

STATE OF INDIANA

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PETITIONER'S 5  
EXHIBIT NO. 2-9-17  
DATE 2-9-17 REPORTER OK

INDIANA UTILITY REGULATORY COMMISSION

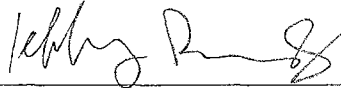
PETITION OF COMMUNITY UTILITIES )  
OF INDIANA, INC. FOR (1) AUTHORITY )  
TO INCREASE ITS RATES AND )  
CHARGES FOR WATER AND ) CAUSE NO. 44724  
WASTEWATER UTILITY SERVICE; (2) )  
APPROVAL OF NEW SCHEDULES OF )  
RATES AND CHARGES APPLICABLE )  
THERE TO; AND (3) APPROVAL OF NEW )  
DEPRECIATION RATES )

OFFICIAL  
EXHIBITS

SUBMISSION OF DIRECT TESTIMONY OF  
JOHN F. GUASTELLA

Community Utilities of Indiana, Inc., by counsel, hereby submits the direct testimony and attachments of John F. Guastella.

Respectfully submitted,



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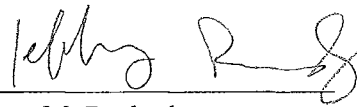
**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing were served by hand delivery, electronic transmission or U.S. Mail, first class postage prepaid this 15<sup>th</sup> day of December, 2015, upon:

Office of Utility Consumer Counselor,  
PNC Center,  
115 W. Washington St., Suite 1500 South  
Indianapolis, Indiana 46204  
[infomgt@oucc.in.gov](mailto:infomgt@oucc.in.gov)

Courtesy Copy to:

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Jeffrey M. Peabody

**PETITIONER'S EXHIBIT 5**

**COMMUNITY UTILITIES OF INDIANA, INC.**

**INDIANA UTILITY REGULATORY COMMISSION**

**CAUSE NO. 44724**

**DIRECT TESTIMONY**

**OF**

**JOHN F. GUASTELLA**

**SPONSORING PETITIONER'S ATTACHMENTS JFG-1 THROUGH JFG-4**

**COMMUNITY UTILITIES OF INDIANA, INC.**

**CAUSE NO. 44724**

**Direct Testimony of John F. Guastella**

**INTRODUCTION AND QUALIFICATIONS**

**Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A1. My name is John F. Guastella, and my business address is Guastella Associates, LLC.  
725 N. Highway A1A, Suite B103, Jupiter, Florida 33477.

**Q2. PLEASE DESCRIBE GUASTELLA ASSOCIATES, LLC.**

A2. Guastella Associates provides utility management, valuation and rate consulting services  
to both regulated and unregulated utilities.

**Q3. HAVE YOU ATTACHED A STATEMENT OF YOUR EDUCATIONAL,  
PROFESSIONAL AND BUSINESS BACKGROUND AND EXPERIENCE?**

A3. Yes, a statement of Qualification and Experience is attached as Appendix A.

**Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

A4. I was retained by Community Utilities of Indiana, Inc. ("Company" or "CUII") to perform  
a depreciation analysis of its water and sewer utility systems and to recommend  
appropriate depreciation rates.

**Q5. BEFORE DESCRIBING THE DEPRECIATION ANALYSIS YOU PERFORMED,  
WOULD YOU GENERALLY OUTLINE THE CONCEPT OF DEPRECIATION?**

1 A5. The goal of depreciation for rate setting purposes is to allow utilities to recover the  
2 original cost of the assets that are used and useful in providing service to their customers,  
3 and at a level that spreads the recovery of the cost over the estimate life of the assets so  
4 that each generation of customers pays its fair share of the cost according to their use of  
5 the assets. The Uniform System of Accounts published by the National Association of  
6 Regulatory Utility Commissioners (“NARUC”) defines depreciation as:

7 Depreciation, as applied to depreciable utility plant, means the loss in  
8 service value not restored by current maintenance, incurred in connection  
9 with the consumption or prospective retirement of utility plant in the  
10 course of providing service from causes which are known to be in current  
11 operation and against which the utility is not protected by insurance.  
12 Among the causes to be given consideration are wear and tear, decay,  
13 action of the elements, inadequacy, obsolescence, changes in the art,  
14 changes in demand, and requirements of public authorities.

15 Under this definition, depreciation studies are performed in order to estimate the average  
16 service lives of various depreciable assets, the major component with which to calculate  
17 depreciation rates. Application of depreciation rates to the original cost of assets  
18 establishes annual depreciation expense allowances in utility rates for service that will  
19 meet the goal of reasonable cost recovery and intergenerational equity.

20 **Q6. WHAT ARE THE COMPONENTS OF THE CALCULATION OF**  
21 **DEPRECIATION RATES?**

22 A6. In addition to average service lives, the other component in the calculation of  
23 depreciation rates is net salvage values, or salvage value less cost of removal.

24 The relevant Uniform System of Accounts definitions are:

25 Salvage Value means the amount received for property retired, less any  
26 expenses incurred in connection with the sale or in preparing the property  
27 for sale, or, if retained, the amount at which the material recoverable is  
28 chargeable to materials and supplies, or other appropriate account.

1           Cost of Removal means the cost of demolishing, dismantling, tearing  
2           down or otherwise removing utility plant, including the cost of  
3           transportation and handling incidental thereto.

4           Net Salvage Value means the salvage value of property retired less the cost  
5           of removal.

6           For proper rate setting, the calculation of depreciation rates and resultant depreciation  
7           expense recognizes that the allowance for depreciation should include the recovery of the  
8           original cost of the depreciable assets less any anticipated positive salvage values and/or  
9           plus any anticipated cost of removal. Under this calculation of depreciation rates,  
10          existing and future customers will pay their fair share of the cost and net salvage value of  
11          the assets that have been used to provide utility service to them.

12   **Q7.   HOW DOES THE ACCOUNTING FOR DEPRECIATION AFFECT RATES FOR**  
13   **SERVICE?**

14   A7.   Annual depreciation expense accruals are of course credits, or increases, to the  
15          accumulated depreciation. Recognition of positive net salvage decreases the accrual and  
16          negative net salvage, due to cost of removal, increases the accrual. Accordingly,  
17          accumulated depreciation is higher or lower depending on net salvage value, and the rate  
18          base on which utilities are given an opportunity to earn a return is lower or higher,  
19          respectively. Instructions in the Uniform System of Accounts describe the accounting  
20          with respect to the retirement of a retirement unit of property as follows:

21               If the retirement unit is of a depreciable class, the book cost of the unit  
22               retired and credited to utility plant shall be charged to the accumulated  
23               depreciation applicable to such property. The cost of removal and the  
24               salvage shall be charged or credited, as appropriate, to such depreciation  
25               account.

1 Under the required accounting, the accumulated depreciation would decrease by the  
2 original cost of the retired property and also the cost of removal, determined at the time of  
3 retirement, which ideally would offset, on average, the annual accruals that had increased  
4 the accumulated depreciation over the years. In other words, as annual accruals that  
5 include recovery of the original cost as well as cost of removal accumulate, they increase  
6 the reserve for depreciation and, therefore, decrease the rate base. The booking of the  
7 cost of removal when assets are retired would decrease the reserve for depreciation, and  
8 increase the rate base.

9 It is also noted that for rate setting purposes the establishment of reasonable depreciation  
10 rates is primarily a matter of achieving intergenerational equity -- existing and future  
11 customers paying their fair share of the costs associated with the assets that are used to  
12 provide them with service. Further, while depreciation expense is a deduction to  
13 revenues when calculating utility operating income (return on net investment or rate  
14 base), it is a "non-cash" expense; depreciation expense is for the most part a recovery of  
15 the original cost of assets for which expenditures had previously been made. Thus,  
16 depreciation expense is a source of internally generated funds, along with retained  
17 earnings. Because dividends to stockholders are only paid out of net income, these  
18 internally generated funds provide financing of new plant, not additional return on  
19 investment. The level of these internally-generated funds, however, only provides part of  
20 the capital needed for new plant, because the original cost of the assets being recovered  
21 through depreciation allowances is typically only a small fraction of the current cost of  
22 adding or replacing plant and facilities -- the balance of the funding must be obtained  
23 from the attraction of outside debt and/or equity capital.

1 Accordingly, in addition to intergenerational equity, establishing reasonable depreciation  
2 rates that provide for the recovery of the original cost of assets and net salvage values,  
3 including cost of removal, should, at least theoretically, improve the utility's ability to  
4 attract capital at a lower cost -- because the portion of the new outside capital in relation  
5 to existing investment would not be higher than otherwise needed to make up for a  
6 shortfall in internally generated capital and debt coverage requirements. Obviously, a  
7 lower cost of capital has a beneficial impact on rates for service. This potential benefit  
8 assumes a long-term effect of adequate depreciation practices. Depreciation practices,  
9 however, are not a substitute or offset for other rate setting policies that should establish  
10 new rates for service in order to cover the cost of service for the period when those rates  
11 become effective. Appropriate depreciation practices, coupled with other rate setting  
12 practices that provide a utility with a realistic opportunity to achieve the allowed return on  
13 investment, will in the long run improve the utility's ability to attract the lowest cost of  
14 capital.

15 **Q8. PLEASE DESCRIBE THE ANALYSIS WHICH YOU PERFORMED FOR THE**  
16 **COMPANY.**

17 A8. The Company's water and sewer systems are comprised of relatively small utilities that  
18 do not have sufficient retirement data that are readily available to perform either an  
19 actuarial or simulated plant balance method for determining average service lives. I have,  
20 therefore, undertaken a comparative analysis in order to establish appropriate average  
21 service lives and depreciation rates. I have prepared similar comparative analyses that  
22 have been accepted in other jurisdictions in recent years. It is also my experience that



1 depreciation rates for small water and sewer utilities are commonly based on the use of  
2 comparisons. The most recent comparative depreciation study that I performed was on  
3 behalf of Utility Services of Illinois, Inc. (a sister utility of CUII) in connection with a rate  
4 application to the Illinois Commerce Commission ("ICC") in Docket No. 14-0741. The  
5 ICC accepted the study in its entirety, including the recommended average service lives,  
6 net salvage values and resultant depreciation rates. Those average service lives and net  
7 salvage values are also consistent with studies of comparable property of other utilities,  
8 which I have examined. The average service lives are within the range of data compiled  
9 for various utilities and regulatory agencies around the country.

10 **Q9. WHAT COMPARISONS DID YOU MAKE?**

11 A9. I compiled average service lives, net salvage values and depreciation rates of other water  
12 utilities in various states, including Utilities & Industries Corp., Long Island Water  
13 Corporation, Elizabethtown Water Company, Citizens Water Company, Artesian Water  
14 Company, Illinois American Water Company, Middlesex Water Company, Citizens  
15 Water Company, the New Jersey American utilities, Pennichuck Water Company, Aqua  
16 Illinois, Inc. divisions known as Candlewick, Fairhaven Estates, Hawthorn Woods,  
17 Ivanhoe, Oak Run, Ravenna, University Park, Vermilion, Willowbrook, Elwood Green,  
18 Kankakee and Corporate, and NARUC guideline depreciation rates, California Public  
19 Utilities Commission Standard Practice depreciation rates, and Florida Public Service  
20 Commission rules and regulations on depreciation rates.

1 **Q10. HAVE YOU PREPARED AN EXHIBIT WHICH SHOWS THE RESULTS OF**  
2 **YOUR DEPRECIATION STUDY AND A SUMMARY OF YOUR**  
3 **RECOMMENDATIONS?**

4 A10. Yes. My recommendations with respect to the depreciation study are shown on  
5 Attachments JFG-1 and JFG-2 for water and sewer, respectively, attached to my  
6 testimony.

7 **Q11. WHAT IS THE BASIS FOR THE NEGATIVE NET SALVAGE VALUES?**

8 A11. I used net salvage values that were established some years ago by the ICC, a regulatory  
9 agency that has made significant progress with respect to recognizing the current cost of  
10 removal in relation to the original cost of depreciable assets. An analysis of the dramatic  
11 increases in construction costs with respect to utility assets supports the ICC's initiative.  
12 It is obvious that the current cost of dismantling and removing such assets as structures,  
13 storage facilities, pumps, etc. is significant in terms of the absolute costs, particularly in  
14 relation to their original costs. With respect to such assets as mains and service laterals,  
15 the cost of removal is also significant, even if only a small portion of the costs associated  
16 with trenching for the replacement and installation of a new section of a main or  
17 replacement of a service lateral is allocated to the cost of removal.

18 **Q12. HAVE YOU PREPARED A SCHEDULE DEMONSTRATING THE**  
19 **RELATIONSHIP OF ORIGINAL AND CURRENT CONSTRUCTION COSTS?**

20 A12. Yes, Attachments JFG-3 and JFG-4 for water and sewer, respectively, contain  
21 calculations of the multiples of current constructions costs over original costs. The  
22 calculation determines, for each respective account, the ratio of the current year Handy-

1 Whitman Construction cost Index to the vintage year index, with the vintage years  
2 determined by the number of years of the respective average service life. For example,  
3 for water Account 304.1 Structures & Improvements has an average service life of 40  
4 years, which is equivalent to the vintage years 1975, or 40 years back from 2015, and the  
5 2015 index of 129 is divided by the 1975 index of 129 producing a ratio or multiple of  
6 3.58 -- meaning that the current cost or construction is nearly 3.6 times greater than the  
7 original cost. Clearly, the current cost to remove or replace structures would be a  
8 significant percentage of the original cost. With respect to mains for which current costs  
9 are about 26 times the original cost 70 years ago, if only 5% of the cost of installing the  
10 new mains is the cost to replace the old mains, the relationship of the cost of removal to  
11 the original costs would be 100%. This analysis confirms the reasonableness of net  
12 salvage percentages used by the ICC, and which I use in this study.

13 **Q13. IS THE USE OF HANDY-WHITMAN INDICES COMMON IN PREPARING**  
14 **CURRENT COSTS IN COMPARISON TO HISTORICAL COSTS?**

15 A13. Yes. The Handy-Whitman Construction cost Index is commonly used in construction  
16 cost comparisons like the one I prepared in this case.

17 **Q14. DID THE COMPANY'S RETIREMENTS AFFECT YOUR DEPRECIATION**  
18 **STUDY?**

19 A14. No. As mentioned, the Company has not experienced sufficient retirements with which  
20 to perform either an actuarial or simulated plant balance method for determining average  
21 service lives.

22 **Q15. PLEASE DESCRIBE ATTACHMENTS JFG-1 AND JFG-2.**

1 A15. These schedules show the average service lives which I am recommending for the  
2 Company for its water and sewer systems. The recommended average service lives are  
3 the same as the average service lives approved by the ICC for other water and sewer  
4 systems. On the basis of my experience and my review of the depreciation  
5 determinations for water and sewer system assets, it is my judgment that the  
6 recommended average service lives and net salvage for all plant accounts shown on  
7 Attachments JFG-1 and JFG-2 are not only reasonable, in general, but are reasonable for  
8 determining depreciation rates for the Company.

9 **Q16. IN ADDITION TO THE APPROPRIATENESS OF THE RECOMMENDED**  
10 **DEPRECIATION RATES, ARE THERE OTHER ADVANTAGES FOR THE**  
11 **COMPANY TO USE SIMILAR DEPRECIATION RATES FOR ALL OF ITS**  
12 **SYSTEMS?**

13 A16. Yes, there is an administrative benefit associated with a consistent depreciation and  
14 accounting practice. Moreover, since there is a general consistency in the way the  
15 Company maintains its facilities, for each system, the life of each system's assets would  
16 tend to be extended for a similar period of time.

17 **Q17. ARE YOUR COMPARATIVE DEPRECIATION DATA AVAILABLE IN WORK**  
18 **PAPER FORM?**

19 A17. Yes.

20 **Q18. DOES THAT CONCLUDE YOUR PREFILED DIRECT TESTIMONY AT THIS**  
21 **TIME?**

22 A18. Yes.

## VERIFICATION

I, John F. Guastella, President of Guastella Associates, LLC, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

A handwritten signature in black ink, appearing to read "John F. Guastella", written in a cursive style.

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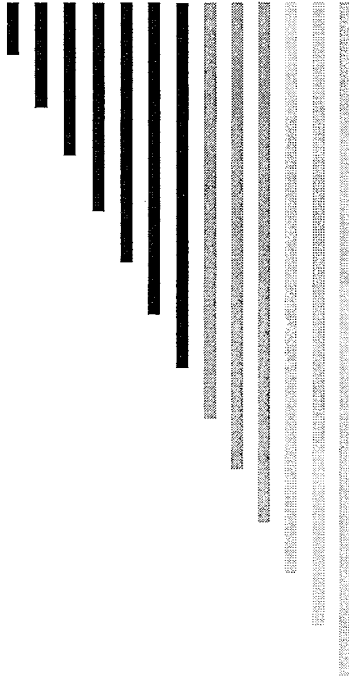
John F. Guastella

Date: December 15, 2015

# Guastella Associates, LLC

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## Qualifications & Experience



**Rate Setting  
Valuation  
Management  
Consulting**

*...SERVING REGULATED AND UNREGULATED WATER AND WASTEWATER UTILITIES SINCE 1978*

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## INTRODUCTION

### GUASTELLA ASSOCIATES, LLC

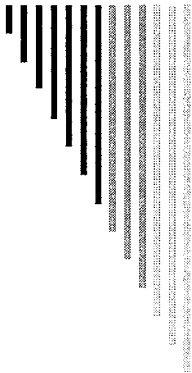
Guastella Associates, LLC (“formerly John F. Guastella Associates, Inc.”) is a consulting firm that specializes in providing utility rate setting, valuation and management services for public and privately-owned water and wastewater utilities.

John F. Guastella established Guastella Associates in 1978. Previously, Mr. Guastella was Director of the Water Division of the New York Public Service Commission. The Water Division provided the New York Commission with technical assistance in regulating the rates and service provided by approximately 450 privately-owned utilities. During the period from 1987 through 1991, Mr. Guastella also managed a 5,500 customer water utility in New York State. In 1989, Guastella Associates acquired the rates and valuation section of Coffin & Richardson, Inc., a general consulting firm that also provided a full range of services to water and wastewater utilities. Since 2009, Guastella Associates has served as the general manager of Daufuskie Island Utility Company, Inc. (“DIUC”), responsible for its day-to-day operations, billing, bookkeeping, financing, capital improvement projects and regulatory relations. DIUC provides water and wastewater service to some 550 connected customers and 600 availability customers located on Daufuskie Island South, Carolina.

As can be seen from the following qualifications and experience, key staff members have many years of combined experience in virtually every aspect of utility rate setting and valuation. The technical expertise of key staff, combined with their former employment by real estate and utility companies, a regulatory agency, and the management of water utilities, provides a total perspective towards addressing the rates and valuation needs of today’s water and wastewater utilities.

Guastella Associates has assisted the largest privately-owned utilities with respect to the most challenging issues, performing complex studies and providing expert testimony in administrative hearings as well as court proceedings. In addition, our client base has included hundreds of small water and wastewater utilities - - obtaining rate increases that turn operating losses into profits, posturing them for financing, correcting record keeping errors and, for some, negotiating their sale at multiples of their original cost net investment rate base. Some of our most successful assignments have been to help establish new developer-related water and wastewater utilities, applying the correct principles at the outset in order to develop fully compensatory initial rates, record keeping procedures and asset management, so they are structured to become self-sustaining utilities that will achieve the highest possible profit and ultimate market value.

Our wide-range of experience and expertise has enabled us to successfully address the special needs of large investor-owned utilities in rate cases and condemnation proceedings.



# OUTLINE OF SERVICES

## GUASTELLA ASSOCIATES, LLC

Guastella Associates, LLC ("formerly John F. Guastella Associates, Inc.") is a consulting firm specializing in utility management, valuation, appraisals and rate determinations. Guastella Associates has been providing professional services to regulated and unregulated utilities since 1978.

Specific areas of expertise includes:

### I. RATE ANALYSIS

#### A. Revenue Requirements

1. Examination of books and records -- revenues, expenses and capital investment.
2. Determination of the cost of providing service (revenue requirement) -- normalize historical data, establish known changes and perform projections.

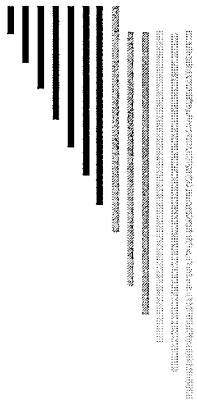
#### B. Rate Design

1. Perform cost allocation studies to establish cost of service for residential, commercial, industrial, wholesale and fire protection customers, and for other special users.
2. Develop rate structures -- combine billing analyses and cost allocations to form usage rates, flat rates, minimum service and facilities charges, and such other special charges as connection fees, availability rates, etc.

#### C. Reports

1. Investor-owned utilities -- prepare complete rate filings for submission to regulatory agencies; prepare testimony, exhibits, and assist in all aspects of adjudication process.
2. Municipal utilities -- prepare detailed rate reports in support of rate increases for use by municipal officials and presentation at municipal hearings.





# OUTLINE OF SERVICES

## GUASTELLA ASSOCIATES, LLC

### II. VALUATIONS

#### A. Appraisals

1. Eminent domain condemnation proceedings, negotiations for sale of utilities, damage claims for insurance and ad valorem tax and management purposes.
2. Determinations of original cost, replacement cost, reproduction cost and market value, including going concern value.
3. Calculation of the present value of cash flow under the income approach to market value determinations.
4. Analyses of market data under the sales comparison approach.

#### B. Depreciation

1. Actuarial studies using retirement rate or simulated plant balances methods to determine average service lives of physical property, theoretical depreciation reserve requirements and depreciation rates.
2. Establish affordable depreciation rates on the basis of comparative analyses of similar property of other utilities and practices of regulatory agencies and association

#### C. Feasibility Studies

1. Utility acquisitions by investors and municipalities.
2. Economic studies to establish extension of service costs and policy -- inside and outside service area.
3. Main extension agreements, guaranteed revenue contracts, refund provisions.

#### D. Financial Planning

1. Establish financing requirements for capital improvements.
2. Determine revenue and rate needs for various combinations of debt and equity financing.
3. Assist certain utilities in securing financing.
4. Establish financing needs, initial rates and regulatory approval of proposed new utilities.

### III. MANAGEMENT

#### A. Operations

1. Provides general management of water and wastewater utilities.
2. Assist in day-to-day decisions as to utility accounting and related impact on rates.
3. Solve problems as to record keeping in accordance with regulatory requirements and prescribed systems of accounts.
4. Establish general policy and tariff provisions for customer service, billing, collecting, meter testing, complaint handling, and customer and regulatory relations.

#### B. Administrative

1. Coordinate activities with regulatory agencies to assure compliance with rules, regulations and orders.
2. Negotiations for purchase or sale of utility property and special contracts.

#### C. Training

1. On-the-job training for employees while working on various projects.
2. Special educational seminars on all aspects of utility rate settings, financing, valuation and rules.

**PROFESSIONAL QUALIFICATIONS AND EXPERIENCE**  
**of**  
**JOHN F. GUASTELLA**

B.S., Mechanical Engineering, Stevens Institute of Technology, 1962

Member:

American Water Works Association, Lifetime Member  
National Association of Water Companies  
New England Water Works Association, Lifetime Member

Committees:

AWWA, Water Rates Committee (Water Rates Manual M-1, 1983 Edition)  
National Association of Regulatory Utility Commissioners (NARUC) and NAWC, Joint-Committee on Rate Design  
NAWC, Rates and Revenues Committee  
NAWC, Small Water Company Committee

Mr. Guastella is President of Guastella Associates, LLC ("formerly John F. Guastella Associates, Inc.") which provides management, valuation and rate consulting services for municipal and investor-owned utilities, as well as regulatory agencies. His clients include utilities in the states of Alaska, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Maine, Maryland, Massachusetts, Missouri, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, South Carolina, Texas, Rhode Island and Virginia. He has provided consulting services that include all aspects of utility regulation and rate setting, encompassing revenue requirements, revenues, operation and maintenance expenses, depreciation, taxes, return on investment, cost allocation and rate design. He has performed depreciation studies for the establishment of average service lives and depreciation rates of utility property. He has performed appraisals of utility companies for management purposes and in connection with condemnation proceedings. He has also negotiated the sale of utility companies. He directs the general management of a water and wastewater utility in South Carolina.

Mr. Guastella served for more than four years as President of Country Knolls Water Works, Inc., a water utility that served some 5,500 customers in Saratoga County, New York. He also served as a member of the Board of Directors of the National Association of Water Companies.

Mr. Guastella has qualified and testified as an expert witness before regulatory agencies and municipal jurisdictions in the states of Alaska, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Maryland, Massachusetts, Missouri, Montana, Nevada, New Hampshire, New Mexico, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas and Virginia.

Prior to establishing his own firm, Mr. Guastella was employed by the New York State Public Service Commission for sixteen years. For two years he was involved in the regulation of electric and gas utilities, with the remaining years devoted to the regulation of water utilities. In 1970, he was promoted to Chief of Rates and Finance in the Commission's Water Division. In 1972, he was made Assistant Director of the Water Division. In 1974, he was appointed by Alfred E. Kahn, then Chairman of the Commission, to be Director of the Water Division, a position he held until he resigned from the Commission in August 1978.

At the Commission, his duties included the performance and supervision of engineering and economic studies concerning rates and service of many public utilities. As Director of the Water Division, he was responsible for the regulation of more than 450 water companies in New York State and headed a professional staff of 32 engineers and three technicians. A primary duty was to attend Commission sessions and advise the Commission during its decision making process. In the course of that process, an average of about fifty applications per year would be reviewed and analyzed. The applications included testimony, exhibits and briefs

involving all aspects of utility valuation and rate setting. He also made legislative proposals and participated in drafting Bills that were enacted into law: one expanded the N.Y. Public Service Commission's jurisdiction over small water companies and another dealt specifically with rate regulation and financing of developer-related water systems.

In addition to his employment and client experience, Mr. Guastella served as Vice-Chairman of the Staff-Committee on Water of the National Association of Regulatory Utility Commissioners (NARUC). This activity included the preparation of the "Model Record-Keeping Manual for Small Water Companies," which was published by the NARUC. This manual provides detailed instruction on the kinds of operation and accounting records that should be kept by small water utilities, and on how to use those records.

Each year since 1974 he has prepared study material, assisted in program coordination and served as an instructor at the Eastern Annual Seminar on Water Rate Regulation sponsored over the years by the NARUC in conjunction with the University of South Florida, Florida Atlantic University, the University of Utah, Florida State University, the University of Florida and currently Michigan State University. In 1980 he was instrumental in the establishment of the Western NARUC Rate Seminar and has annually served as an instructor since that time. This course is recognized as one of the best available for teaching rate-setting principles and methodology. More than 7,500 students have attended this course, including regulatory staff, utility personnel and members of accounting, engineering, legal and consulting firms throughout the country.

Mr. Guastella served as an instructor and panelist in a seminar on water and wastewater regulation conducted by the Independent Water and Sewer Companies of Texas. In 1998, he prepared and conducted a seminar on basic rate regulation on behalf of the New England Chapter of the National Association of Water Companies. In 2000 and 2001, Mr. Guastella developed and conducted a special seminar for developer related water and wastewater utilities in conjunction with Florida State University, and again in 2003 in conjunction with the University of Florida. It provided essential training for the financial structuring of small water and wastewater utilities, rate setting, financing and the establishment of their market value in the event of a negotiated sale or condemnation. In 2004, he prepared and conducted a special workshop seminar on behalf of the Office of Regulatory Staff of South Carolina, covering rate setting, valuation and general regulation of water and wastewater utilities. In 2006, he participated in an expert workshop on full cost pricing conducted by the U. S. Environmental Protection Agency in coordination with the Institute of Public Utilities, Michigan State University. In 2006 and again in 2013, he prepared and conducted a special seminar on rate setting and valuation on behalf of the New York Chapter of the NAWC. In 2007 and again in 2015, he prepared and conducted a special seminar on rate setting and valuation on behalf of the New England Chapter of NAWC.

Mr. Guastella has made presentations on a wide variety of rate, valuation and regulatory issues at meetings of the National Association of Regulatory Utility Commissioners, the American Water Works Association, the New England Water Works Association, the National Association of Water Companies, the New England Conference of Public Utilities Commissioners, the Florida, New England, New Jersey and New York Chapters of NAWC, the Mid-America Regulatory Conference, the Southeastern Association of Regulatory Utility Commissioners, the Pennsylvania Environmental Conference, the Public Utility Law Section of the New Jersey Bar Association, and the NAWC Water Utility Executive Council.

**John F. Guastella**  
**List of Proceedings in which**  
**Expert Testimony**  
**was Presented**

<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1966	Sunhill Water Corporation	New York	23968
1967	Amagansett Water Company	New York	24210
1967	Worley Homes, Inc.	New York	24466
1968	Amagansett Water Company	New York	24718
1968	Amagansett Water Company	New York	24883
1968	Sunhill Water Corporation	New York	23968
1968	Worley Homes, Inc.	New York	Supreme Court
1969	Amagansett Water Supply	New York	24883
1969	Citizens Water Supply Co.	New York	25049
1969	Worley Homes, Inc.	New York	24466/24992
1970	Brooklyn Union Gas Company	New York	25448
1970	Consolidated Edison of New York	New York	25185
1971	Hudson Valley Water Companies	New York	26093
1971	Jamaica Water Supply Company	New York	26094
1971	Port Chester Water Works, Inc.	New York	25797
1971	U & I Corp. - Merrick District	New York	26143
1971	Wanakah Water Company	New York	25873
1972	Spring Valley Water Company	New York	26226
1972	U & I Corp. - Woodhaven District	New York	26232
1973	Citizens Water Supply Company	New York	26366
1978	Rhode Island DPU&C (Bristol County)	Rhode Island	1367A
1979	Candlewick Lake Utilities Co.	Illinois	76-0218
1979	Candlewick Lake Utilities Co.	Illinois	76-0347
1979	Candlewick Lake Utilities Co.	Illinois	78-0151
1979	Jacksonville Suburban Utilities	Florida	770316-WS
1979	New York Water Service Corporation	New York	27594
1979	Salem Hills Sewerage Disposal Corp. v. V. of Voorheesville	New York	Supreme Court

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1979	Seabrook Water Corporation	New Jersey	7910-846
1979	Southern Utilities Corporation	Florida	770317-WS
1979	Township of South Brunswick	New Jersey	Municipal
1979	Westchester Joint Water Works	New York	Municipal
1979	Woodhaven Utilities Corporation	Illinois	77-0109
1980	Crestwood Village Sewer Company	New Jersey	BPU 802-78
1980	Crestwood Village Water Company	New Jersey	BPU 802-77
1980	Gateway Water Supply Corporation	Texas	Municipal
1980	GWV-Central Florida District	Florida	800004-WS
1980	Jamaica Water Supply Company	New York	27587
1980	Rhode Island DPU&C (Newport Water)	Rhode Island	1480
1981	Briarcliff Utilities, Inc.	Texas	3620
1981	Candlewick Lake Utilities Co.	Illinois	81-0011
1981	Caroline Water Company, Inc.	Virginia	810065
1981	GDU, Inc. - Northport	Florida	Municipal
1981	GDU, Inc. - Port Charlotte	Florida	Municipal
1981	GDU, Inc. - Port Malabar	Florida	80-2192
1981	Hobe Sound Water Company	Florida	8000776
1981	Lake Buckhorn Utilities, Inc.	Ohio	80-999
1981	Lake Kiowa Utilities, Inc.	Texas	3621
1981	Lakengren Utilities, Inc.	Ohio	80-1001
1981	Lorelei Utilities, Inc.	Ohio	80-1000
1981	New York Water Service Corporation	New York	28042
1981	Rhode Island DPU&C (Newport Water)	Rhode Island	1581
1981	Shawnee Hills Utility Company	Ohio	80-1002
1981	Smithville Water Company, Inc.	New Jersey	808-541
1981	Spring Valley Water Company, Inc.	New York	27936
1981	Spring Valley Water Company, Inc.	New York	27936
1981	Sunhill Water Corporation	New York	27903

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1981	Swan Lake Water Corporation	New York	27904
1982	Chesterfield Commons Sewer Company	New Jersey	822-84
1982	Chesterfield Commons Water Company	New Jersey	822-83
1982	Crescent Waste Treatment Corp.	New York	Municipal
1982	Crestwood Village Sewer Company	New Jersey	821-33
1982	Crestwood Village Water Company	New Jersey	821-38
1982	Salem Hills Sewerage Disposal Corp.	New York	Municipal
1982	Township of South Brunswick	New Jersey	Municipal
1982	Woodhaven Utilities Corporation	Illinois	82-0167
1983	Country Knolls Water Works, Inc.	New York	28194
1983	Heritage Hills Water Works Corp.	New York	28453
1984	Crestwood Village Sewer Company	New Jersey	8310-861
1984	Crestwood Village Water Company	New Jersey	8310-860
1984	Environmental Disposal Corp.	New Jersey	816-552
1984	GDU, Inc. - Port St. Lucie	Florida	830421
1984	Heritage Village Water (water/sewer)	Connecticut	84-08-03
1984	Hurley Water Company, Inc.	New York	28820
1984	New York Water Service Corporation	New York	28901
1985	Deltona Utilities (water/sewer)	Florida	830281
1985	J. Filiberto Sanitation, Inc.	New Jersey	8411-1213
1985	Sterling Forest Pollution Control	New York	Municipal
1985	Water Works Enterprise, Grand Forks	North Dakota	Municipal
1986	GDU, Inc. - Port Charlotte	Florida	Municipal
1986	GDU, Inc. - Sebastian Highlands	Florida	Municipal
1986	Kings Grant Water/Sewer Companies (settled)	New Jersey	WR8508-868
1986	Mt. Ebo Sewage Works, Inc.	New York	Municipal
1986	Sterling Forest Pollution Control	New York	Municipal
1987	Country Knolls Water Works, Inc.	New York	29443
1987	Crestwood Village Sewer Co. (settled)	New Jersey	WR8701-38

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1987	Deltona Utilities – Marco Island	Florida	85151-WS
1987	Deltona Utilities, Inc. - Citrus Springs (settled)	Florida	870092-WS
1987	First Brewster Water Corp. v. Town of Southeast (settled)	New York	Supreme Court
1987	GDU, Inc. - Silver Springs Shores	Florida	870239-WS
1987	Ocean County Landfill Corporation	New Jersey	SR-8703117
1987	Palm Coast Utility Corporation	Florida	870166-WS
1987	Sanlando Utilities Corp. (settled)	Florida	860683-WS
1987	Township of South Brunswick	New Jersey	Municipal
1987	Woodhaven Utilities Corp. (settled)	Illinois	87-0047
1988	Crescent Estates Water Co., Inc.	New York	88-W-035
1988	Elizabethtown Water Co.	New Jersey	OAL PUC3464-88
1988	Heritage Village Water Company	Connecticut	87-10-02
1988	Instant Disposal Service, Inc.	New Jersey	SR-87080864
1988	J. Filiberto Sanitation v. Morris County Transfer Station	New Jersey	01487-88
1988	Ohio Water Service Co.	Ohio	86-1887-WW-CO1
1988	St. Augustine Shores Utilities	Florida	870980-WS
1989	Elizabethtown Water Co.	New Jersey	BPU WR89020132J
1989	GDU (FPSC generic proceeding as to rate setting procedures)	Florida	880883-WS
1989	Gordon's Corner Water Co.	New Jersey	OAL PUC479-89
1989	Heritage Hills Sewage Works	Connecticut	Municipal
1989	Heritage Village Water Company	Connecticut	87-10-02
1989	Palm Coast Utility Corporation	Florida	890277-WS
1989	Southbridge Water Supply Co.	Massachusetts	DPU 89-25
1989	Sterling Forest Water Co.	New York	PSC 88-W-263
1990	American Utilities, Inc. - United States Bankruptcy Court	New Jersey	85-00316
1990	City of Carson City	Nevada	Municipal
1990	Country Knolls Water Works, Inc.	New York	90-W-0458
1990	Elizabethtown Water Company	New Jersey	WR900050497J

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1990	Kent County Water Authority	Rhode Island	1952
1990	Palm Coast Utility Corporation	Florida	871395-WS
1990	Southern States Utilities, Inc.	Florida	Workshop
1990	Trenton Water Works	New Jersey	WR90020077J
1990	Waste Management of New Jersey	New Jersey	SE 87070552
1990	Waste Management of New Jersey	New Jersey	SE 87070566
1991	City of Grand Forks	North Dakota	Municipal
1991	Gordon's Corner Water Co.	New Jersey	OAL PUC8329-90
1991	Southern States Utilities, Inc.	Florida	900329-WS
1992	Elizabethtown Water Co.	New Jersey	WR 91081293J
1992	General Development Utilities, Inc. - Port Malabar Division	Florida	911030-WS
1992	General Development Utilities, Inc. - West Coast Division	Florida	911067-WS
1992	Heritage Hills Water Works, Inc.	New York	92-2-0576
1993	General Development Utilities, Inc. - Port LaBelle Division	Florida	911737-WS
1993	General Development Utilities, Inc. - Silver Springs Shores	Florida	911733-WS
1993	General Waterworks of Pennsylvania - Dauphin Cons. Water Supply	Pennsylvania	R-00932604
1993	Kent County Water Authority	Rhode Island	2098
1993	Southern States Utilities - FPSC Rulemaking	Florida	911082-WS
1993	Southern States Utilities - Marco Island	Florida	920655-WS
1994	Capital City Water Company	Missouri	WR-94-297
1994	Capital City Water Company	Missouri	WR-94-297
1994	Elizabethtown Water Company	New Jersey	WR94080346
1994	Elizabethtown Water Company	New Jersey	WR94080346
1994	Environmental Disposal Corp.	New Jersey	WR94070319
1994	General Development Utilities - Port Charlotte	Florida	940000-WS
1994	General Waterworks of Pennsylvania	Pennsylvania	R-00943152



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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
1994	Hoosier Water Company - Mooresville Division	Indiana	39839
1994	Hoosier Water Company - Warsaw Division	Indiana	39838
1994	Hoosier Water Company - Winchester Division	Indiana	39840
1994	West Lafayette Water Company	Indiana	39841
1994	Wilmington Suburban Water Corporation	Delaware	94-149 (stld)
1995	Butte Water Company	Montana	Cause 90-C-90
1995	Heritage Hills Sewage Works Corporation	New York	Municipal
1996	Consumers Illinois Water Company	Illinois	95-0342
1996	Elizabethtown Water Company	New Jersey	WR95110557
1996	Palm Coast Utility Corporation	Florida	951056-WS
1996	PenPac, Inc.	New Jersey	OAL-00788-93N
1996	Southern States Utilities, Marco Island	Florida	950495-WS
1997	Crestwood Village Water Company	New Jersey	BPU 96100739
1997	Indiana American Water Co., Inc.	Indiana	IURC 40703
1997	Missouri-American Water Company	Missouri	WR-97-237
1997	South County Water Corp	New York	97-W-0667
1997	United Water Florida	Florida	960451-WS
1998	Consumer Illinois Water Company	Illinois	98-0632
1998	Consumers Illinois Water Company	Illinois	97-0351
1998	Heritage Hills Water Company	New York	97-W-1561
1998	Missouri-American Wastewater Company	Missouri	SR-97-238
1999	Consumers Illinois Water Company	Illinois	99-0288
1999	Environmental Disposal Corp.	New Jersey	WR99040249
1999	Indiana American Water Co., Inc.	Indiana	IURC 41320
2000	South Haven Sewer Works, Inc.	Indiana	Cause: 41410
2000	Utilities Inc. of Maryland	Maryland	CAL 97-17811
2001	Artesian Water Company	Delaware	00-649
2001	Citizens Utilities Company	Illinois	01-0001
2001	Elizabethtown Water Company	New Jersey	WR-0104205

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
2001	Kiawah Island Utility, Inc.	South Carolina	2001-164-W/S
2001	Placid Lakes Water Company	Florida	011621-WU
2001	South Haven Sewer Works, Inc.	Indiana	41903
2001	Southlake Utilities, Inc.	Florida	981609-WS
2002	Artesian Water Company	Delaware	02-109
2002	Consumers Illinois Water- Grant Park	Illinois	02-0480
2002	Consumers Illinois Water- Village Woods	Illinois	02-0539
2002	Valencia Water Company	California	02-05-013
2003	Consumers Illinois Water - Indianola	Illinois	03-0069
2003	Elizabethtown Water Company	New Jersey	WR-030-70510
2003	Golden Heart Utilities, Inc.	Alaska	U-02-13, 14 & 15
2003	Utilities, Inc. – Georgia	Georgia	CV02-0495-AB
2004	Aquarion Water Company	Connecticut	04-02-14
2004	Artesian Water Company	Delaware	04-42
2004	El Dorado Utilities, Inc.	New Mexico	D-101-CU-2004-
2004	Environmental Disposal Corp.	New Jersey	DPU WR 03 070509
2004	Heritage Hills Water Company	New York	03-W-1182
2004	Sun Valley Water & Washoe County Dept. of Water Revenues	Nevada	TMWA Municipal
2004	Jersey City MUA	New Jersey	Municipal
2004	Rockland Electric Company	New Jersey	EF02110852
2005	Aquarion Water Company	New Hampshire	DW 05-119
2005	Intercoastal Utilities, Inc.	Florida	04-0007-0011-0001
2005	Haig Point Utility Company, Inc.	South Carolina	2005-34-W/S
2005	South Central Connecticut Regional Water Auth.	Connecticut	Municipal
2006	Pennichuck Water Works, Inc.	New Hampshire	DW-04048
2006	Village of Williston Park	New York	Municipal
2006	Jersey City MUA	New Jersey	Municipal
2006	Groton Utilities	Connecticut	Municipal

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
2006	Connecticut Water Company	Connecticut	06-07-08
2006	Birmingham Utilities, Inc.	Connecticut	06-05-10
2006	Aqua Florida Utilities, Inc.	Florida	060368-WS
2007	Aquarion Water Company of CT	Connecticut	07-05-19
2007	Pennichuck Water Works, Inc.	New Hampshire	DW 04-048
2007	Aqua Indiana - Utility Center	Indiana	43331
2007	Environmental Disposal Corp.	New Jersey	WR 04 080760
2007	Aqua Florida Utilities, Inc.	Florida	07-0183
2007	Aqua Illinois, Inc. - Hawthorn Woods, Willowbrook & Vermilion	Illinois	07-0620/07-0621/08-0067
2008	Aqua Florida Utilities, Inc.	Florida	080121-WS
2008	Aquarion Water Company of MA	Massachusetts	D.P.U. 08-27
2008	Haig Point Utility Company, Inc.	South Carolina	2007-414-WS
2009	R.M.V. Land & C.M. Livestock, L.C.C.	New Jersey	EM02050313
2010	City of Griffin	Georgia	Civil Action No. 09V-2866
2010	Connecticut Water Company	Connecticut	09-12-11
2010	Montville WPCA	Connecticut	1400012464
2010	Milford Water Company	Massachusetts	DPU 10-78
2010	Arizona American Water Company	Arizona	W-01303A-10-0448
2011	Aqua Illinois	Illinois	ICC Docket (Consolidated)
2011	Artesian Water Company	Maryland	MPSC Case 9252
2011	Artesian Water Company	Delaware	PSC 11-207
2011	Kiawah Island Utility, Inc.	South Carolina	2011-317-WS
2012	Washington Gas Light	Maryland	Senate SB541
2012	Washington Gas Light	Maryland	House HB662
2012	Daufuskie Island Utility	South Carolina	2011-229-W/S
2012	Milford Water Company	Massachusetts	DPU 12-86
2013	Artesian Water Company	Pennsylvania	2:10-CV-07453-JP
2013	Aquarion Water Company - Oxford	Massachusetts	CA 09-00592E

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<b>Year</b>	<b>Client</b>	<b>State</b>	<b>Regulatory Docket/Case Number</b>
2013	Water Management Services	Florida	110200-WU
2013	City of Fernandina Beach	Florida	Civil Action No. 13CA000485AXYX
2013	City of Elizabeth	New Jersey	Docket Nos. UNN-L-0556-10 and UNN-L-2608-11
2014	Daufuskie Island Utility Company, Inc.	South Carolina	Case No. 2013-CP-7-02255
2014	Artesian Water Company	Delaware	Docket No. PSC 14-132
2014	Aquarion Water Company - Hingham	New Hampshire	SUCU 2013-03159-BLS2
2015	EPCOR	Arizona	ACC Docket # WS-01303A-14-0010
2015	Mountain Water Company	Montana	Case # DV-14-352
2015	Daufuskie Island Utility Company, Inc.	South Carolina	Docket No. 2014-346-WS

# Papers and Presentations

## By

## John F. Guastella

Year	Title	Forum
1974 through 2015	1. Basics of Rate Setting 2. Cost Allocation and Rate Design 3. Revenue Requirements	Semi-annual seminars on utility rate regulation, National Association of Regulatory Utility Commissioners, sponsored by the University of South Florida, the University of Utah, Florida State University, The University of Florida and currently Michigan State University
1974	Rate Design Studies: A Regulatory Point-of- View	Annual convention of the National Association of Water Companies, New Haven, Connecticut
1976	Lifeline Rates	Annual convention of the National Association of Water Companies, Chattanooga, Tennessee
1977	Regulating Water Utilities: The Customers' Best Interest	Annual symposium of the New England Conference of Public Utilities Commissioners, Mystic Seaport, Connecticut
1978	Rate Design: Preaching v. Practice	Annual convention of the National Association of Water Companies, Baton Rouge, Louisiana
1979	Small Water Companies	Annual symposium of the New England Conference of Public Utilities Commissioners, Newport, Rhode Island
1979	Rate Making Problems Peculiar to Private Water and Sewer Companies	Special educational program sponsored by Independent Water and Sewer Companies of Texas, Austin, Texas
1980	Water Utility Regulation	Annual meeting of the National Association of Regulatory Utility Commissioners, Houston, Texas
1981	The Impact of Water Rates on Water Usage	Annual Pennsylvania Environmental Conference, Harrisburg, Pennsylvania
1981	A Realistic Approach to Regulating Water Utilities	Mid-America Regulatory Conference, Clarksville, Indiana
1982	Issues in Water Utility Regulation	Annual symposium of the New England Conference of Public Utilities Commissioners, Rockport, Maine
1982	New Approaches to the Regulation of Water Utilities	Southeastern Association of Regulatory Utility Commissioners, Asheville, North Carolina
1983	Allocating Costs and Revenues Fairly and Effectively	Maryland Water and Sewer Finance Conference, Westminster, Maryland
1983	Lifeline and Social Policy Pricing	Annual conference of the American Water Works Association, Las Vegas, Nevada (published)
1984	The Real Cost of Service: Some Special Considerations	Annual New Jersey Section AWWA Spring Meeting, Atlantic City, New Jersey
1987	Margin Reserve: It's Not the Issue	Florida Waterworks Association Newsletter, April/May/June 1987 issue

# Papers and Presentations

## By John F. Guastella

Year	Title	Forum
1987	A "Current" Issue: CIAC	NAWC - New England Chapter November 6, 1987 meeting
1988	Small Water Company rate Setting: Take It or Leave It	NAWC - New York Chapter June 14, 1988 meeting Leave It
1989	The Solution to all the Problems of Good Small Water Companies	NAWC Quarterly magazine, Winter issue
1989	Current Issues Workshop - Panel	New England Conference of Public Utilities Commissioners, Kennebunkport, Maine
1991	Alternative Rate Structures	New Jersey Section 1991 Annual Conference, AWWA, Atlantic City, New Jersey
1994	Conservation Impact on Water Rates	New England NAWC and New England AWWA, Sturbridge, Massachusetts
1996	Utility Regulation - 21st Century	NAWC Annual Meeting, Orlando, Florida
1997	Current Status Drinking Water State Revolving Fund	NAWC Annual Meeting, San Diego, California
1998	Small Water Companies - Problems and Solutions	NAWC Annual Meeting, Indianapolis, Indiana
1998	Basic Rate Regulation Seminar	New England Chapter - NAWC, Rockport, Maine
2000	Developer Related Water and Sewer Utilities Seminar	Florida State University, Orlando, Florida
2001	Developer Related Water and Sewer Utilities Seminar	Florida State University, Orlando, Florida
2002	Regulatory Cooperation - Small Company Education	New England Chapter - NAWC, Annual Meeting
2003	Developer Related Water and Sewer Utilities Seminar	University of Florida, Orlando, Florida
2004	Basic Regulation & Rate Setting Training Seminar	Office of Regulatory Staff, Columbia, South Carolina
2005	Municipal Water Rates	Nassau-Suffolk Water Commissioners Association, Franklin Square, New York
2005	Innovations in Rate Setting and Procedures	NAWC New York Chapter, West Point, New York

**Papers and Presentations**  
**By**  
**John F. Guastella**

<b>Year</b>	<b>Title</b>	<b>Forum</b>
2006	Basics of Rate Setting	The Connecticut Water Company, Clinton, Connecticut
2006	Innovations in Rate Setting and Procedures	NAWC New York Chapter, Catskill, New York
2006	Best Practices as Regulatory Policy	NAWC New England Chapter, Ogunquit, Maine
2006	Rate and Valuation Seminar	NAWC New York Chapter
2006	Full Cost Pricing	U.S. Environmental Protection Agency Expert Workshop, Lansing, Michigan
2006	Innovations in Rate Setting	NAWC New England Chapter, Portsmouth, New Hampshire
2007	Weather Sensitive Customer Demands	NAWC Water Utility Executive Council, Half Moon Bay, California
2007	Basics of Rate Setting and Valuation Seminar	NAWC New England Chapter, Ogunquit, Maine
2007	Small Company Characteristics	National Drinking Water Symposium, La Jolla, California
2013	Rate and Valuation Seminar	NAWC New York Chapter
2015	Rate and Valuation Seminar	NAWC New England Chapter

Water System

## Calculation of Depreciation Rates

Account Number (A)	Account Description (B)	Average Service Life (C)	Percent Net Salvage (D)	Depreciation Rate (E)
	<u>Intangible Plant</u>			
301	Organization			
302	Franchises & Consents			
	<u>Source of Supply Plant</u>			
303	Land and Land Rights			
304	Structures and Improvements	30.00	-25%	4.17%
305	Collecting & Impounding Res.	66.66	0%	1.50%
306	Lake, River and Other Intakes	75.00	-10%	1.47%
307	Wells and Springs	60.00	0%	1.67%
309	Supply Mains	90.00	-70%	1.89%
	<u>Pumping Plant</u>			
303	Land and Land Rights			
304	Structures and Improvements	55.00	-25%	2.27%
310	Power Generating Equipment	30.00	0%	3.33%
311	Source of Supply & Pumping Equip.	40.00	-25%	3.13%
311.26	Source of Supply & Pumping Equip. - Hydraulic	40.00	-25%	3.13%
311.4	Transmission & Distribution Pumping Equip.	40.00	-25%	3.13%
	<u>Water Treatment Plant</u>			
303	Land and Land Rights			
304	Structures and Improvements	45.00	-25%	2.78%
311	Electric Pumping Equip.	40.00	-25%	3.13%
320	Water Treatment Equipment	35.00	-25%	3.57%
339	Other Plant & Misc. Equipment	18.00	0%	5.56%
	<u>Transmission &amp; Dist. Plant</u>			
303	Land and Land Rights			
304	Structures and Improvements	30.00	-25%	4.17%
311	Electric Pumping Equip.	40.00	-25%	3.13%
330	Dist. Reservoirs & Standpipes	60.00	0%	1.67%
331	T & D Mains	90.00	-70%	1.89%
333	Services	60.00	-100%	3.33%
334	Meters	14.00	13%	6.21%
334	Meter Installations	45.00	-100%	4.44%
335	Hydrants	43.00	-70%	3.95%
336	Backflow Prevention Devices	14.00	-100%	14.29%
339	Other Plant & Misc. Equipment	18.00	0%	5.56%
	<u>General Plant</u>			
303	Land and Land Rights			
304	Structures and Improvements	25.00	0%	4.00%
340	Office Furniture	19.00	10%	4.74%
340	Personal Computers	*		
340	PC Software	*		
340	MainFrame Computers	*		
340	MainFrame Software	*		
340	Other Machinery & Equipment	20.00	0%	5.00%
342	Stores Equipment	29.00	5%	3.28%
344	Laboratory Equipment	20.00	0%	5.00%
345	Power Equipment	10.00	50%	5.00%
346	Communication Equipment	8.00	0%	12.50%
347	Miscellaneous Equipment	18.00	0%	5.56%
341	Transportation Equipment	*		
343	Tools, Shop and Garage Equip.	13.00	5%	7.31%
348	Other Tangible Plant	30.00	0%	3.33%

\* The Company includes depreciation expense for these accounts on an allocated basis.



Sewer System

## Calculation of Depreciation Rates

Account Number (A)	Account Description (B)	Average Service Life (C)	Percent Net Salvage (D)	Depreciation Rate (E)
<u>Intangible Plant</u>				
351	Organization			
352	Franchises & Consents			
352	Franchises-Reclaimed Water distribution			
353	Land and Land Rights - Intang. Plant			
<u>Collection Plant</u>				
353	Land and Land Rights - Collect.			
354	Structures and Improvements	35.00	-25%	3.57%
355	Power Gen. Equip-Collection	30.00	0%	3.33%
360	Collection Sewers - Force	90.00	-70%	1.89%
361	Collection Sewers - Gravity	90.00	-70%	1.89%
362	Special Collection Structures	30.00	0%	3.30%
363	Service to Customers	45.00	-70%	3.78%
364	Flow Measuring Devices	35.00	0%	2.86%
365	Flow Measuring Installations	30.00	0%	3.30%
389	Other Plant & Misc. Equip.	30.00	0%	3.30%
<u>Pumping Plant</u>				
353	Land and Land Rights			
354	Structures and Improvements	30.00	0%	3.30%
355	Power Gen. Equip-Pumping	30.00	0%	3.30%
370	Receiving Wells	30.00	0%	3.30%
371	Pumping Equipment	40.00	-25%	3.13%
389	Other Plant & Misc. Equip.	30.00	0%	3.30%
<u>Treatment Plant</u>				
353	Land and Land Rights			
353	Land&LandRights-ReclaimWater Treatment			
353	Land&LandRights-ReclaimWater Distribution			
354	Structures and Improvements	35.00	-25%	3.57%
354	Struct&Imprvmnt-Reclaim Water Treatment	35.00	-25%	3.57%
354	Struct&Imprvmnt-Reclaim Water Distribution	35.00	-25%	3.57%
355	Power Gen. Equip-Treatment & Disposal Plant	30.00	0%	3.33%
355	PowerGen. Equip-Reclaim Water Treatment	30.00	0%	3.33%
355	PowerGen. Equip-Reclaim Water Distribution	30.00	0%	3.33%
374	Reuse Distribution Reservoirs	35.00	-25%	3.57%
375	Transmission & Distrib System-Reuse	90.00	-70%	1.89%
380	Treatment & Disposal Equip.	35.00	-25%	3.57%
380	Treatment & Disposal Equip.-Lagoon	35.00	-25%	3.57%
380	Treatment & Disposal Equip.-Reclaim	35.00	-25%	3.57%
381	Plant Sewers Treatment & Disposal Plant	30.00	0%	3.30%
381	Plant Sewers Reclaimed Water Treatment	30.00	0%	3.30%
382	Outfall Sewer Lines	30.00	0%	3.30%
389	Coll. - Other Plant & Misc. Equip.	90.00	-70%	1.89%
389	Other Plant & Misc. Equip.	30.00	0%	3.30%
389	Other Plant & Misc. Equip. - Relmd Water Trtmnt	30.00	0%	3.30%
389	Other Plant & Misc. Equip. - Relmd Water Dist.	30.00	0%	3.30%
<u>General Plant</u>				
353	Land and Land Rights			
354	Structures and Improvements	25.00	0%	4.00%
394	Laboratory Equipment	20.00	0%	5.00%
390	Office Furniture	19.00	10%	4.74%
390	Personal Computers	*		
390	PC Software	*		
390	MainFrame Computers	*		
390	MainFrame Software	*		
390	Other Machinery & Equipment	20.00	0%	5.00%
392	Stores Equipment	29.00	5%	3.30%
395	Power Equipment	10.00	50%	5.00%
396	Communication Equipment	8.00	0%	12.50%
397	Miscellaneous Equipment			5.46%
391	Transportation Equipment	*		
393	Tools, Shop and Garage Equip.	13.00	5%	7.31%
398	Other Tangible Plant	30.00	0%	3.30%

\* The Company includes depreciation expense for these accounts on an allocated basis.

Construction Cost Increase  
Water

A/C No.	Description	Average Service Lives	H-W NARUC Acct.	2015 Cost Index	Vintage Year	Vintage Cost Index	Current Cost Multiple of Original Cost
<b>Source of Supply &amp; Pumping:</b>							
304.1	Structures & Improvements	40	304	591	1975	129	3.58
305.0	Coll. & Impdg. Reservoirs	60	305	495	1955	45	10.00
306.0	Lake & River Intakes	60	305	495	1955	45	10.00
307.0	Wells & Springs	40	305	495	1975	129	2.84
308.0	Infiltration Galleries	40	305	495	1975	129	2.84
309.0	Supply Mains	60	305	495	1955	45	10.00
304.2	Structures & Improvements	50	304	591	1965	56	9.55
310.0	Power Generation Equipment	30	311	856	1985	282	2.04
311.2	Electric Pumping Equipment	25	311	856	1990	349	1.45
311.3	Diesel Pumping Equipment	25	311	856	1990	349	1.45
311.4	Pumping Equipment-Hydraulic	25	311	856	1990	349	1.45
311.6	Other Pumping Equipment	25	311	856	1990	349	1.45
<b>Water Treatment Equipment:</b>							
304.3	Structures & Improvements	50	304	591	1965	56	9.55
320.0	Purification System Equipment	20	320	687	1995	337	1.04
320.1	Water Treatment Equipment Non-Media	20	320	687	1995	337	1.04
320.2	Water Treatment Equipment Filter Media	10	320	687	2005	337	1.04
<b>Transmission &amp; Distribution Plant:</b>							
304.4	Structures & Improvements	50	304	591	1965	56	9.55
311.54	Pumping Equipment-TD	25	311	856	1990	349	1.45
330.0	Distr. Reserv. & Standpipes	65	330	715	1950	28	24.54
330.1	Elevated Tanks & Standpipes	65	330.1	1131	1950	26	42.50
330.2	Ground Level Tanks	65	330	715	1950	28	24.54
330.3	Below Ground Tanks	65	330	715	1950	28	24.54
330.4	Clearwell	50	330	715	1965	45	14.89
331.0	Transmission and Distribution Mains	70	331	701	1945	26	25.96
331.1	Transmission and Distribution Mains 4" <	50	331	701	1965	74	8.47
331.2	Transmission and Distribution Mains 6" - 8"	70	331	701	1945	26	25.96
331.3	Transmission and Distribution Mains 10" - 16"	70	331	701	1945	26	25.96
331.4	Transmission and Distribution Mains >16"	70	331	701	1945	26	25.96
332.0	Fire Mains	70	331	701	1945	26	25.96
333.1	Services	40	333	576	1975	122	3.72
334.1	Meters & Installations	15	334.1	381	2000	205	0.86
334.2	Meter Installations	40	334.2	652	1975	121	4.39
334.3	Meter Vaults	40	334.2	652	1975	121	4.39
335.0	Hydrants	50	335	777	1965	58	12.40
339.0	Other Plant & Misc. Equipment	30	331	701	1985	248	1.83
<b>General Plant:</b>							
304.5	Structures & Improvements	40	304	591	1975	129	3.58
304.6	Structures & Improvements Offices	40	304	591	1975	129	3.58
304.62	Structures & Improvements Leasehold	40	304	591	1975	129	3.58
304.7	Structures & Improvements Store, Shop & Garage	40	304	591	1975	129	3.58
304.8	Structures & Improvements Misc.	40	304	591	1975	129	3.58

Construction Cost Increase  
Sewer

A/C No.	Description	Average Service Lives	H-W NARUC Acct.	2015 Cost Index	Vintage Year	Vintage Cost Index	Current Cost Multiple of Original Cost
<b>Collection Plant</b>							
354.2	Structures and Improvements	30	304	591	1985	228	1.59
355.0	Power Generation Equipment	30	311	856	1985	282	2.04
355.5	Power Generation Equipment - RWTP	30	311	856	1985	282	2.04
360.0	Collection Sewers - Force	70	331	691	1945	26	25.58
361.0	Collection Sewers - Gravity	70	331	691	1945	26	25.58
362.0	Special Collecting Structures	30	331	691	1985	245	1.82
363.0	Service to Customers	50	333	576	1965	58	8.93
364.0	Flow Measuring Devices	15	320.1	780	2000	407	0.92
<b>Pumping Plant</b>							
354.3	Structures and Improvements	30	304	591	1985	228	1.59
370.0	Receiving Wells	30	330	715	1985	181	2.95
371.0	Pumping Equipment	20	311	856	1995	442	0.94
<b>Treatment Plant</b>							
354.4	Structures and Improvements	50	304	591	1965	56	9.55
380.0	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.1	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.2	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.3	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.4	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.5	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.6	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
380.65	Treatment & Disposal Equip.	20	320	687	1995	337	1.04
381.0	Plant Sewers	50	331	691	1965	74	8.34
382.0	Outfall Sewer Lines	60	331	691	1955	56	11.34
389.1	WW Other Pit & Misc. Equip. Intangible	20	320.1	780	1995	347	1.25
389.6	Other P/E - CPS	30	320.1	780	1985	277	1.82
<b>General Plant</b>							
354.5	Structures and Improvements	40	304	591	1975	129	3.58