthly high and low stock prices during the three months ending December 2009 per Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds.
g	=	Average of I/B/E/S and Value Line forecasts of future earnings growth December 2009.
k	=	Cost of equity using the quarterly version of the DCF model shown by the formula below:

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0(1-FC)} + g$$

[9] It is generally more appropriate to refer to a market value weighted average result, as I do in reporting the average result for the proxy group of LDCs. However, two companies in the water company group, American Water Works and Aqua America, represent two-thirds of the market value of all companies in the water company group. Thus, referring to a market-weighted average result would effectively cause a market-weighted average result to depend primarily on the result for two companies, American Water Works and Aqua America, which, in this case, have higher than average DCF results than the smaller companies. I therefore conservatively use the 12.1 percent simple average rather than the 13.2 percent market-weighted average DCF result for the water companies to arrive at my recommendation in this proceeding.

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 2
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS
FOR NATURAL GAS DISTRIBUTION COMPANIES

LINE NO.	COMPANY	D_0	P_0	GROWTH	MARKET CAP $ (MIL)	COST OF EQUITY
1	AGL Resources	0.430	35.490	4.25%	2,414	9.8%
2	Atmos Energy	0.335	28.529	5.00%	2,183	10.3%
3	Energen Corp.	0.125	45.011	3.75%	2,323	5.0%
4	EQT Corp.	0.220	42.813	11.67%	4,703	14.2%
5	MDU Resources	0.158	21.835	14.00%	4,136	17.6%
6	Nicor Inc.	0.465	38.953	2.85%	1,557	8.2%
7	NiSource Inc.	0.230	14.095	3.00%	3,063	10.3%
8	Northwest Nat. Gas	0.415	43.448	4.75%	1,153	8.9%
9	ONEOK Inc.	0.420	39.124	9.07%	3,218	14.1%
10	Piedmont Natural Gas	0.270	24.313	7.87%	2,234	13.2%
11	Questar Corp.	0.130	40.215	9.00%	6,330	10.5%
12	Southwest Gas	0.238	26.530	6.00%	1,113	10.1%
13	Market-weighted Average					11.8%
14	Eliminate highest & lowest					11.4%

Notes:

d_0	=	Most recent quarterly dividend.
d_1, d_2, d_3, d_4	=	Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per *Value Line* by the factor (1 + g).
P_0	=	Average of the monthly high and low stock prices during the three months ending December 2009 from Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds.
g	=	I/B/E/S forecast of future earnings growth December 2009.
k	=	Cost of equity using the quarterly version of the DCF model shown by the formula below:

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0(1-FC)} + g$$

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 3
COMPARISON OF DCF EXPECTED RETURN
ON AN EQUITY INVESTMENT IN NATURAL GAS DISTRIBUTION COMPANIES
TO THE INTEREST RATE ON A-RATED UTILITY BONDS

Line No.	Date	DCF	Bond Yield	Risk Premium
1	Jun-98	0.1154	0.0703	0.0451
2	Jul-98	0.1186	0.0703	0.0483
3	Aug-98	0.1234	0.0700	0.0534
4	Sep-98	0.1273	0.0693	0.0580
5	Oct-98	0.1260	0.0696	0.0564
6	Nov-98	0.1211	0.0703	0.0508
7	Dec-98	0.1185	0.0691	0.0494
8	Jan-99	0.1195	0.0697	0.0498
9	Feb-99	0.1243	0.0709	0.0534
10	Mar-99	0.1257	0.0726	0.0531
11	Apr-99	0.1260	0.0722	0.0538
12	May-99	0.1221	0.0747	0.0474
13	Jun-99	0.1208	0.0774	0.0434
14	Jul-99	0.1222	0.0771	0.0451
15	Aug-99	0.1220	0.0791	0.0429
16	Sep-99	0.1226	0.0793	0.0433
17	Oct-99	0.1233	0.0806	0.0427
18	Nov-99	0.1240	0.0794	0.0446
19	Dec-99	0.1280	0.0814	0.0466
20	Jan-00	0.1301	0.0835	0.0466
21	Feb-00	0.1344	0.0825	0.0519
22	Mar-00	0.1344	0.0828	0.0516
23	Apr-00	0.1316	0.0829	0.0487
24	May-00	0.1292	0.0870	0.0422
25	Jun-00	0.1295	0.0836	0.0459
26	Jul-00	0.1317	0.0825	0.0492
27	Aug-00	0.1290	0.0813	0.0477
28	Sep-00	0.1257	0.0823	0.0434
29	Oct-00	0.1260	0.0814	0.0446
30	Nov-00	0.1251	0.0811	0.0440
31	Dec-00	0.1239	0.0784	0.0455
32	Jan-01	0.1261	0.0780	0.0481
33	Feb-01	0.1261	0.0774	0.0487
34	Mar-01	0.1275	0.0768	0.0507
35	Apr-01	0.1227	0.0794	0.0433

Line No.	Date	DCF	Bond Yield	Risk Premium
36	May-01	0.1302	0.0799	0.0503
37	Jun-01	0.1304	0.0785	0.0519
38	Jul-01	0.1338	0.0778	0.0560
39	Aug-01	0.1327	0.0759	0.0568
40	Sep-01	0.1268	0.0775	0.0493
41	Oct-01	0.1268	0.0763	0.0505
42	Nov-01	0.1268	0.0757	0.0511
43	Dec-01	0.1254	0.0783	0.0471
44	Jan-02	0.1236	0.0766	0.0470
45	Feb-02	0.1241	0.0754	0.0487
46	Mar-02	0.1189	0.0776	0.0413
47	Apr-02	0.1159	0.0757	0.0402
48	May-02	0.1162	0.0752	0.0410
49	Jun-02	0.1170	0.0741	0.0429
50	Jul-02	0.1242	0.0731	0.0511
51	Aug-02	0.1234	0.0717	0.0517
52	Sep-02	0.1260	0.0708	0.0552
53	Oct-02	0.1250	0.0723	0.0527
54	Nov-02	0.1221	0.0714	0.0507
55	Dec-02	0.1216	0.0707	0.0509
56	Jan-03	0.1219	0.0706	0.0513
57	Feb-03	0.1232	0.0693	0.0539
58	Mar-03	0.1195	0.0679	0.0516
59	Apr-03	0.1162	0.0664	0.0498
60	May-03	0.1126	0.0636	0.0490
61	Jun-03	0.1114	0.0621	0.0493
62	Jul-03	0.1127	0.0657	0.0470
63	Aug-03	0.1139	0.0678	0.0461
64	Sep-03	0.1127	0.0656	0.0471
65	Oct-03	0.1123	0.0643	0.0480
66	Nov-03	0.1089	0.0637	0.0452
67	Dec-03	0.1071	0.0627	0.0444
68	Jan-04	0.1059	0.0615	0.0444
69	Feb-04	0.1039	0.0615	0.0424
70	Mar-04	0.1037	0.0597	0.0440
71	Apr-04	0.1041	0.0635	0.0406
72	May-04	0.1045	0.0662	0.0383
73	Jun-04	0.1036	0.0646	0.0390
74	Jul-04	0.1011	0.0627	0.0384
75	Aug-04	0.1008	0.0614	0.0394

Line No.	Date	DCF	Bond Yield	Risk Premium
76	Sep-04	0.0976	0.0598	0.0378
77	Oct-04	0.0974	0.0594	0.0380
78	Nov-04	0.0962	0.0597	0.0365
79	Dec-04	0.0970	0.0592	0.0378
80	Jan-05	0.0990	0.0578	0.0412
81	Feb-05	0.0979	0.0561	0.0418
82	Mar-05	0.0979	0.0583	0.0396
83	Apr-05	0.0988	0.0564	0.0424
84	May-05	0.0981	0.0553	0.0427
85	Jun-05	0.0976	0.0540	0.0436
86	Jul-05	0.0966	0.0551	0.0415
87	Aug-05	0.0969	0.0550	0.0419
88	Sep-05	0.0980	0.0552	0.0428
89	Oct-05	0.0990	0.0579	0.0411
90	Nov-05	0.1049	0.0588	0.0461
91	Dec-05	0.1045	0.0580	0.0465
92	Jan-06	0.0982	0.0575	0.0407
93	Feb-06	0.1124	0.0582	0.0542
94	Mar-06	0.1127	0.0598	0.0529
95	Apr-06	0.1100	0.0629	0.0471
96	May-06	0.1056	0.0642	0.0414
97	Jun-06	0.1049	0.0640	0.0409
98	Jul-06	0.1087	0.0637	0.0450
99	Aug-06	0.1041	0.0620	0.0421
100	Sep-06	0.1053	0.0600	0.0453
101	Oct-06	0.1030	0.0598	0.0432
102	Nov-06	0.1033	0.0580	0.0453
103	Dec-06	0.1035	0.0581	0.0454
104	Jan-07	0.1013	0.0596	0.0417
105	Feb-07	0.1018	0.0590	0.0428
106	Mar-07	0.1018	0.0585	0.0433
107	Apr-07	0.1007	0.0597	0.0410
108	May-07	0.0967	0.0599	0.0368
109	Jun-07	0.0970	0.0630	0.0340
110	Jul-07	0.1006	0.0625	0.0381
111	Aug-07	0.1021	0.0624	0.0397
112	Sep-07	0.1014	0.0618	0.0396
113	Oct-07	0.1080	0.0611	0.0469
114	Nov-07	0.1083	0.0597	0.0486
115	Dec-07	0.1084	0.0616	0.0468

Line No.	Date	DCF	Bond Yield	Risk Premium
116	Jan-08	0.1113	0.0602	0.0511
117	Feb-08	0.1139	0.0621	0.0518
118	Mar-08	0.1147	0.0621	0.0526
119	Apr-08	0.1167	0.0629	0.0538
120	May-08	0.1069	0.0627	0.0442
121	Jun-08	0.1062	0.0638	0.0424
122	Jul-08	0.1086	0.0640	0.0446
123	Aug-08	0.1123	0.0637	0.0486
124	Sep-08	0.1130	0.0649	0.0481
125	Oct-08	0.1213	0.0756	0.0457
126	Nov-08	0.1221	0.0760	0.0461
127	Dec-08	0.1162	0.0654	0.0508
128	Jan-09	0.1131	0.0639	0.0492
129	Feb-09	0.1155	0.0630	0.0524
130	Mar-09	0.1198	0.0642	0.0556
131	Apr-09	0.1146	0.0648	0.0498
132	May-09	0.1225	0.0649	0.0576
133	Jun-09	0.1208	0.0620	0.0588
134	Jul-09	0.1145	0.0597	0.0548
135	Aug-09	0.1109	0.0571	0.0538
136	Sep-09	0.1109	0.0553	0.0556
137	Oct-09	0.1146	0.0555	0.0592
138	Nov-09	0.1148	0.0564	0.0584
139	Dec-09	0.1123	0.0579	0.0544

Notes: A-rated utility bond yield information from the Mergent Bond Record. DCF results are calculated using a quarterly DCF model as follows:

D_0	=	Latest quarterly dividend per *Value Line*.
P_0	=	Average of the monthly high and low stock prices for each month from Thomson Reuters.
FC	=	Flotation costs expressed as a percent of gross proceeds.
g	=	I/B/E/S forecast of future earnings growth for each month.
k	=	Cost of equity using the quarterly version of the DCF model shown by the formula below:

$$k = \left[\frac{d_0 (1+g)^{\frac{1}{4}}}{P_0} \right]^4 - 1$$

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 4
COMPARATIVE RETURNS ON S&P 500 STOCK INDEX
AND MOODY'S A-RATED BONDS 1937 – 2008

Line No.	Year	S&P 500 Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Price	Bond Return
1	2009	865.58	0.0310		$68.43	
2	2008	1,380.33	0.0211	-35.19%	$72.25	0.24%
3	2007	1,424.16	0.0181	-1.27%	$72.91	4.59%
4	2006	1,278.72	0.0183	13.20%	$75.25	2.20%
5	2005	1,181.41	0.0177	10.01%	$74.91	5.80%
6	2004	1,132.52	0.0162	5.94%	$70.87	11.34%
7	2003	895.84	0.0180	28.22%	$62.26	20.27%
8	2002	1,140.21	0.0138	-20.05%	$57.44	15.35%
9	2001	1,335.63	0.0116	-13.47%	$56.40	8.93%
10	2000	1,425.59	0.0118	-5.13%	$52.60	14.82%
11	1999	1,248.77	0.0130	15.46%	$63.03	-10.20%
12	1998	963.35	0.0162	31.25%	$62.43	7.38%
13	1997	766.22	0.0195	27.68%	$56.62	17.32%
14	1996	614.42	0.0231	27.02%	$60.91	-0.48%
15	1995	465.25	0.0287	34.93%	$50.22	29.26%
16	1994	472.99	0.0269	1.05%	$60.01	-9.65%
17	1993	435.23	0.0288	11.56%	$53.13	20.48%
18	1992	416.08	0.0290	7.50%	$49.56	15.27%
19	1991	325.49	0.0382	31.65%	$44.84	19.44%
20	1990	339.97	0.0341	-0.85%	$45.60	7.11%
21	1989	285.41	0.0364	22.76%	$43.06	15.18%
22	1988	250.48	0.0366	17.61%	$40.10	17.36%
23	1987	264.51	0.0317	-2.13%	$48.92	-9.84%
24	1986	208.19	0.0390	30.95%	$39.98	32.36%
25	1985	171.61	0.0451	25.83%	$32.57	35.05%
26	1984	166.39	0.0427	7.41%	$31.49	16.12%
27	1983	144.27	0.0479	20.12%	$29.41	20.65%
28	1982	117.28	0.0595	28.96%	$24.48	36.48%
29	1981	132.97	0.0480	-7.00%	$29.37	-3.01%
30	1980	110.87	0.0541	25.34%	$34.69	-3.81%
31	1979	99.71	0.0533	16.52%	$43.91	-11.89%
32	1978	90.25	0.0532	15.80%	$49.09	-2.40%
33	1977	103.80	0.0399	-9.06%	$50.95	4.20%
34	1976	96.86	0.0380	10.96%	$43.91	25.13%
35	1975	72.56	0.0507	38.56%	$41.76	14.75%
36	1974	96.11	0.0364	-20.86%	$52.54	-12.91%
37	1973	118.40	0.0269	-16.14%	$58.51	-3.37%
38	1972	103.30	0.0296	17.58%	$56.47	10.69%
39	1971	93.49	0.0332	13.81%	$53.93	12.13%

Line No.	Year	S&P 500 Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Price	Bond Return
40	1970	90.31	0.0356	7.08%	$50.46	14.81%
41	1969	102.00	0.0306	-8.40%	$62.43	-12.76%
42	1968	95.04	0.0313	10.45%	$66.97	-0.81%
43	1967	84.45	0.0351	16.05%	$78.69	-9.81%
44	1966	93.32	0.0302	-6.48%	$86.57	-4.48%
45	1965	86.12	0.0299	11.35%	$91.40	-0.91%
46	1964	76.45	0.0305	15.70%	$92.01	3.68%
47	1963	65.06	0.0331	20.82%	$93.56	2.61%
48	1962	69.07	0.0297	-2.84%	$89.60	8.89%
49	1961	59.72	0.0328	18.94%	$89.74	4.29%
50	1960	58.03	0.0327	6.18%	$84.36	11.13%
51	1959	55.62	0.0324	7.57%	$91.55	-3.49%
52	1958	41.12	0.0448	39.74%	$101.22	-5.60%
53	1957	45.43	0.0431	-5.18%	$100.70	4.49%
54	1956	44.15	0.0424	7.14%	$113.00	-7.35%
55	1955	35.60	0.0438	28.40%	$116.77	0.20%
56	1954	25.46	0.0569	45.52%	$112.79	7.07%
57	1953	26.18	0.0545	2.70%	$114.24	2.24%
58	1952	24.19	0.0582	14.05%	$113.41	4.26%
59	1951	21.21	0.0634	20.39%	$123.44	-4.89%
60	1950	16.88	0.0665	32.30%	$125.08	1.89%
61	1949	15.36	0.0620	16.10%	$119.82	7.72%
62	1948	14.83	0.0571	9.28%	$118.50	4.49%
63	1947	15.21	0.0449	1.99%	$126.02	-2.79%
64	1946	18.02	0.0356	-12.03%	$126.74	2.59%
65	1945	13.49	0.0460	38.18%	$119.82	9.11%
66	1944	11.85	0.0495	18.79%	$119.82	3.34%
67	1943	10.09	0.0554	22.98%	$118.50	4.49%
68	1942	8.93	0.0788	20.87%	$117.63	4.14%
69	1941	10.55	0.0638	-8.98%	$116.34	4.55%
70	1940	12.30	0.0458	-9.65%	$112.39	7.08%
71	1939	12.50	0.0349	1.89%	$105.75	10.05%
72	1938	11.31	0.0784	18.36%	$99.83	9.94%
73	1937	17.59	0.0434	-31.36%	$103.18	0.63%
74	S&P 500 Return 1937--2009		10.8%			
75	A-rated Utility Bond Return		6.3%			
76	Risk Premium		4.5%			

Note: See Appendix 4 for an explanation of how stock and bond returns are derived and the source of the data presented.

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 5
COMPARATIVE RETURNS ON S&P UTILITY STOCK INDEX
AND MOODY'S A-RATED BONDS 1937 – 2008

Line No.	Year	S&P Utility Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Yield	Bond Return
1	2009				$68.43	
2	2008			-25.90%	$72.25	0.24%
3	2007			16.56%	$72.91	4.59%
4	2006			20.76%	$75.25	2.20%
5	2005			16.05%	$74.91	5.80%
6	2004			22.84%	$70.87	11.34%
7	2003			23.48%	$62.26	20.27%
8	2002			-14.73%	$57.44	15.35%
9						
10	2002	243.79	0.0362		$57.44	
11	2001	307.70	0.0287	-17.90%	$56.40	8.93%
12	2000	239.17	0.0413	32.78%	$52.60	14.82%
13	1999	253.52	0.0394	-1.72%	$63.03	-10.20%
14	1998	228.61	0.0457	15.47%	$62.43	7.38%
15	1997	201.14	0.0492	18.58%	$56.62	17.32%
16	1996	202.57	0.0454	3.83%	$60.91	-0.48%
17	1995	153.87	0.0584	37.49%	$50.22	29.26%
18	1994	168.70	0.0496	-3.83%	$60.01	-9.65%
19	1993	159.79	0.0537	10.95%	$53.13	20.48%
20	1992	149.70	0.0572	12.46%	$49.56	15.27%
21	1991	138.38	0.0607	14.25%	$44.84	19.44%
22	1990	146.04	0.0558	0.33%	$45.60	7.11%
23	1989	114.37	0.0699	34.68%	$43.06	15.18%
24	1988	106.13	0.0704	14.80%	$40.10	17.36%
25	1987	120.09	0.0588	-5.74%	$48.92	-9.84%
26	1986	92.06	0.0742	37.87%	$39.98	32.36%
27	1985	75.83	0.0860	30.00%	$32.57	35.05%
28	1984	68.50	0.0925	19.95%	$31.49	16.12%
29	1983	61.89	0.0948	20.16%	$29.41	20.65%
30	1982	51.81	0.1074	30.20%	$24.48	36.48%
31	1981	52.01	0.0978	9.40%	$29.37	-3.01%
32	1980	50.26	0.0953	13.01%	$34.69	-3.81%
33	1979	50.33	0.0893	8.79%	$43.91	-11.89%
34	1978	52.40	0.0791	3.96%	$49.09	-2.40%
35	1977	54.01	0.0714	4.16%	$50.95	4.20%
36	1976	46.99	0.0776	22.70%	$43.91	25.13%
37	1975	38.19	0.0920	32.24%	$41.76	14.75%
38	1974	48.60	0.0713	-14.29%	$52.54	-12.91%
39	1973	60.01	0.0556	-13.45%	$58.51	-3.37%
40	1972	60.19	0.0542	5.12%	$56.47	10.69%
41	1971	63.43	0.0504	-0.07%	$53.93	12.13%
42	1970	55.72	0.0561	19.45%	$50.46	14.81%
43	1969	68.65	0.0445	-14.38%	$62.43	-12.76%
44	1968	68.02	0.0435	5.28%	$66.97	-0.81%
45	1967	70.63	0.0392	0.22%	$78.69	-9.81%
46	1966	74.50	0.0347	-1.72%	$86.57	-4.48%
47	1965	75.87	0.0315	1.34%	$91.40	-0.91%

Line No.	Year	S&P Utility Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Yield	Bond Return
48	1964	67.26	0.0331	16.11%	$92.01	3.68%
49	1963	63.35	0.0330	9.47%	$93.56	2.61%
50	1962	62.69	0.0320	4.25%	$89.60	8.89%
51	1961	52.73	0.0358	22.47%	$89.74	4.29%
52	1960	44.50	0.0403	22.52%	$84.36	11.13%
53	1959	43.96	0.0377	5.00%	$91.55	-3.49%
54	1958	33.30	0.0487	36.88%	$101.22	-5.60%
55	1957	32.32	0.0487	7.90%	$100.70	4.49%
56	1956	31.55	0.0472	7.16%	$113.00	-7.35%
57	1955	29.89	0.0461	10.16%	$116.77	0.20%
58	1954	25.51	0.0520	22.37%	$112.79	7.07%
59	1953	24.41	0.0511	9.62%	$114.24	2.24%
60	1952	22.22	0.0550	15.36%	$113.41	4.26%
61	1951	20.01	0.0606	17.10%	$123.44	-4.89%
62	1950	20.20	0.0554	4.60%	$125.08	1.89%
63	1949	16.54	0.0570	27.83%	$119.82	7.72%
64	1948	16.53	0.0535	5.41%	$118.50	4.49%
65	1947	19.21	0.0354	-10.41%	$126.02	-2.79%
66	1946	21.34	0.0298	-7.00%	$126.74	2.59%
67	1945	13.91	0.0448	57.89%	$119.82	9.11%
68	1944	12.10	0.0569	20.65%	$119.82	3.34%
69	1943	9.22	0.0621	37.45%	$118.50	4.49%
70	1942	8.54	0.0940	17.36%	$117.63	4.14%
71	1941	13.25	0.0717	-28.38%	$116.34	4.55%
72	1940	16.97	0.0540	-16.52%	$112.39	7.08%
73	1939	16.05	0.0553	11.26%	$105.75	10.05%
74	1938	14.30	0.0730	19.54%	$99.83	9.94%
75	1937	24.34	0.0432	-36.93%	$103.18	0.63%
76	Return 1937—2009	Stocks	10.5%			
77		Bonds	6.3%			
78	Risk Premium		4.2%			

See Appendix 5 for an explanation of how stock and bond returns are derived and the source of the data presented. Standard & Poor's discontinued its S&P Utilities Index in December 2001 and replaced its utilities stock index with separate indices for electric and natural gas utilities. In this study, the stock returns beginning in 2002 are based on the total returns for the EEI Index of U.S. shareholder-owned electric utilities, as reported by EEI on its website.
http://www.eei.org/industry_issues/finance_and_accounting/finance/research_and_analysis/EEI_Stock_Index

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 6
USING THE ARITHMETIC MEAN TO ESTIMATE
THE COST OF EQUITY CAPITAL

Consider an investment that in a given year generates a return of 30 percent with probability equal to .5 and a return of -10 percent with a probability equal to .5. For each one dollar invested, the possible outcomes of this investment at the end of year one are:

Ending Wealth	Probability
$1.30	0.50
$0.90	0.50

At the end of year two, the possible outcomes are:

Ending Wealth			Probability	Value x Probability
(1.30) (1.30)	=	$1.69	0.25	0.4225
(1.30) (.9)	=	$1.17	0.50	0.5850
(.9) (.9)	=	$0.81	0.25	0.2025
Expected Wealth	=			$1.21

The expected value of this investment at the end of year two is $1.21. In a competitive capital market, the cost of equity is equal to the expected rate of return on an investment. In the above example, the cost of equity is that rate of return which will make the initial investment of one dollar grow to the expected value of $1.21 at the end of two years. Thus, the cost of equity is the solution to the equation:

$$1(1+k)^2 = 1.21 \text{ or}$$

$$k = (1.21/1)^{.5} - 1 = 10\%.$$

The arithmetic mean of this investment is:

$$(30\%)\ (.5) + (-10\%)\ (.5) = 10\%.$$

Thus, the arithmetic mean is equal to the cost of equity capital.

The geometric mean of this investment is:

$$[(1.3)\ (.9)]^{.5} - 1 = .082 = 8.2\%.$$

Thus, the geometric mean is not equal to the cost of equity capital.

The lesson is obvious: for an investment with an uncertain outcome, the arithmetic mean is the best measure of the cost of equity capital.

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 7
CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING THE IBBOTSON® SBBI® 7.1 PERCENT RISK PREMIUM

Risk-free Rate	4.70%	-Long-term Treasury bond yield
Beta	0.73	Average Beta Comparable Water Companies
Risk Premium	6.50%	Long-horizon SBBI risk premium
Beta x Risk Premium	4.75%	
Flotation	0.19%	
CAPM cost of equity	9.6%	

Ibbotson SBBI risk premium from 2009 Ibbotson® SBBI® Stocks, Bonds, Bills, and Inflation® Valuation Yearbook; Value Line beta for comparable companies from Value Line December 2009. Forecast 20-year Treasury bond yield from Value Line Selection & Opinion, November 27, 2009.

COMPARABLE COMPANY BETAS

Line No.	Company	Value Line Beta	Market Value
1	Amer. States Water	0.80	581
2	Amer. Water Works	NA	3,278
3	Aqua America	0.65	2,803
4	Artesian Res. 'A'	0.60	104
5	California Water	0.75	938
6	Connecticut Water	0.85	197
7	Middlesex Water	0.80	228
8	Pennichuck	0.55	85
9	SJW Corp.	0.95	542
10	Southwest Water	1.10	87
11	York Water	0.65	134
12	Average	0.77	
13	Market-weighted Average	0.73	

Data from Value Line December 2009.

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 8
CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING DCF ESTIMATE OF THE EXPECTED RATE OF RETURN
ON THE MARKET PORTFOLIO

Line No.			
1	Risk-free Rate	4.40%	20-year Treasury Bond Yield
2	Beta	0.73	Average Beta Comparable Water Companies
3	DCF S&P 500	13.1%	DCF Cost of Equity S&P 500 (see following)
4	Risk Premium	8.40%	
5	Beta * Risk Premium	6.13%	
6	Flotation cost	0.19%	
7	Cost of Equity	11.0%	

Value Line beta for comparable companies from Value Line December 2009. Forecast 20-year Treasury bond yield from Value Line Selection & Opinion, November 27, 2009.

KENTUCKY AMERICAN WATER COMPANY
EXHIBIT__(JVW-1)
SCHEDULE 8 (CONTINUED)
CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY USING DCF ESTIMATE OF THE EXPECTED RATE OF RETURN ON THE MARKET PORTFOLIO
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS FOR S&P 500 COMPANIES

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
3M	77.26	2.04	11.30%	14.3%
ABERCROMBIE & FITCH	36.05	0.70	11.21%	13.4%
AETNA	28.76	0.04	14.00%	14.2%
AIR PRDS.& CHEMS.	80.82	1.80	9.47%	11.9%
AIRGAS	47.16	0.72	12.31%	14.0%
ALLERGAN	58.53	0.20	14.40%	14.8%
AMERICAN EXPRESS	37.79	0.72	10.25%	12.4%
AMERISOURCEBERGEN	23.88	0.32	11.50%	13.0%
APPLIED MATS.	12.86	0.24	12.00%	14.1%
ASSURANT	30.70	0.60	11.25%	13.4%
AT&T	26.72	1.68	7.17%	14.1%
AVERY DENNISON	37.18	0.80	9.00%	11.4%
BANK OF NEW YORK MELLON	27.52	0.36	10.83%	12.3%
BAXTER INTL.	56.24	1.16	12.30%	14.6%
BECTON DICKINSON	72.21	1.48	12.67%	15.0%
BEMIS	28.13	0.90	9.50%	13.0%
BEST BUY	40.79	0.56	12.64%	14.2%
BURL.NTHN.SANTA FE C	88.92	1.60	12.86%	14.9%
CA	22.18	0.16	11.60%	12.4%
CAPITAL ONE FINL.	38.36	0.20	11.00%	11.6%
CATERPILLAR	56.60	1.68	11.50%	14.8%
CHESAPEAKE ENERGY	25.48	0.30	11.33%	12.6%
CHUBB	50.10	1.40	10.00%	13.1%
CINTAS	28.47	0.47	10.83%	12.7%
CLOROX	59.86	2.00	9.75%	13.5%
COCA COLA	55.86	1.64	8.21%	11.4%
COLGATE-PALM.	81.34	1.76	10.40%	12.8%
COMCAST 'A'	15.51	0.38	12.42%	15.2%
CORNING	16.33	0.20	13.00%	14.4%
COSTCO WHOLESALE	58.73	0.72	13.07%	14.5%
DANAHER	70.98	0.16	12.25%	12.5%
DEERE	49.66	1.12	9.00%	11.5%
DENTSPLY INTL.	34.25	0.20	13.80%	14.5%
DOMINION RES.	36.09	1.75	8.16%	13.5%
EATON	62.78	2.00	9.00%	12.5%
ECOLAB	45.22	0.62	12.78%	14.3%
ELI LILLY	35.22	1.96	5.93%	12.0%
ENTERGY	79.68	3.00	10.42%	14.6%
EQT	42.81	0.88	11.67%	14.0%
ESTEE LAUDER COS.'A'	45.11	0.55	11.00%	12.4%
EXELON	48.71	2.10	8.44%	13.2%
FAMILY DOLLAR STORES	29.09	0.54	11.80%	13.9%
FEDERATED INVRS.'B'	26.57	0.96	9.33%	13.3%
FIRSTENERGY	44.44	2.20	9.33%	14.8%

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
FLOWSERVE	100.43	1.08	10.17%	11.4%
FORTUNE BRANDS	41.22	0.76	10.00%	12.0%
FPL GROUP	52.32	1.89	9.73%	13.7%
FRANKLIN RESOURCES	107.68	0.88	10.50%	11.4%
GAP	21.87	0.34	12.00%	13.8%
GENERAL DYNAMICS	66.57	1.52	9.00%	11.5%
GENERAL ELECTRIC	15.51	0.40	9.50%	12.4%
GENUINE PARTS	36.87	1.60	8.26%	13.0%
H&R BLOCK	19.85	0.60	11.75%	15.2%
HARLEY-DAVIDSON	26.40	0.40	10.00%	11.7%
HASBRO	29.35	0.80	9.00%	12.0%
HEWLETT-PACKARD	49.13	0.32	12.50%	13.2%
HOME DEPOT	27.03	0.90	9.75%	13.4%
HONEYWELL INTL.	38.46	1.21	10.00%	13.5%
ILLINOIS TOOL WORKS	47.29	1.24	10.42%	13.3%
IMS HEALTH	18.20	0.12	11.67%	12.4%
INTERNATIONAL BUS.MCHS.	125.53	2.20	11.00%	13.0%
INTL.GAME TECH.	19.30	0.24	13.60%	15.0%
INVESCO	22.29	0.41	12.00%	14.1%
ITT	51.93	0.85	13.00%	14.9%
JOHNSON & JOHNSON	62.02	1.96	8.24%	11.7%
KELLOGG	51.88	1.50	9.33%	12.5%
KIMBERLY-CLARK	63.09	2.40	7.67%	11.8%
KRAFT FOODS	26.93	1.16	9.15%	13.9%
L3 COMMUNICATIONS	78.72	1.40	10.67%	12.7%
LOWE'S COMPANIES	21.56	0.36	11.25%	13.1%
MARSH & MCLENNAN	23.26	0.80	8.67%	12.5%
MATTEL	19.68	0.75	9.00%	13.2%
MCDONALDS	60.68	2.20	9.38%	13.4%
MCKESSON	61.10	0.48	12.38%	13.3%
MEDTRONIC	39.97	0.82	12.32%	14.6%
METLIFE	35.23	0.74	11.64%	14.0%
MICROSOFT	28.68	0.52	10.06%	12.1%
MOLSON COORS BREWING 'B'	46.90	0.96	11.33%	13.6%
MORGAN STANLEY	31.64	0.20	11.26%	12.0%
NIKE 'B'	63.99	1.08	13.00%	14.9%
NOBLE ENERGY	68.23	0.72	10.67%	11.8%
NORDSTROM	34.11	0.64	10.50%	12.6%
NORFOLK SOUTHERN	49.46	1.36	10.72%	13.8%
NORTHERN TRUST	51.54	1.12	11.83%	14.3%
PACCAR	37.50	0.36	11.75%	12.8%
PARKER-HANNIFIN	54.75	1.00	12.67%	14.7%
PENNEY JC	31.16	0.80	11.50%	14.4%
PEOPLES UNITED FINANCIAL	16.32	0.61	11.00%	15.2%
PEPSICO	61.19	1.80	8.88%	12.1%
PERKINELMER	19.59	0.28	13.00%	14.6%
PG&E	42.45	1.68	7.20%	11.5%
PLUM CREEK TIMBER	33.70	1.68	7.67%	13.1%
POLO RALPH LAUREN 'A'	78.47	0.40	13.75%	14.3%
PRAXAIR	81.84	1.60	12.37%	14.6%
PRINCIPAL FINL.GP.	25.79	0.50	10.33%	12.5%
PROCTER & GAMBLE	60.21	1.76	10.00%	13.3%
PROGRESS ENERGY	38.88	2.48	5.96%	12.9%
QUEST DIAGNOSTICS	57.52	0.40	13.17%	14.0%

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
QWEST COMMS.INTL.	3.80	0.32	3.20%	12.2%
RANGE RES.	50.01	0.16	13.92%	14.3%
ROPER INDS.NEW	51.89	0.38	14.20%	15.0%
RYDER SYSTEM	42.10	1.00	11.53%	14.2%
SCRIPPS NETWORKS INTACT. 'A'	39.31	0.30	10.47%	11.3%
SEALED AIR	21.09	0.48	10.67%	13.2%
SNAP-ON	37.90	1.20	10.67%	14.2%
SOUTHERN	32.46	1.75	5.59%	11.4%
SOUTHWEST AIRLINES	9.49	0.02	11.00%	11.2%
STANLEY WORKS	47.79	1.32	10.00%	13.1%
STAPLES	23.13	0.33	13.57%	15.2%
STATE STREET	44.24	0.04	11.07%	11.2%
T ROWE PRICE GP.	50.14	1.00	11.64%	13.9%
TARGET	48.19	0.68	12.55%	14.1%
TECO ENERGY	14.80	0.80	7.68%	13.6%
TEXTRON	19.26	0.08	12.75%	13.2%
TIFFANY & CO	41.25	0.68	11.33%	13.2%
TIME WARNER	28.94	0.70	10.33%	13.0%
TJX COS.	38.10	0.48	13.17%	14.6%
TOTAL SYSTEM SERVICES	16.66	0.28	12.13%	14.0%
TRAVELERS COS.	50.59	1.32	9.67%	12.6%
UNITED TECHNOLOGIES	65.78	1.54	10.00%	12.6%
UNITEDHEALTH GP.	27.71	0.03	11.63%	11.8%
UNUM GROUP	20.13	0.33	10.00%	11.8%
V F	73.73	2.40	10.40%	14.0%
VERIZON COMMUNICATIONS	30.93	1.90	6.34%	13.0%
WAL MART STORES	52.12	1.09	11.45%	13.8%
WALGREEN	38.39	0.55	12.50%	14.1%
WESTERN UNION	18.95	0.06	12.42%	12.8%
WISCONSIN ENERGY	45.60	1.35	9.36%	12.6%
WW GRAINGER	95.81	1.84	11.73%	13.9%
XCEL ENERGY	20.03	0.98	6.87%	12.2%
XL CAP.'A'	17.61	0.40	11.00%	13.5%
XTO EN.	43.26	0.50	10.88%	12.2%
YUM! BRANDS	34.40	0.84	11.82%	14.6%
Market-weighted Average				13.1%

Notes: In applying the DCF model to the S&P 500, I included in the DCF analysis only those companies in the S&P 500 group which pay a dividend, have a positive growth rate, and have at least three analysts' long-term growth estimates. To be conservative, I also eliminated those 25% of companies with the highest and lowest DCF results.

D_0 = Current dividend per Thomson Reuters.
P_0 = Average of the monthly high and low stock prices during the three months ending December 2009 per Thomson Reuters.
g = I/B/E/S forecast of future earnings growth December 2009.
k = Cost of equity using the quarterly version of the DCF model shown below:

$$k = \left[\frac{d_0 (1+g)^{\frac{1}{4}}}{P_0} \right]^4 - 1$$

APPENDIX 1
QUALIFICATIONS OF JAMES H. VANDER WEIDE, PH.D.

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James H. Vander Weide is Research Professor of Finance and Economics at Duke University, the Fuqua School of Business. Dr. Vander Weide is also founder and President of Financial Strategy Associates, a consulting firm that provides strategic, financial, and economic consulting services to corporate clients, including cost of capital and valuation studies.

Educational Background and Prior Academic Experience

Dr. Vander Weide holds a Ph.D. in Finance from Northwestern University and a Bachelor of Arts in Economics from Cornell University. He joined the faculty at Duke University and was named Assistant Professor, Associate Professor, Professor, and then Research Professor of Finance and Economics.

Since joining the faculty at Duke, Dr. Vander Weide has taught courses in corporate finance, investment management, and management of financial institutions. He has also taught courses in statistics, economics, and operations research, and a Ph.D. seminar on the theory of public utility pricing. In addition, Dr. Vander Weide has been active in executive education at Duke and Duke Corporate Education, leading executive development seminars on topics including financial analysis, cost of capital, creating shareholder value, mergers and acquisitions, real options, capital budgeting, cash management, measuring corporate performance, valuation, short-run financial planning, depreciation policies, financial strategy, and competitive strategy. Dr. Vander Weide has designed and served as Program Director for several executive education programs, including the Advanced Management Program, Competitive Strategies in Telecommunications, and the Duke Program for Manager Development for managers from the former Soviet Union.

Publications

Dr. Vander Weide has written a book entitled *Managing Corporate Liquidity: An Introduction to Working Capital Management* published by John Wiley and Sons, Inc. He has also written a chapter titled, "Financial Management in the Short Run" for *The Handbook of Modern Finance*; a chapter for *The Handbook of Portfolio Construction: Contemporary Applications of Markowitz Techniques,* "Principles for Lifetime Portfolio Selection: Lessons from Portfolio Theory," and written research papers on such topics as portfolio management, capital budgeting, investments, the effect of regulation on the performance of public utilities, and cash management. His articles have been published in *American Economic Review, Financial Management, International Journal of Industrial Organization, Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Bank Research, Journal of Portfolio Management, Journal of Accounting Research, Journal of Cash Management, Management Science, Atlantic Economic Journal, Journal of Economics and Business,* and *Computers and Operations Research.*

Professional Consulting Experience

Dr. Vander Weide has provided financial and economic consulting services to firms in the electric, gas, insurance, telecommunications, and water industries for more than 25 years. He has testified on the cost of capital, competition, risk, incentive regulation, forward-looking economic cost, economic pricing guidelines, depreciation, accounting, valuation, and other financial and economic issues in more than 400 cases before the United States Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Energy Board (Canada), the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the Alberta Utilities Board (Canada), the public service commissions of 43 states and the District of Columbia, the insurance commissions of five states, the Iowa State Board of Tax Review, the National Association of Securities Dealers, and the North Carolina Property Tax Commission. In addition, he has testified as an expert witness in proceedings before the United States District Court for the District of New Hampshire; United States District Court for the Northern District of California; United States District Court for the Northern District of Illinois, United States District Court for the District of Nebraska; United States District Court for the Eastern District of North Carolina; Superior Court of North Carolina, the United States Bankruptcy Court for the Southern District of West Virginia; and United States District Court for the Eastern District of Michigan. With respect to implementation of the Telecommunications Act of 1996, Dr. Vander Weide has testified in 30 states on issues relating to the pricing of unbundled network elements and universal service cost studies and has consulted with Bell Canada, Deutsche Telekom, and Telefónica on similar issues. He has also provided expert testimony on issues related to electric and natural gas restructuring. He has worked for Bell Canada/Nortel on a special task force to study the effects of vertical integration in the Canadian telephone industry and has worked for Bell Canada as an expert witness on the cost of capital. Dr. Vander Weide has provided consulting and expert witness testimony to the following companies:

Telecommunications Companies	
ALLTEL and its subsidiaries	Ameritech (now AT&T new)
AT&T (old)	Verizon (Bell Atlantic) and subsidiaries
Bell Canada/Nortel	BellSouth and its subsidiaries
Centel and its subsidiaries	Cincinnati Bell (Broadwing)
Cisco Systems	Citizens Telephone Company
Concord Telephone Company	Contel and its subsidiaries
Deutsche Telekom	GTE and subsidiaries (now Verizon)
Heins Telephone Company	Lucent Technologies
JDS Uniphase	Tellabs, Inc.
Minnesota Independent Equal Access Corp.	NYNEX and its subsidiaries (Verizon)
Pacific Telesis and its subsidiaries	Phillips County Cooperative Tel. Co.
Pine Drive Cooperative Telephone Co.	Roseville Telephone Company (SureWest)
Siemens	SBC Communications (now AT&T new)
Sherburne Telephone Company	Southern New England Telephone
The Stentor Companies	Sprint/United and its subsidiaries
Telefónica	Union Telephone Company
Woodbury Telephone Company	United States Telephone Association

U S West (Qwest)	Valor Telecommunications (Windstream)
Electric, Gas, Pipeline, and Water Companies	
Alcoa Power Generating, Inc.	NOVA Gas Transmission Ltd.
Alliant Energy	North Shore Gas
AltaLink, L.P.	PacifiCorp
Ameren	PG&E
American Water Works	Peoples Energy and its subsidiaries
Atmos Energy	The Peoples Gas, Light and Coke Co.
Central Illinois Public Service	Progress Energy
Citizens Utilities	Public Service Company of North Carolina
Consolidated Natural Gas and its subsidiaries	PSE&G
Dominion Resources	Sempra Energy
Duke Energy	South Carolina Electric and Gas
Empire District Electric Company	Southern Company and subsidiaries
EPCOR Distribution & Transmission Inc.	Tennessee-American Water Company
EPCOR Energy Alberta Inc.	Trans Québec & Maritimes Pipeline Inc.
FortisAlberta Inc.	United Cities Gas Company
Interstate Power Company	Union Gas
Iowa-American Water Company	
Iowa-Illinois Gas and Electric	
Iowa Southern	
Kentucky American Water Company	
Kentucky Power Company	
Kinder Morgan Energy Partners	
MidAmerican Energy and its subsidiaries	
Nevada Power Company	
NICOR	
North Carolina Natural Gas	
Northern Natural Gas Company	
Insurance Companies	
Allstate	
North Carolina Rate Bureau	

United Services Automobile Association (USAA)	
The Travelers Indemnity Company	
Gulf Insurance Company	

Other Professional Experience

Dr. Vander Weide conducts in-house seminars and training sessions on topics such as creating shareholder value, financial analysis, competitive strategy, cost of capital, real options, financial strategy, managing growth, mergers and acquisitions, valuation, measuring corporate performance, capital budgeting, cash management, and financial planning. Among the firms for whom he has designed and taught tailored programs and training sessions are ABB Asea Brown Boveri, Accenture, Allstate, Ameritech, AT&T, Bell Atlantic/Verizon, BellSouth, Progress Energy/Carolina Power & Light, Contel, Fisons, GlaxoSmithKline, GTE, Lafarge, MidAmerican Energy, New Century Energies, Norfolk Southern, Pacific Bell Telephone, The Rank Group, Siemens, Southern New England Telephone, TRW, and Wolseley Plc. Dr. Vander Weide has also hosted a nationally prominent conference/workshop on estimating the cost of capital. In 1989, at the request of Mr. Fuqua, Dr. Vander Weide designed the Duke Program for Manager Development for managers from the former Soviet Union, the first in the United States designed exclusively for managers from Russia and the former Soviet republics.

In the 1970's, Dr. Vander Weide helped found University Analytics, Inc., which at that time was one of the fastest growing small firms in the country. As an officer at University Analytics, he designed cash management models, databases, and software packages that are still used by most major U.S. banks in consulting with their corporate clients. Having sold his interest in University Analytics, Dr. Vander Weide now concentrates on strategic and financial consulting, academic research, and executive education.

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APPENDIX 2
THE QUARTERLY DCF MODEL

The simple DCF Model assumes that a firm pays dividends only at the end of each year. Since firms in fact pay dividends quarterly and investors appreciate the time value of money, the annual version of the DCF Model generally underestimates the value investors are willing to place on the firm's expected future dividend stream. In this appendix, we review two alternative formulations of the DCF Model that allow for the quarterly payment of dividends.

When dividends are assumed to be paid annually, the DCF Model suggests that the current price of the firm's stock is given by the expression:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_n + P_n}{(1+k)^n} \quad \textbf{(1)}$$

where

P_0	=	current price per share of the firm's stock,
$D_1, D_2, \ldots, D_n$	=	expected annual dividends per share on the firm's stock,
P_n	=	price per share of stock at the time investors expect to sell the stock, and
k	=	return investors expect to earn on alternative investments of the same risk, i.e., the investors' required rate of return.

Unfortunately, expression (1) is rather difficult to analyze, especially for the purpose of estimating k. Thus, most analysts make a number of simplifying assumptions. First, they assume that dividends are expected to grow at the constant rate g into the indefinite future. Second, they assume that the stock price at time n is simply the present value of all dividends expected in periods subsequent to n. Third, they assume that the investors' required rate of return, k, exceeds the expected dividend growth rate g. Under the above simplifying assumptions, a firm's stock price may be written as the following sum:

$$P_0 = \frac{D_0(1+g)}{(1+k)} + \frac{D_0(1+g)^2}{(1+k)^2} + \frac{D_0(1+g)^3}{(1+k)^3} + \ldots , \qquad \textbf{(2)}$$

where the three dots indicate that the sum continues indefinitely.

As we shall demonstrate shortly, this sum may be simplified to:

$$P_0 = \frac{D_0(1+g)}{(k-g)}$$

First, however, we need to review the very useful concept of a geometric progression.

Geometric Progression

Consider the sequence of numbers 3, 6, 12, 24,…, where each number after the first is obtained by multiplying the preceding number by the factor 2. Obviously, this sequence of numbers may also be expressed as the sequence 3, 3 x 2, 3 x 2^2, 3 x 2^3, etc. This sequence is an example of a geometric progression.

Definition: A geometric progression is a sequence in which each term after the first is obtained by multiplying some fixed number, called the common ratio, by the preceding term.

A general notation for geometric progressions is: a, the first term, r, the common ratio, and n, the number of terms. Using this notation, any geometric progression may be represented by the sequence:

$$a, ar, ar^2, ar^3, \ldots, ar^{n-1}.$$

In studying the DCF Model, we will find it useful to have an expression for the sum of n terms of a geometric progression. Call this sum S_n. Then

$$S_n = a + ar + \ldots + ar^{n-1}. \qquad \textbf{(3)}$$

However, this expression can be simplified by multiplying both sides of equation (3) by r and then subtracting the new equation from the old. Thus,

$$rS_n = ar + ar^2 + ar^3 + \ldots + ar^n$$

and

$$S_n - rS_n = a - ar^n \quad ,$$

or

$$(1 - r)\ S_n = a\ (1 - r^n) \quad .$$

Solving for S_n, we obtain:

$$S_n = \frac{a(1 - r^n)}{(1 - r)} \qquad \textbf{(4)}$$

as a simple expression for the sum of n terms of a geometric progression. Furthermore, if $|r| < 1$, then S_n is finite, and as n approaches infinity, S_n approaches $a \div (1\text{-}r)$. Thus, for a geometric progression with an infinite number of terms and $|r| < 1$, equation (4) becomes:

$$S = \frac{a}{1 - r} \qquad \textbf{(5)}$$

<u>Application to DCF Model</u>

Comparing equation (2) with equation (3), we see that the firm's stock price (under the DCF assumption) is the sum of an infinite geometric progression with the first term

$$a = \frac{D_0(1 + g)}{(1 + k)}$$

and common factor

$$r = \frac{(1 + g)}{(1 + k)}$$

Applying equation (5) for the sum of such a geometric progression, we obtain

$$S = a \bullet \frac{1}{(1 - r)} = \frac{D_0(1 + g)}{(1 + k)} \bullet \frac{1}{1 - \frac{1 + g}{1 + k}} = \frac{D_0(1 + g)}{(1 + k)} \bullet \frac{1 + k}{k - g} = \frac{D_0(1 + g)}{k - g}$$

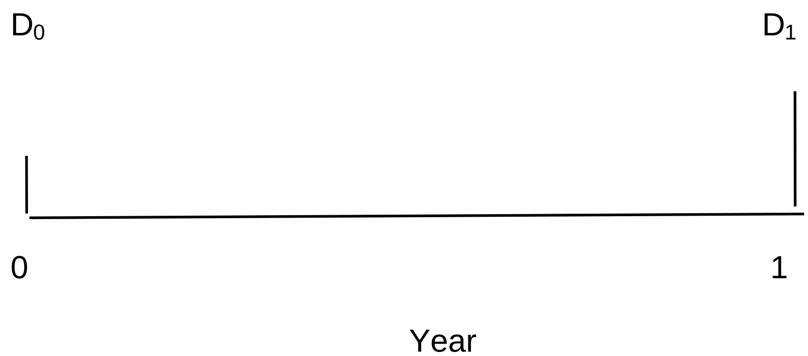
as we suggested earlier.

Quarterly DCF Model

The Annual DCF Model assumes that dividends grow at an annual rate of g% per year (see Figure 1).

Figure 1

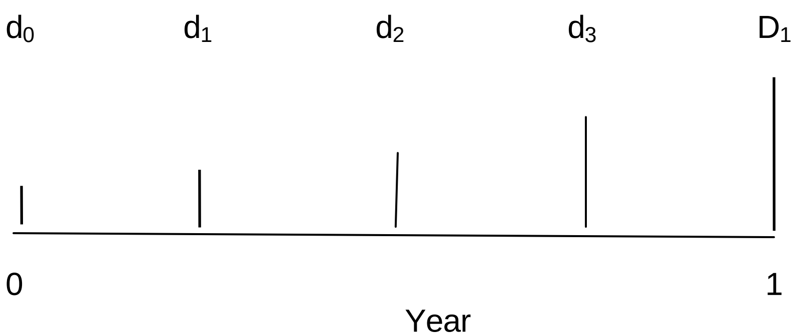
Annual DCF Model



$D_0 = 4d_0$ $D_1 = D_0(1 + g)$

Figure 2

Quarterly DCF Model (Constant Growth Version)



$d_1 = d_0(1+g)^{.25}$ $d_2 = d_0(1+g)^{.50}$

$d_3 = d_0(1+g)^{.75}$ $d_4 = d_0(1+g)$

In the Quarterly DCF Model, it is natural to assume that quarterly dividend payments differ from the preceding quarterly dividend by the factor $(1 + g)^{.25}$, where g is expressed in terms of percent per year and the decimal .25 indicates that the growth has only occurred for one quarter of the year. (See Figure 2.) Using this assumption, along with the assumption of constant growth and $\boldsymbol{k} > \boldsymbol{g}$, we obtain a new expression for the firm's stock price, which takes account of the quarterly payment of dividends. This expression is:

$$P_0 = \frac{d_0(1+g)^{\frac{1}{4}}}{(1+k)^{\frac{1}{4}}} + \frac{d_0(1+g)^{\frac{2}{4}}}{(1+k)^{\frac{2}{4}}} + \frac{d_0(1+g)^{\frac{3}{4}}}{(1+k)^{\frac{3}{4}}} + \ldots \qquad \textbf{(6)}$$

where d_0 is the last quarterly dividend payment, rather than the last annual dividend payment. (We use a lower case d to remind the reader that this is not the annual dividend.)

Although equation (6) looks formidable at first glance, it too can be greatly simplified using the formula [equation (4)] for the sum of an infinite geometric progression. As the reader can easily verify, equation (6) can be simplified to:

$$P_0 = \frac{d_0(1+g)^{\frac{1}{4}}}{(1+k)^{\frac{1}{4}} - (1+g)^{\frac{1}{4}}} \qquad \textbf{(7)}$$

Solving equation (7) for k, we obtain a DCF formula for estimating the cost of equity under the quarterly dividend assumption:

$$k = \left[\frac{d_0(1+g)^{\frac{1}{4}}}{P_0} + (1+g)^{\frac{1}{4}} \right]^4 - 1 \qquad \textbf{(8)}$$

An Alternative Quarterly DCF Model

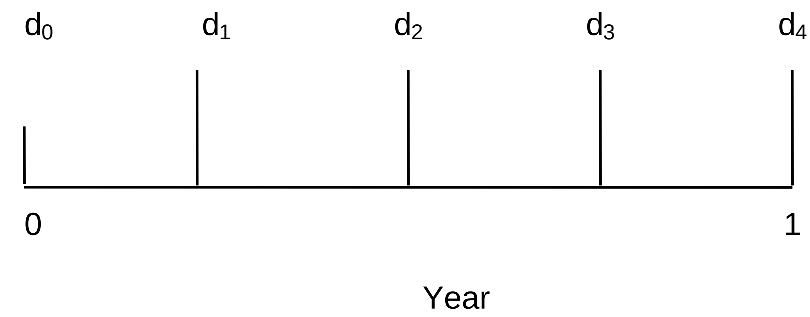
Although the constant growth Quarterly DCF Model [equation (8)] allows for the quarterly timing of dividend payments, it does require the assumption that the firm increases its dividend payments each quarter. Since this assumption is difficult for some analysts to accept, we now discuss a second Quarterly DCF Model that allows for constant quarterly dividend payments within each dividend year.

Assume then that the firm pays dividends quarterly and that each dividend payment is constant for four consecutive quarters. There are four cases to consider, with each case distinguished by varying assumptions about where we are evaluating the firm in relation to the time of its next dividend increase. (See Figure 3.)

Figure 3

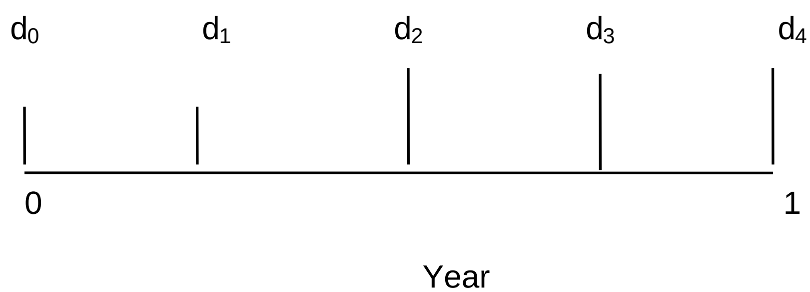
Quarterly DCF Model (Constant Dividend Version)

Case 1



$$d_1 = d_2 = d_3 = d_4 = d_0(1+g)$$

Case 2

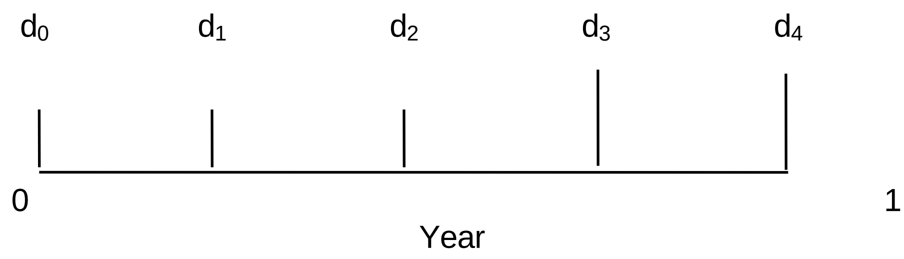


$$d_1 = d_0$$

$$d_2 = d_3 = d_4 = d_0(1+g)$$

<u>Figure 3</u> (continued)

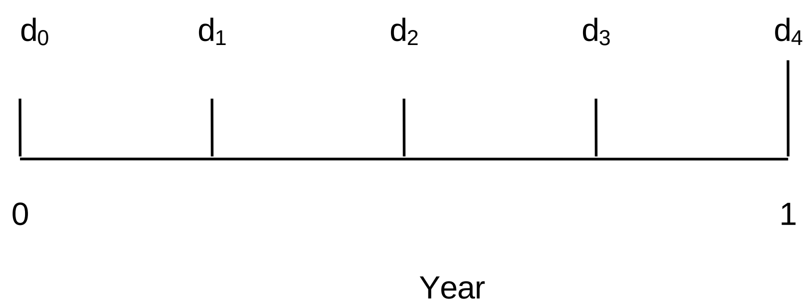
<u>Case 3</u>



$d_1 = d_2 = d_0$

$d_3 = d_4 = d_0(1+g)$

<u>Case 4</u>



$d_1 = d_2 = d_3 = d_0$

$d_4 = d_0(1+g)$

If we assume that the investor invests the quarterly dividend in an alternative investment of the same risk, then the amount accumulated by the end of the year will in all cases be given by

$$D_1^* = d_1\,(1+k)^{3/4} + d_2\,(1+k)^{1/2} + d_3\,(1+k)^{1/4} + d_4$$

where d_1, d_2, d_3 and d_4 are the four quarterly dividends. Under these new assumptions, the firm's stock price may be expressed by an Annual DCF Model of the form (2), with the exception that

$$D_1^* = d_1\,(1 + k)^{3/4} + d_2\,(1 + k)^{1/2} + d_3\,(1 + k)^{1/4} + d_4 \qquad \textbf{(9)}$$

is used in place of $D_0(1+g)$. But, we already know that the Annual DCF Model may be reduced to

$$P_0 = \frac{D_0\,(1 + g)}{k - g}$$

Thus, under the assumptions of the second Quarterly DCF Model, the firm's cost of equity is given by

$$k = \frac{D_1^*}{P_0} + g \quad \textbf{(10)}$$

with D_1^* given by (9).

Although equation (10) looks like the Annual DCF Model, there are at least two very important practical differences. First, since D_1^* is always greater than $D_0(1+g)$, the estimates of the cost of equity are always larger (and more accurate) in the Quarterly Model (10) than in the Annual Model. Second, since D_1^* depends on k through equation (9), the unknown “k” appears on both sides of (10), and an iterative procedure is required to solve for k.

APPENDIX 3
ADJUSTING FOR FLOTATION COSTS IN DETERMINING
A PUBLIC UTILITY'S
ALLOWED RATE OF RETURN ON EQUITY

Introduction

Regulation of public utilities is guided by the principle that utility revenues should be sufficient to allow recovery of all prudently incurred expenses, including the cost of capital. As set forth in the 1944 *Hope Natural Gas* Case [*Federal Power Comm'n v. Hope Natural Gas Co*. 320 U. S. 591 (1944) at 603], the U. S. Supreme Court states:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock.…By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.

Since the flotation costs arising from the issuance of debt and equity securities are an integral component of capital costs, this standard requires that the company's revenues be sufficient to fully recover flotation costs.

Despite the widespread agreement that flotation costs should be recovered in the regulatory process, several issues still need to be resolved. These include:

1. How is the term "flotation costs" defined? Does it include only the out-of-pocket costs associated with issuing securities (e. g., legal fees, printing costs, selling and underwriting expenses), or does it also include the reduction in a security's price that frequently accompanies flotation (i. e., market pressure)?
2. What should be the time pattern of cost recovery? Should a company be allowed to recover flotation costs immediately, or should flotation costs be recovered over the life of the issue?
3. For the purposes of regulatory accounting, should flotation costs be included as an expense? As an addition to rate base? Or as an additional element of a firm's allowed rate of return?
4. Do existing regulatory methods for flotation cost recovery allow a firm ***full*** recovery of flotation costs?

In this paper, I review the literature pertaining to the above issues and discuss my own views regarding how this literature applies to the cost of equity for a regulated firm.

Definition of Flotation Cost

The value of a firm is related to the future stream of net cash flows (revenues minus expenses measured on a cash basis) that can be derived from its assets. In the process of acquiring assets, a firm incurs certain expenses which reduce its value. Some of these expenses or costs are directly associated with revenue production in one period (e. g., wages, cost of goods sold), others are more properly associated with revenue production in many periods (e. g., the acquisition cost of plant and equipment). In either case, the word "cost" refers to any item that reduces the value of a firm.

If this concept is applied to the act of issuing new securities to finance asset purchases, many items are properly included in issuance or flotation costs. These include: (1) compensation received by investment bankers for underwriting services, (2) legal fees, (3) accounting fees, (4) engineering fees, (5) trustee's fees, (6) listing fees, (7) printing and engraving expenses, (8) SEC registration fees, (9) Federal Revenue Stamps, (10) state taxes, (11) warrants granted to underwriters as extra compensation, (12) postage expenses, (13) employees' time, (14) market pressure, and (15) the offer discount. The finance literature generally divides these flotation cost items into three categories, namely, underwriting expenses, issuer expenses, and price effects.

Magnitude of Flotation Costs

The finance literature contains several studies of the magnitude of the flotation costs associated with new debt and equity issues. These studies differ primarily with regard to the time period studied, the sample of companies included, and the source of data. The flotation cost studies generally agree, however, that for large issues, underwriting expenses represent approximately one and one-half percent of the proceeds of debt issues and three to five percent of the proceeds of seasoned equity issues. They also agree that issuer expenses represent approximately 0.5 percent of both debt and equity issues, and that the announcement of an equity issue reduces the company's stock price by at least two to three percent of the proceeds from the stock issue. Thus, total flotation costs represent approximately two percent[10] of the proceeds from debt issues, and five and one-half to eight and one-half percent of the proceeds of equity issues.

Lee *et. al.* [14] is an excellent example of the type of flotation cost studies found in the finance literature. The Lee study is a comprehensive recent study of the underwriting and issuer costs associated with debt and equity issues for both utilities and non-utilities. The results of the Lee *et. al.* study are reproduced in Tables 1 and 2. Table 1 demonstrates that the total underwriting and issuer expenses for the 1,092 debt issues in their study averaged 2.24 percent of the proceeds of the issues, while the total underwriting and issuer costs for the 1,593 seasoned equity issues in their study averaged 7.11 percent of the proceeds of the new issue. Table 1 also demonstrates that the total underwriting and issuer costs of seasoned equity offerings, as a percent of proceeds, decline with the size of the issue. For issues above $60 million, total underwriting and issuer costs amount to from three to five percent of the amount of the proceeds.

Table 2 reports the total underwriting and issuer expenses for 135 utility debt issues and 136 seasoned utility equity issues. Total underwriting and issuer expenses for utility bond offerings averaged 1.47 percent of the amount of the proceeds and for seasoned utility equity offerings averaged 4.92 percent of the amount of the proceeds. Again, there are some economies of scale associated with larger equity offerings. Total underwriting and issuer expenses for equity offerings in excess of 40 million dollars generally range from three to four percent of the proceeds.

The results of the Lee study for large equity issues are consistent with results of earlier studies by Bhagat and Frost [4], Mikkelson and Partch [17], and Smith [24]. Bhagat and Frost found that total underwriting and issuer expenses average approximately four and one-half percent of the amount of proceeds from negotiated utility offerings during the period 1973 to 1980, and approximately three and one-half percent of the amount of the proceeds from competitive utility offerings over the

[10] The two percent flotation cost on debt only recognizes the cost of newly-issued debt. When interest rates decline, many companies exercise the call provisions on higher cost debt and reissue debt at lower rates. This process involves reacquisition costs that are not included in the academic studies. If reacquisition costs were included in the academic studies, debt flotation costs could increase significantly.

same period. Mikkelson and Partch found that total underwriting and issuer expenses average five and one-half percent of the proceeds from seasoned equity offerings over the 1972 to 1982 period. Smith found that total underwriting and issuer expenses for larger equity issues generally amount to four to five percent of the proceeds of the new issue.

The finance literature also contains numerous studies of the decline in price associated with sales of large blocks of stock to the public. These articles relate to the price impact of: (1) initial public offerings; (2) the sale of large blocks of stock from one investor to another; and (3) the issuance of seasoned equity issues to the general public. All of these studies generally support the notion that the announcement of the sale of large blocks of stock produces a decline in a company's share price. The decline in share price for initial public offerings is significantly larger than the decline in share price for seasoned equity offerings; and the decline in share price for public utilities is less than the decline in share price for non-public utilities. A comprehensive study of the magnitude of the decline in share price associated specifically with the sale of new equity by public utilities is reported in Pettway [19], who found the market pressure effect for a sample of 368 public utility equity sales to be in the range of two to three percent. This decline in price is a real cost to the utility, because the proceeds to the utility depend on the stock price on the day of issue.

In addition to the price decline associated with the announcement of a new equity issue, the finance literature recognizes that there is also a price decline associated with the actual issuance of equity securities. In particular, underwriters typically sell seasoned new equity securities to investors at a price lower than the closing market price on the day preceding the issue. The Rules of Fair Practice of the National Association of Securities Dealers require that underwriters not sell shares at a price above the offer price. Since the offer price represents a binding constraint to the underwriter, the underwriter tends to set the offer price slightly below the market price on the day of issue to compensate for the risk that the price received by the underwriter may go down, but can not increase. Smith provides evidence that the offer discount tends to be between 0.5 and 0.8 percent of the proceeds of an equity issue. I am not aware of any similar studies for debt issues.

In summary, the finance literature provides strong support for the conclusion that total underwriting and issuer expenses for public utility debt offerings represent approximately two percent of the amount of the proceeds, while total underwriting and issuer expenses for public utility equity offerings represent at least four to five percent of the amount of the proceeds. In addition, the finance literature supports the conclusion that the cost associated with the decline in stock price at the announcement date represents approximately two to three percent as a result of a large public utility equity issue.

TIME PATTERN OF FLOTATION COST RECOVERY

Although flotation costs are incurred only at the time a firm issues new securities, there is no reason why an issuing firm ought to recognize the expense only in the current period. In fact, if assets purchased with the proceeds of a security issue produce revenues over many years, a sound argument can be made in favor of recognizing flotation expenses over a reasonably lengthy period of time. Such recognition is certainly consistent with the generally accepted accounting principle that the time pattern of expenses match the time pattern of revenues, and it is also consistent with the normal treatment of debt flotation expenses in both regulated and unregulated industries.

In the context of a regulated firm, it should be noted that there are many possible time patterns for the recovery of flotation expenses. However, if it is felt that flotation expenses are most appropriately recovered over a period of years, then it should be recognized that investors must also be compensated for the passage of time. That is to say, the value of an investor's capital will be reduced if the expenses are merely distributed over time, without any allowance for the time value of money.

ACCOUNTING FOR FLOTATION COST IN A REGULATORY SETTING

In a regulatory setting, a firm's revenue requirements are determined by the equation:

Revenue Requirement = Total Expenses + Allowed Rate of Return x Rate Base

Thus, there are three ways in which an issuing firm can account for and recover its flotation expenses: (1) treat flotation expenses as a current expense and recover them immediately; (2) include flotation expenses in rate base and recover them over time; and (3) adjust the allowed rate of return upward and again recover flotation expenses over time. Before considering methods currently being used to recover flotation expenses in a regulatory setting, I shall briefly consider the advantages and disadvantages of these three basic recovery methods.

Expenses. Treating flotation costs as a current expense has several advantages. Because it allows for recovery at the time the expense occurs, it is not necessary to compute amortized balances over time and to debate which interest rate should be applied to these balances. A firm's stockholders are treated fairly, and so are the firm's customers, because they pay neither more nor less than the actual flotation expense. Since flotation costs are relatively small compared to the total revenue requirement, treatment as a current expense does not cause unusual rate hikes in the year of flotation, as would the introduction of a large generating plant in a state that does not allow Construction Work in Progress in rate base.

On the other hand, there are two major disadvantages of treating flotation costs as a current expense. First, since the asset purchased with the acquired funds will likely generate revenues for many years into the future, it seems unfair that current ratepayers should bear the full cost of issuing new securities, when future ratepayers share in the benefits. Second, this method requires an estimate of the underpricing effect on each security issue. Given the difficulties involved in measuring the extent of underpricing, it may be more accurate to estimate the average underpricing allowance for many securities than to estimate the exact figure for one security.

Rate Base. In an article in *Public Utilities Fortnightly*, Bierman and Hass [5] recommend that flotation costs be treated as an intangible asset that is included in a firm's rate base along with the assets acquired with the stock proceeds. This approach has many advantages. For ratepayers, it provides a better match between benefits and expenses: the future ratepayers who benefit from the financing costs contribute the revenues to recover these costs. For investors, if the allowed rate of return is equal to the investors' required rate of return, it is also theoretically fair since they are compensated for the opportunity cost of their investment (including both the time value of money and the investment risk).

Despite the compelling advantages of this method of cost recovery, there are several disadvantages that probably explain why it has not been used in practice. First, a firm will only recover the proper amount for flotation expenses if the rate base is multiplied by the appropriate cost of capital. To the extent that a commission under or over estimates the cost of capital, a firm will under or over recover its flotation expenses. Second, it is may be both legally and psychologically difficult for commissioners to include an intangible asset in a firm's rate base. According to established legal doctrine, assets are to be included in rate base only if they are “used and useful” in the public service. It is unclear whether intangible assets such as flotation expenses meet this criterion.

Rate of Return. The prevailing practice among state regulators is to treat flotation expenses as an additional element of a firm’s cost of capital or allowed rate of return. This method is similar to the second method above (treatment in rate base) in that some part of the initial flotation cost is amortized over time. However, it has a disadvantage not shared by the rate base method. If flotation cost is included in rate base, it is fairly easy to keep track of the flotation cost on each new equity issue and see how it is recovered over time. Using the rate of return method, it is not possible to track the flotation cost for specific issues because the flotation cost for a specific issue is never recorded. Thus, it is not clear to participants whether a current allowance is meant to recover (1) flotation costs actually incurred in a test period, (2) expected future flotation costs, or (3) past flotation costs. This confusion never arises in the treatment of debt flotation costs. Because the exact costs are recorded and explicitly amortized over time, participants recognize that current allowances for debt flotation costs are meant to recover some fraction of the flotation costs on all past debt issues.

EXISTING REGULATORY METHODS

Although most state commissions prefer to let a regulated firm recover flotation expenses through an adjustment to the allowed rate of return, there is considerable controversy about the magnitude of the required adjustment. The following are some of the most frequently asked questions: (1) Should an adjustment to the allowed return be made every year, or should the adjustment be made only in those years in which new equity is raised? (2) Should an adjusted rate of return be applied to the entire rate base, or should it be applied only to that portion of the rate base financed with paid-in capital (as opposed to retained earnings)? (3) What is the appropriate formula for adjusting the rate of return?

This section reviews several methods of allowing for flotation cost recovery. Since the regulatory methods of allowing for recovery of debt flotation costs is well known and widely accepted, I will begin my discussion of flotation cost recovery procedures by describing the widely accepted procedure of allowing for debt flotation cost recovery.

Debt Flotation Costs

Regulators uniformly recognize that companies incur flotation costs when they issue debt securities. They typically allow recovery of debt flotation costs by making an adjustment to both the cost of debt and the rate base (see Brigham [6]). Assume that: (1) a regulated company issues $100 million in bonds that mature in 10 years; (2) the interest rate on these bonds is seven percent; and (3) flotation costs represent four percent of the amount of the proceeds. Then the cost of debt for regulatory purposes will generally be calculated as follows:

$$\begin{aligned}\text{Cost of Debt} &= \frac{\text{Interest expense} + \text{Amortization of flotation costs}}{\text{Principal value} - \text{Unamortized flotation costs}} \\ &= \frac{\$7{,}000{,}000 + \$400{,}000}{\$100{,}000{,}000 - \$4{,}000{,}000} \\ &= 7.71\%\end{aligned}$$

Thus, current regulatory practice requires that the cost of debt be adjusted upward by approximately 71 basis points, in this example, to allow for the recovery of debt flotation costs. This example does not include losses on reacquisition of debt. The flotation cost allowance would increase if losses on reacquisition of debt were included.

The logic behind the traditional method of allowing for recovery of debt flotation costs is simple. Although the company has issued $100 million in bonds, it can only invest $96 million in rate base because flotation costs have reduced the amount of funds received by $4 million. If the company is not allowed to earn a 71 basis point higher rate of return on the $96 million invested in rate base, it will not generate sufficient cash flow to pay the seven percent interest on the $100 million in bonds it has issued. Thus, proper regulatory treatment is to increase the required rate of return on debt by 71 basis points.

Equity Flotation Costs

The finance literature discusses several methods of recovering equity flotation costs. Since each method stems from a specific model, (i. e., set of assumptions) of a firm and its cash flows, I will highlight the assumptions that distinguish one method from another.

Arzac and Marcus. Arzac and Marcus [2] study the proper flotation cost adjustment formula for a firm that makes continuous use of retained earnings and external equity financing and maintains a constant capital structure (debt/equity ratio). They assume at the outset that underwriting expenses and underpricing apply only to new equity obtained from external sources. They also assume that a firm has previously recovered all underwriting expenses, issuer expenses, and underpricing associated with previous issues of new equity.

To discuss and compare various equity flotation cost adjustment formulas, Arzac and Marcus make use of the following notation:

k	=	an investors' required return on equity
r	=	a utility's allowed return on equity base
S	=	value of equity in the absence of flotation costs
S_f	=	value of equity net of flotation costs
K_t	=	equity base at time t
E_t	=	total earnings in year t
D_t	=	total cash dividends at time t
b	=	$(E_t - D_t) \div E_t$ = retention rate, expressed as a fraction of earnings
h	=	new equity issues, expressed as a fraction of earnings
m	=	equity investment rate, expressed as a fraction of earnings, $m = b + h < 1$
f	=	flotation costs, expressed as a fraction of the value of an issue.

Because of flotation costs, Arzac and Marcus assume that a firm must issue a greater amount of external equity each year than it actually needs. In terms of the above notation, a firm issues $hE_t \div (1-f)$ to obtain hE_t in external equity funding. Thus, each year a firm loses:

Equation 3

$$L = \frac{hE_t}{1-f} - hE_t = \frac{f}{1-f} \times hE_t$$

due to flotation expenses. The present value, V, of all future flotation expenses is:

Equation 4

$$V = \sum_{t=1}^{\infty} \frac{fhE_t}{(1-f)(1+k)^t} = \frac{fh}{1-f} \times \frac{rK_0}{k-mr}$$

To avoid diluting the value of the initial stockholder's equity, a regulatory authority needs to find the value of r, a firm's allowed return on equity base, that equates the value of equity net of flotation costs to the initial equity base ($S_f = K_0$). Since the value of equity net of flotation costs equals the value of equity in the absence of flotation costs minus the present value of flotation costs, a regulatory authority needs to find that value of *r* that solves the following equation:

$$S_f = S - L.$$

This value is:

Equation 5

$$r = \frac{k}{1 - \frac{fh}{1-f}}$$

To illustrate the Arzac-Marcus approach to adjusting the allowed return on equity for the effect of flotation costs, suppose that the cost of equity in the absence of flotation costs is 12 percent. Furthermore, assume that a firm obtains external equity financing each year equal to 10 percent of its earnings and that flotation expenses equal 5 percent of the value of each issue. Then, according to Arzac and Marcus, the allowed return on equity should be:

$$r = \frac{.12}{1 - \frac{(.05).(.1)}{.95}} = .1206 = 12.06\%$$

<u>Summary</u>. With respect to the three questions raised at the beginning of this section, it is evident that Arzac and Marcus believe the flotation cost adjustment should be applied each year, since continuous external equity financing is a fundamental assumption of their model. They also believe that the adjusted rate of return should be applied to the entire equity-financed portion of the rate base because their model is based on the assumption that the flotation cost adjustment mechanism will be applied to the entire equity financed portion of the rate base. Finally, Arzac and Marcus recommend a flotation cost adjustment formula, Equation (3), that implicitly excludes recovery of financing costs associated with financing in previous periods and includes only an allowance for the fraction of equity financing obtained from external sources.

Patterson. The Arzac-Marcus flotation cost adjustment formula is significantly different from the conventional approach (found in many introductory textbooks) which recommends the adjustment equation:

Equation 6

$$r = \frac{D_t}{P_{t-1}(1-f)} + g$$

where P_{t-1} is the stock price in the previous period and g is the expected dividend growth rate. Patterson [18] compares the Arzac-Marcus adjustment formula to the conventional approach and reaches the conclusion that the Arzac-Marcus formula effectively expenses issuance costs as they are incurred, while the conventional approach effectively amortizes them over an assumed infinite life of the equity issue. Thus, the conventional formula is similar to the formula for the recovery of debt flotation costs: it is not meant to compensate investors for the flotation costs of future issues, but instead is meant to compensate investors for the flotation costs of previous issues. Patterson argues that the conventional approach is more appropriate for rate making purposes because the plant purchased with external equity funds will yield benefits over many future periods.

Illustration. To illustrate the Patterson approach to flotation cost recovery, assume that a newly organized utility sells an initial issue of stock for $100 per share, and that the utility plans to finance all new investments with retained earnings. Assume also that: (1) the initial dividend per share is six dollars; (2) the expected long-run dividend growth rate is six percent; (3) the flotation cost is five percent of the amount of the proceeds; and (4) the payout ratio is 51.28 percent. Then, the investor's required rate of return on equity is [k = (D/P) + g = 6 percent + 6 percent = 12 percent]; and the flotation-cost-adjusted cost of equity is [6 percent (1/.95) + 6 percent = 12.316 percent].

The effects of the Patterson adjustment formula on the utility's rate base, dividends, earnings, and stock price are shown in Table 3. We see that the Patterson formula allows earnings and dividends to grow at the expected six percent rate. We also see that the present value of expected future dividends, $100, is just sufficient to induce investors to part with their money. If the present value of expected future dividends were less than $100, investors would not have been willing to invest $100 in the firm. Furthermore, the present value of future dividends will only equal $100 if the firm is allowed to earn the 12.316 percent flotation-cost-adjusted cost of equity on its entire rate base.

Summary. Patterson's opinions on the three issues raised in this section are in stark contrast to those of Arzac and Marcus. He believes that: (1) a flotation cost adjustment should be applied in every year, regardless of whether a firm issues any new equity in each year; (2) a flotation cost adjustment should be applied to the entire equity-financed portion of the rate base, including that portion financed by retained earnings; and (3) the rate of return adjustment formula should allow a firm to recover an appropriate fraction of all previous flotation expenses.

CONCLUSION

Having reviewed the literature and analyzed flotation cost issues, I conclude that:

Definition of Flotation Cost: A regulated firm should be allowed to recover both the total underwriting and issuance expenses associated with issuing securities and the cost of market pressure.

Time Pattern of Flotation Cost Recovery. Shareholders are indifferent between the alternatives of immediate recovery of flotation costs and recovery over time, as long as they are fairly compensated for the opportunity cost of their money. This opportunity cost must include both the time value of money and a risk premium for equity investments of this nature.

Regulatory Recovery of Flotation Costs. The Patterson approach to recovering flotation costs is the only rate-of-return-adjustment approach that meets the *Hope* case criterion that a regulated company's revenues must be sufficient to allow the company an opportunity to recover all prudently incurred expenses, including the cost of capital. The Patterson approach is also the only rate-of-return-adjustment approach that provides an incentive for investors to invest in the regulated company.

Implementation of a Flotation Cost Adjustment. As noted earlier, prevailing regulatory practice seems to be to allow the recovery of flotation costs through an adjustment to the required rate of return. My review of the literature on this subject indicates that there are at least two recommended methods of making this adjustment: the Patterson approach and the Arzac-Marcus approach. The Patterson approach assumes that a firm's flotation expenses on new equity issues are treated in the same manner as flotation expenses on new bond issues, i. e., they are amortized over future time periods. If this assumption is true (and I believe it is), then the flotation cost adjustment should be applied to a firm's entire equity base, including retained earnings. In practical terms, the Patterson approach produces an increase in a firm's cost of equity of approximately thirty basis points. The Arzac-Marcus approach assumes that flotation costs on new equity issues are recovered entirely in the year in which the securities are sold. Under the Arzac-Marcus assumption, a firm should not be allowed any adjustments for flotation costs associated with previous flotations. Instead, a firm should be allowed only an adjustment on future security sales as they occur. Under reasonable assumptions about the rate of new equity sales, this method produces an increase in the cost of equity of approximately six basis points. Since the Arzac-Marcus approach does not allow the company to recover the entire amount of its flotation cost, I recommend that this approach be rejected and the Patterson approach be accepted.

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Table 1

Direct Costs as a Percentage of Gross Proceeds
for Equity (IPOs and SEOs) and Straight and Convertible Bonds
Offered by Domestic Operating Companies 1990—1994[11]

Equities

	IPOs				SEOs			
Proceeds ($ in millions)	No. of Issues	Gross Spreads	Other Direct Expenses	Total Direct Costs	No. of Issues	Gross Spreads	Other Direct Expenses	Total Direct Costs
2-9.99	337	9.05%	7.91%	16.96%	167	7.72%	5.56%	13.28%
10-19.99	389	7.24%	4.39%	11.63%	310	6.23%	2.49%	8.72%
20-39.99	533	7.01%	2.69%	9.70%	425	5.60%	1.33%	6.93%
40-59.99	215	6.96%	1.76%	8.72%	261	5.05%	0.82%	5.87%
60-79.99	79	6.74%	1.46%	8.20%	143	4.57%	0.61%	5.18%
80-99.99	51	6.47%	1.44%	7.91%	71	4.25%	0.48%	4.73%
100-199.99	106	6.03%	1.03%	7.06%	152	3.85%	0.37%	4.22%
200-499.99	47	5.67%	0.86%	6.53%	55	3.26%	0.21%	3.47%
500 and up	10	5.21%	0.51%	5.72%	9	3.03%	0.12%	3.15%
Total/Average	**1,767**	**7.31%**	**3.69%**	**11.00%**	**1,593**	**5.44%**	**1.67%**	**7.11%**

Bonds

	Convertible Bonds				Straight Bonds			
Proceeds ($ in millions)	No. of Issues	Gross Spreads	Other Direct Expenses	Total Direct Costs	No. of Issues	Gross Spreads	Other Direct Expenses	Total Direct Costs
2-9.99	4	6.07%	2.68%	8.75%	32	2.07%	2.32%	4.39%
10-19.99	14	5.48%	3.18%	8.66%	78	1.36%	1.40%	2.76%
20-39.99	18	4.16%	1.95%	6.11%	89	1.54%	0.88%	2.42%
40-59.99	28	3.26%	1.04%	4.30%	90	0.72%	0.60%	1.32%
60-79.99	47	2.64%	0.59%	3.23%	92	1.76%	0.58%	2.34%
80-99.99	13	2.43%	0.61%	3.04%	112	1.55%	0.61%	2.16%
100-199.99	57	2.34%	0.42%	2.76%	409	1.77%	0.54%	2.31%
200-499.99	27	1.99%	0.19%	2.18%	170	1.79%	0.40%	2.19%
500 and up	3	2.00%	0.09%	2.09%	20	1.39%	0.25%	1.64%
Total/Average	**211**	**2.92%**	**0.87%**	**3.79%**	**1,092**	**1.62%**	**0.62%**	**2.24%**

Notes:

Closed-end funds and unit offerings are excluded from the sample. Rights offerings for SEOs are also excluded. Bond offerings do not include securities backed by mortgages and issues by Federal agencies. Only firm commitment offerings and non-shelf-registered offerings are included.
Gross Spreads as a percentage of total proceeds, including management fee, underwriting fee, and selling concession.
Other Direct Expenses as a percentage of total proceeds, including management fee, underwriting fee, and selling concession.
Total Direct Costs as a percentage of total proceeds (total direct costs are the sum of gross spreads and other direct expenses).

[11] Inmoo Lee, Scott Lochhead, Jay Ritter, and Quanshui Zhao, “The Costs of Raising Capital,” *Journal of Financial Research* Vol 19 No 1 (Spring 1996) pp. 59—74.

Table 2

Direct Costs of Raising Capital 1990—1994
Utility versus Non-Utility Companies[12]

Equities

Non-Utilities	IPOs			SEOs		
Proceeds ($ in millions)	No. of Issues	Gross Spreads	Total Direct Costs	No. Of Issues	Gross Spreads	Total Direct Costs
2-9.99	332	9.04%	16.97%	154	7.91%	13.76%
10-19.99	388	7.24%	11.64%	278	6.42%	9.01%
20-39.99	528	7.01%	9.70%	399	5.70%	7.07%
40-59.99	214	6.96%	8.71%	240	5.17%	6.02%
60-79.99	78	6.74%	8.21%	131	4.68%	5.31%
80-99.99	47	6.46%	7.88%	60	4.35%	4.84%
100-199.99	101	6.01%	7.01%	137	3.97%	4.36%
200-499.99	44	5.65%	6.49%	50	3.27%	3.48%
500 and up	10	5.21%	5.72%	8	3.12%	3.25%
Total/Average	1,742	7.31%	11.01%	1,457	5.57%	7.32%
Utilities Only						
2-9.99	5	9.40%	16.54%	13	5.41%	7.68%
10-19.99	1	7.00%	8.77%	32	4.59%	6.21%
20-39.99	5	7.00%	9.86%	26	4.17%	4.96%
40-59.99	1	6.98%	11.55%	21	3.69%	4.12%
60-79.99	1	6.50%	7.55%	12	3.39%	3.72%
80-99.99	4	6.57%	8.24%	11	3.68%	4.11%
100-199.99	5	6.45%	7.96%	15	2.83%	2.98%
200-499.99	3	5.88%	7.00%	5	3.19%	3.48%
500 and up	0			1	2.25%	2.31%
Total/Average	25	7.15%	10.14%	136	4.01%	4.92%

[12] Lee *et al, op. cit*.

Table 2 (continued)
Direct Costs of Raising Capital 1990—1994
Utility versus Non-Utility Companies[13]

Bonds

Non- Utilities	Convertible Bonds			Straight Bonds		
Proceeds ($ in millions)	No. of Issues	Gross Spreads	Total Direct Costs	No. of Issues	Gross Spreads	Total Direct Costs
2-9.99	4	6.07%	8.75%	29	2.07%	4.53%
10-19.99	12	5.54%	8.65%	47	1.70%	3.28%
20-39.99	16	4.20%	6.23%	63	1.59%	2.52%
40-59.99	28	3.26%	4.30%	76	0.73%	1.37%
60-79.99	47	2.64%	3.23%	84	1.84%	2.44%
80-99.99	12	2.54%	3.19%	104	1.61%	2.25%
100-199.99	55	2.34%	2.77%	381	1.83%	2.38%
200-499.99	26	1.97%	2.16%	154	1.87%	2.27%
500 and up	3	2.00%	2.09%	19	1.28%	1.53%
Total/Average	203	2.90%	3.75%	957	1.70%	2.34%
Utilities Only						
2-9.99	0			3	2.00%	3.28%
10-19.99	2	5.13%	8.72%	31	0.86%	1.35%
20-39.99	2	3.88%	5.18%	26	1.40%	2.06%
40-59.99	0			14	0.63%	1.10%
60-79.99	0			8	0.87%	1.13%
80-99.99	1	1.13%	1.34%	8	0.71%	0.98%
100-199.99	2	2.50%	2.74%	28	1.06%	1.42%
200-499.99	1	2.50%	2.65%	16	1.00%	1.40%
500 and up	0			1	3.50%	na[14]
Total/Average	8	3.33%	4.66%	135	1.04%	1.47%

Notes:
Total proceeds raised in the United States, excluding proceeds from the exercise of over allotment options.
Gross spreads as a percentage of total proceeds (including management fee, underwriting fee, and selling concession).
Other direct expenses as a percentage of total proceeds (including registration fee and printing, legal, and auditing costs).

[13] Lee *et al, op. cit*.

[14] Not available because of missing data on other direct expenses.

Table 3
Illustration of Patterson Approach to Flotation Cost Recovery

Time Period	Rate Base	Earnings @ 12.32%	Earnings @ 12.00%	Dividends	Amortization Initial FC
0	95.00				
1	100.70	11.70	11.40	6.00	0.3000
2	106.74	12.40	12.08	6.36	0.3180
3	113.15	13.15	12.81	6.74	0.3371
4	119.94	13.93	13.58	7.15	0.3573
5	127.13	14.77	14.39	7.57	0.3787
6	134.76	15.66	15.26	8.03	0.4015
7	142.84	16.60	16.17	8.51	0.4256
8	151.42	17.59	17.14	9.02	0.4511
9	160.50	18.65	18.17	9.56	0.4782
10	170.13	19.77	19.26	10.14	0.5068
11	180.34	20.95	20.42	10.75	0.5373
12	191.16	22.21	21.64	11.39	0.5695
13	202.63	23.54	22.94	12.07	0.6037
14	214.79	24.96	24.32	12.80	0.6399
15	227.67	26.45	25.77	13.57	0.6783
16	241.33	28.04	27.32	14.38	0.7190
17	255.81	29.72	28.96	15.24	0.7621
18	271.16	31.51	30.70	16.16	0.8078
19	287.43	33.40	32.54	17.13	0.8563
20	304.68	35.40	34.49	18.15	0.9077
21	322.96	37.52	36.56	19.24	0.9621
22	342.34	39.77	38.76	20.40	1.0199
23	362.88	42.16	41.08	21.62	1.0811
24	384.65	44.69	43.55	22.92	1.1459
25	407.73	47.37	46.16	24.29	1.2147
26	432.19	50.21	48.93	25.75	1.2876
27	458.12	53.23	51.86	27.30	1.3648
28	485.61	56.42	54.97	28.93	1.4467
29	514.75	59.81	58.27	30.67	1.5335
30	545.63	63.40	61.77	32.51	1.6255
Present Value@12%		195.00	190.00	100.00	5.00

APPENDIX 4
EX ANTE RISK PREMIUM APPROACH

My ex ante risk premium method is based on studies of the DCF expected return on proxy companies compared to the interest rate on Moody's A-rated utility bonds. Specifically, for each month in my study period, I calculate the risk premium using the equation,

$$RP_{PROXY} = DCF_{PROXY} - I_A$$

where:

RP_{PROXY}	=	the required risk premium on an equity investment in the proxy group of companies,
DCF_{PROXY}	=	average DCF estimated cost of equity on a portfolio of proxy companies; and
I_A	=	the yield to maturity on an investment in A-rated utility bonds.

For my ex ante risk premium analysis, I begin with my comparable group of natural gas companies shown in Schedule 2. Previous studies have shown that the ex ante risk premium tends to vary inversely with the level of interest rates, that is, the risk premium tends to increase when interest rates decline, and decrease when interest rates go up. To test whether my studies also indicate that the ex ante risk premium varies inversely with the level of interest rates, I perform a regression analysis of the relationship between the ex ante risk premium and the yield to maturity on A-rated utility bonds, using the equation,

$$RP_{PROXY} \quad = \quad a + (b \times I_A) + e$$

where:

RP_{PROXY} = risk premium on proxy company group;

I_A = yield to maturity on A-rated utility bonds;

e = a random residual; and

a, b = coefficients estimated by the regression procedure.

Regression analysis assumes that the statistical residuals from the regression equation are random. My examination of the residuals reveals that there is a significant probability that the residuals are serially correlated (non-zero serial correlation indicates that the residual in one time period tends to be correlated with the residual in the previous time period). Therefore, I make adjustments to my data to correct for the possibility of serial correlation in the residuals.

The common procedure for dealing with serial correlation in the residuals is to estimate the regression coefficients in two steps. First, a multiple regression analysis is used to estimate the serial correlation coefficient, *r*. Second, the estimated serial correlation coefficient is used to transform the original variables into new variables whose serial correlation is approximately zero. The regression coefficients are then re-estimated using the transformed variables as inputs in the regression equation. Based on my knowledge of the statistical relationship between the yield to maturity on A-rated utility bonds and the required risk premium, my estimate of the ex ante risk premium on an investment in my proxy natural gas company group as compared to an investment in A-rated utility bonds is given by the equation:

$$RP_{PROXY} = \underset{(9.13)}{0.712} - \underset{(--3.139)}{-.3579} \times I_A.$$ [15]

[15] The t-statistics are shown in parentheses.

Using a 6.29 percent forecasted yield to maturity on A-rated utility bonds at December 2010,[16] the regression equation produces an ex ante risk premium based on the natural gas proxy group equal to 4.87 percent (0.0712 – .3579 x 6.29 = 4.87).

To estimate the cost of equity using the ex ante risk premium method, one may add the estimated risk premium over the yield on A-rated utility bonds to the forecasted yield to maturity on A-rated utility bonds. As described above, my analyses produce an estimated risk premium over the yield on A-rated utility bonds equal to 4.9 percent. Adding an estimated risk premium of 4.9 percent to the 6.3 percent forecasted yield to maturity on A-rated utility bonds produces a cost of equity estimate of 11.2 percent using the ex ante risk premium method.

[16] As described in the testimony, the forecasted yield to maturity on A-rated utility bonds, 6.3 percent, is obtained by adding Value Line's forecasted 50-basis point increase in the yield on AAA-rated corporate bonds over the period Q4 2009 to Q4 2010 to the 5.8 percent average yield on Moody's A-rated utility bonds in December 2009.

APPENDIX 5
RISK PREMIUM APPROACH

Source

Stock price and yield information is obtained from Standard & Poor's Security Price publication. Standard & Poor's derives the stock dividend yield by dividing the aggregate cash dividends (based on the latest known annual rate) by the aggregate market value of the stocks in the group. The bond price information is obtained by calculating the present value of a bond due in 30 years with a $4.00 coupon and a yield to maturity of a particular year's indicated Moody's A-rated Utility bond yield. The values shown on Schedules 4 and 5 are the January values of the respective indices.

Calculation of Stock and Bond Returns

Sample calculation of "Stock Return" column:

$$\text{Stock Return (2008)} = \left[\frac{\text{Stock Price (2009) - Stock Price (2008) + Dividend (2008)}}{\text{Stock Price (2008)}}\right]$$

where Dividend (2008) = Stock Price (2008) x Stock Div. Yield (2008)

Sample calculation of "Bond Return" column:

$$\text{Bond Return (2008)} = \left[\frac{\text{Bond Price (2009) - Bond Price (2008) + Interest (2008)}}{\text{Bond Price (2008)}}\right]$$

where Interest = $4.00.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN	**)**	**CASE NO. 2010-00036**
WATER COMPANY FOR AN ADJUSTMENT OF	**)**	
RATES ON AND AFTER MARCH 28, 2010	**)**	

DIRECT TESTIMONY OF LANCE E. WILLIAMS, P.E.

February 26, 2010

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1. Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lance E. Williams and my business address is 2300 Richmond Road, Lexington, Kentucky 40502.

2. Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Kentucky-American Water Company ("KAW") as Director of Engineering.

3. Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS COMMISSION?

A. No.

4. Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

I received a B.S. degree in Civil Engineering from the West Virginia Institute of Technology (West Virginia University Institute of Technology) in 1990. I am a registered Professional Engineer in Kentucky and West Virginia. I worked for Howard K. Bell, Consulting Engineers Inc. ("HKB") from 1990 – 2003. While working for HKB I was responsible for various projects, including water and wastewater treatment, distribution, collection and landfill design. In 2003, I went to work for BridgeTek, Inc. (which was later purchased by CONTECH, Construction Products) as the Region Manager for Kentucky.

5. Q. HOW LONG HAVE YOU HELD THE POSITION OF DIRECTOR OF ENGINEERING FOR KENTUCY AMERICAN WATER?

A. I have held this position since June 2008.

6. Q. WHAT ARE YOUR DUTIES AS DIRECTOR OF ENGINEERING?

A. I am responsible for the coordination of the Engineering Department at KAW, which includes the planning, development, and implementation of all aspects of construction projects. This includes working with all new main extensions and developers, water treatment plant upgrades, new construction, and network facilities improvements. I coordinate the provision of technical assistance to all other company departments as needed and oversee the capital budget development and implementation.

7. Q. WHAT WILL YOUR TESTIMONY ADDRESS?

A. My testimony will describe the preparation of the investment plan and detail the information for the construction projects as submitted in this case.

8. Q. PLEASE DESCRIBE THE FACTORS USED IN THE PREPARATION OF THE FORECAST PERIOD DATA AS IT RELATES TO THE CAPITAL CONSTRUCTION.

A. The Company's capital investment plan can be divided into three distinct areas: 1) Developer Projects (DV), 2) recurring projects (RP), 3) major projects identified as investment projects (IP). Normal recurring construction includes water main installation for new development, smaller main projects for reinforcement and replacement, service line and meter setting installation, meter purchases and the purchase of tools, furniture, equipment and vehicles.

Recurring construction costs are trended from historical and forecasted data. Estimates are prepared for the installation of new mains, service lines, meter settings and the purchase of new meters based on preliminary plats from the appropriate governmental planning agencies and consultations with developers, homebuilders and engineering firms.

Purchase of tools, furniture, equipment and vehicles are based on needs. KAW reviews each item independently and prepares an itemized list of expenditures. Estimates are made based on current year pricing.

The intent of the planning process is to provide a broad and comprehensive review of facility needs that will allow us then to establish a general guide for needed improvements over the planning horizon. These improvements will enable KAW to provide safe, adequate and reliable service to its customers to meet their domestic, commercial and industrial needs; provide flows adequate for fire protection; and satisfy all regulatory requirements. The plan provides a general scope of each project along with a preliminary design. The criteria for evaluating the various system components are: engineering requirements; consideration of national, state and local trends; environmental impact evaluations; and water resource management.

KAW uses engineering criteria based on accepted engineering standards and practices that provide adequate capacity and appropriate levels of reliability to satisfy residential, commercial, industrial, and public authority needs, and provide flows for fire protection. The criteria are developed from regulations, professional standards and company engineering policies and procedures. KAW uses demand projections based on historical data and usage trends to evaluate future system needs.

Sources of supply are evaluated based on quantity and quality. There must be sufficient quantity to supply the system's needs. There must be sufficient quality to provide, through treatment, finished water that meets or exceeds all federal and state regulations. Sources of supply must also have sufficient allocation rights to enable average and maximum demands to be met.

Treatment and pumping facilities are designed to meet projected maximum day needs reliably. Storage facilities are designed to provide the recommended volume to equalize the plant's pumping rate on a maximum demand day. With this approach treatment facilities need only be designed to meet the projected maximum day demand, although during that day hourly demands will exceed the treatment capacity's maximum rate. Storage facilities are also designed to provide the volume of water necessary for fire protection up to the maximum flow and duration addressed in the most recent Insurance Services Office (ISO) municipal grading schedule and the volume necessary for reliability.

Pipelines are designed to meet two conditions of service. They are expected to deliver projected peak hour customer demands while maintaining system pressures at 30 psi or greater in accordance with the Public Service Commission (PSC) regulations and to provide adequate fire flow identified by the ISO while maintaining distribution system pressure at 20 psi or greater.

9. Q. DOES KAW FOCUS ON COST CONTROL OF CAPITAL EXPENDITURES IN ITS NORMAL DAY-TO-DAY ACTIVITIES?

A. Yes. All significant construction work done by independent contractors and significant purchases are completed pursuant to a bid solicitation process. We maintain a list of qualified bidders and we believe that our construction costs are very reasonable. American Water annually takes competitive bids for material and supplies that are either manufactured or distributed regionally and nationally through its centralized procurement group. We have the advantage of being able to purchase these materials and supplies on an as-needed basis at favorable prices. In the past seven years, American Water also has undertaken a number of procurement initiatives for services and materials to reduce costs through either streamlined selection or utilization of large volume purchasing power. Some of these initiatives that have directly impacted capital expenditures include the use of master services agreements with pre-qualified engineering consultants, national vehicle fleet procurement, and national preferred vendor identification.

10. Q. HOW DOES KAW MANAGE THE IMPLEMENTATION OF ITS CAPITAL PLAN?

A. Since 2003, the entire American Water system has used a process for developing and reviewing capital expenditures that incorporates some of the best practices implemented at KAW. This process includes a regional Capital Investment Management Committee (“CIMC”) to ensure capital expenditure plans meet the strategic intent of the business including introducing new technology and process efficiency, assuring that capital expenditure plans are integrated with operating expense plans, and providing more effective controls on budgets and individual capital projects.

The CIMC includes the KAW President, KAW Vice President-Operations, KAW Director of Engineering, and VP of Finance-Eastern Division. The CIMC receives capital expenditure plans from project managers and approves them for submission to the Corporate CIMC. Once budgets are approved the CIMC meets monthly to review capital expenditures compared to budgeted levels. The process includes five stages of project review: 1) a Preliminary Need Identification defining the project at an early stage; 2) a Project Implementation Proposal that confirms all aspects of the project are in a position to begin work; 3) Project Change Requests, if needed (if the cost change is more than 5% or $100,000); 4) a Post Project Review; and 5) Asset Management. KAW personnel handle all of the stages, with oversight by the CIMC. All projects, including normal recurring items, have an identified project manager responsible for processing the stages of the project. The CIMC allows KAW to be more flexible with changes that inevitably occur during the course of implementation of large construction projects.

As an added level of coordination, a "Functional Sign-Off" Committee meets monthly to give final approval on projects. This committee includes the KAW Vice President-Operations; the KAW Director of Engineering; and the appropriate Operations supervisors and project managers. The purpose of the committee is to review projects that are moving forward in the next step of approval or that require a change. This process allows the project manager and operational area supervisors to communicate about the project on a monthly basis and help coordinate projects from initial development through in-service.

11. Q. PLEASE EXPLAIN THE MAJOR PROJECTS PROPOSED FOR 2010//2011.

A. A brief description of the projects listed in Exhibit 13 of the Application in this case follows.

Item DV (Projects Funded by Others) - This investment plan item is for the installation of new mains, valves and hydrants that are funded entirely by others. This investment plan item may also include the replacement of existing components of water supply, water treatment, water pumping, water storage, and water pressure regulation facilities not funded by company expenditures. The majority of these expenditures are made through deposit agreements and as non-refundable contributions. The projected expenditure amount is developed through discussions with homebuilders and developers as well as a review of plats. Developers deposit projected expenditures based on average pipe installation costs from the previous year pursuant to our on-site main extension agreement. This item also includes fire services that are paid by the requesting new customer, at the cost of installation.

Item A - This investment plan item is for new water mains, valves, and other appurtenances that are necessary to perform the work that is funded by the company, including upsizing of developer initiated extensions; company initiated and funded new mains that are not related to immediate growth, such as new mains that eliminate existing dead ends or provide new transmission capacity; and new customer initiated extensions in accordance with tariffs that may include some customer contribution (customer funded portion under abovementioned Item DV). This item may also include new mains that parallel existing mains to increase transmission capacity, provide reliability, or establish an additional pressure gradient.

Item B - This investment plan item is for the scheduled replacement, renewal or improvement of existing water mains including valves and other appurtenances that are necessary to perform the work. This investment line item now includes replacement of services in conjunction with those projects, which was previously budgeted in the cost of service replacements.

Item C - This investment plan item is for the unscheduled replacement or restoration of existing water mains, including valves and other appurtenances that are necessary to perform the work. This item is primarily used for emergency replacements.

Item D - This investment plan item is for the relocation of existing water mains, including valves and other appurtenances that are necessary to perform the work, as required by municipal or state agencies. This investment line item now includes replacement of services in conjunction with these projects, which was previously budgeted in the cost of service replacements. These costs are not reimbursable.

Item E - This investment plan item is for the installation of new hydrants, including hydrant assemblies and valves that are installed on existing mains or installed in conjunction with main extension projects, which are company funded. This item generally includes all public hydrants.

Item F - This investment plan item is for the replacement of leaking, failed or obsolete hydrants, including hydrant assemblies and valves that are company funded.

Item G - This investment plan item is for the installation of new water services or improvements, including corporation stops and shut-off valves.

Item H - This investment plan item is for the replacement of water services or improvements, including the replacement of corporation stops, or shut-off valves. This budget item shows a reduction from previous years because services previously scheduled in conjunction with scheduled main replacement projects are now budgeted along with the main replacement project in Item B, C or D.

Item I - This investment plan item is for the installation of new meters and meter settings.

Item J - This investment plan item is for the replacement or improvement of existing customer meters and meter settings with or without technology changes. Again, the cost of replacing the meter setting in conjunction with a main replacement project that may have been previously budgeted separately is now budgeted under Item B, C or D.

Item K - This investment plan item is for the replacement of existing Information Technology System Equipment and systems due to failure or obsolescence and new items to achieve efficiency or address new requirements.

Item L - This investment item is for the installation or replacement of existing SCADA Equipment and Systems. The acronym SCADA can be defined in several slightly different ways, but KAW generally prefers the definition as System Control and Data Acquisition, which is the computerized system for monitoring and operating the treatment plants and network facilities. We believe it more appropriate to subdivide these important investment costs from general Information Technology Equipment costs.

Item M - This investment item is a division for Security Equipment and Systems. This may include fencing, alarm systems, cameras, barricades, electronic detection or locking systems, software, or other assets related directly to Security.

Item N - This investment plan item is for the replacement or improvement of building systems, equipment or furnishings for offices and operations centers, including copy machines, fax machines, and phone systems.

Item O - This investment plan item is for replacement of vehicles, including utility trucks, cars and light and medium trucks and accessories.

Item P - This investment plan item is for the replacement or purchase of construction, shop, garage, meter reading, and storeroom equipment.

Item Q - This investment plan item is for the new purchase or replacement of existing components of water supply, treatment, pumping, storage, and pressure regulation facilities, including associated building components and equipment. Replacements may be planned or made because of failure, or may include improvements. This item now also includes laboratory equipment and replacement of filter media used in the treatment process if capitalized.

Item R - This investment plan item is for capitalized tank painting and tank rehabilitation. However, KAW does not capitalize tank painting, and this line is used strictly for capital improvements at the tanks as necessary.

Item S - This investment item is for preliminary engineering studies primarily used for planning purposes. At the initiation of a project, these capital dollars are transferred to the appropriate construction project. If no project is developed as a result of the study, the expenditures are then transferred from CWIP.

Investment Projects

These projects are for facilities that are substantial in dollar amount. Projects approved in the immediate investment plan are identified by two types of numbers. The first is a hyphenated numerical system, the first number being the originating subsidiary and district of the project and the second number being the number of the project. Projects were previously assigned an 8-digit business unit where the first two digits identify the subsidiary, the second two digits identify the District within each Division, and the final four digits are the numerical project number. KAW's company number is (12) and the central division is (02) while the northern division is divided into districts of the former Tri-Village (30), Owenton (32) and former Elk Lake System (03). For sewer assets, Owenton is district 33 and the former Boonesboro wastewater network and treatment plant is district 50. If the project is proposed but has not yet been approved it will be identified only by its description.

IP 12020204 Source of Supply Development Project and IP 12020607 KRS II, Transmission Main and Booster Station -- This project is for the preliminary design and professional services costs that have been incurred since 2004 for the development of a solution for the Source of Supply deficit, and the final design and construction of the new water treatment facility on Pool 3 of the Kentucky River near Monterey on the Owen/Franklin County line. Linda Bridwell will discuss this project in detail in her testimony.

IP 1202-5 North Broadway Main Replacement – This project is for the design and construction of a replacement main from Short Street to Louden Avenue. The current main was installed in the late 1800s and is a 6-inch cast iron main. Fire flows available in the area are very limited. When maintenance is required, we are frequently unable to completely shut the valves, thus making repairs very difficult. The total project began in 2008 and will be completed in 2010. The expenditures in 2008 were $299,376.80 and $1,264,105.24 in 2009. The proposed expenditures in 2010 are $1,515,928.69 for a total project of $2,715,410.73.

IP 1202-6 Install 34,000' of 16" along Carrick Pike – This project is the installation of a 16-inch pipe along Carrick Pike in the northeastern portion of the Central Division service area to distribute flows better from the Russell Cave Road tank. The tank was constructed to provide additional storage in the northern section and was located on Russell Cave Road to allow the Muddy Ford tank in Scott County to be removed from service for maintenance, if necessary. Although the tank currently operates well, it cannot solely replace the Muddy Ford tank because of constricted distribution system mains. The expenditures for the project were $62,505.52 in 2008 and $25,590.42 in 2009. The proposed expenditures are, $1,000,000 in 2011, and $1,612,000 in 2012 for a total project cost of $2,700,095.94.

IP 1202-9 Install 22,700' of 12" along Todds and Cleveland Road – This project is the installation of a 12-inch pipe along Todds and Cleveland Road which will replace an existing 4-inch and 6-inch pipeline. The new 12-inch line will better serve the pumping needs of the Winchester Road Booster pump station and current demands of the system. The proposed expenditure for 2011 is $50,000 and the total project cost is $2,450,000.

IP 1202-19 Leestown Road – This project is for the design and replacement of existing 8-inch cast iron mains in conjunction with highway improvements along Leestown Road between New Circle Road and Masterson Station Park in Fayette County. The replacement will be approximately 7,800 LF of 16-inch ductile iron pipe. The proposed expenditure for the project is $1,500,000, which will occur in 2011.

IP 1202-22 KRS Raw Water Transfer – This project is for the installation of a 24-inch venture meter to more accurately meter the water being transferred to the Jacobson Reservoir. Currently the raw water main from KRS discharges to the reservoir by "back-flowing" through the intake. The proposed expenditures are $200,000 in 2011.

IP 1202-17 South Limestone Replacement – This project is for the design and replacement of existing 6-inch and 8-inch mains that date back to the early 1900's, over 100 years old, along Limestone Street through the University of Kentucky Campus between Virginia Avenue and Avenue of Champions. The replacement will be approximately 3,100 linear feet ("LF") of 12-inch ductile iron pipe along Limestone Street. This project will strengthen the service provided to the University of Kentucky as well as downtown Lexington, which is undergoing numerous redevelopment projects. The proposed expenditures are $532,854 in 2010.

IP 1202-18 US 25 Relocation – This project is for the design and replacement of existing 6-inch mains in conjunction with highway improvements along US 25/Georgetown Road between Ironworks Pike and Etter Lane in Scott County. The replacement will be approximately 4,800 LF of 12-inch, 7,500 LF of 16-inch, and 3,500 LF of 24-inch ductile iron pipe and will tie-in to the new 42-inch transmission main. The proposed expenditures, all in 2010, are $3,200,000. KAW estimates that $450,000 will be reimbursed by the Kentucky Transportation Cabinet ("KTC") in 2010.

IP 1202-31 KRS Raw Water Access (KRS Incline Car) – This project is the development of a system to provide reliable access to the Raw Water Intake from the treatment plant at the Kentucky River Station 1. The access, which parallels a steep staircase, must cover a 380-foot vertical elevation change up a bluff. The existing system was originally installed in 1957 and has periodically been out of service for repair. Further, the existing system has a weight limit of 1250 pounds. A replacement system will be designed for greater reliability and higher weight limits. A proposed $50,000 is scheduled for 2010, with an additional $950,000 proposed in 2011 for a total project cost of $1,000,000. The project is expected to be completed in 2011.

IP 1202-32 Lexington Operations Facility – This project covers the design and construction of a new Operation Facility. The facility will be approximately 20,000 square feet with areas designated for both offices and garages. Currently all utility trucks are outside in the weather, which will shorten the life of the vehicle as well as lengthen our response time during inclement weather. The office portion of the facility will provide offices, cubes, meeting rooms, and men's and women's locker rooms. The total project cost is $2,000,000 and is expected to be completed in 2010.

IP 1232-3 Northern Division Connection – This project is the installation of 14 miles of 12-inch main along US 127 from the Pool 3 WTP to the intersection of KY 22/US127 in Owenton. This project would require a booster station and storage tank. This project would connect to the existing 8-inch supply mains in the City of Owenton which then branch out and supply the rural areas of Owen County. This project will enable KAW to better serve our existing customers with a backup supply. The current distribution system has minimum connections to other water systems which would limit the amount of water KAW could purchase if needed during an emergency. The proposed expenditure for 2011 is $4,700,000 and the total project cost is $7,000,000.

12. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.