
EXHIBIT Y

TESTIMONY OF JEROME C. WEINERT

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3009052

AQUA STATEMENT NO. 5

DIRECT TESTIMONY

OF

JEROME C. WEINERT, PE, ASA, CDP

UTILITY VALUATION EXPERT

SELECTED BY EAST NORRITON TOWNSHIP

July 30, 2019

DIRECT TESTIMONY OF JEROME C. WEINERT

1 **Q. Please state your name, business address, and occupation.**

2 **A.** My name is Jerome C. Weinert. My business address is 8555 West Forest Home Avenue,
3 Suite 201, Greenfield, WI 53228. I am a Principal and Director of AUS Consultants. This
4 testimony was prepared by me.

5
6 **Q. Please describe your qualifications and indicate if you are registered as a Utility
7 Valuation Expert with the Pennsylvania Public Utility Commission.**

8 **A.** A CV for Jerome C. Weinert is attached to my report and this testimony. I am a registered
9 Utility Valuation Expert with the Pennsylvania Public Utility Commission. I obtained that
10 registration in 2016 and was informed of our renewal by the Pennsylvania PUC Secretary
11 on January 24, 2019.

12
13 **Q. What is the purpose of your testimony?**

14 **A.** This direct testimony provides clarification and explanation of the appraisal I provided to
15 East Norriton Township, the Selling Utility pursuant to 66 Pa. C.S. § 1329(a)(5) and in
16 accordance with Uniform Standards of Professional Appraisal Practice 2018-2019 Edition.

17
18 **Q. Are you advocating for any party or outcome?**

19 **A.** No. The Ethics Rule of the USPAP, applicable here pursuant to 66 Pa. C.S. § 1329(a)(3),
20 requires that I perform the appraisal with impartiality, objectivity, and independence, and
21 without accommodation of personal interests. In addition, the USPAP Ethics Rule requires
22 that I not perform the assignment with bias, that I must not advocate the cause or interest

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1 of any party or issue and that I must not accept an assignment that includes the reporting
2 of predetermined opinions and conclusions.

3

4 **Q. Do you have any affiliation with either the Selling Utility or the Acquiring Public**
5 **Utility or Entity?**

6 **A.** No. Other than the current assignment to provide the subject appraisal, I have no business
7 or personal relationships with any party to the proposed acquisition.

8

9 **Q. What is your fee arrangement to deliver the appraisal?**

10 **A.** A copy of the fee arrangement is included with the Application as Exhibit S2. In summary,
11 I am to receive \$24,000 plus expenses in compensation for our appraisal, which represents
12 approximately 0.17% of the proposed valuation.

13

14 **Q. Will you receive that fee regardless of whether the Commission approves the**
15 **proposed transaction or whether it closes?**

16 **A.** Yes. 66 Pa. C.S. § 1329(a)(3) mandates that I comply with the USPAP when developing
17 my appraisal. Under the USPAP I cannot perform the appraisal with bias and acceptance
18 of a fee contingent on a particular outcome like closing or Commission approval would
19 violate that Ethics Rule.

20

21 **Q. Have you prepared any exhibits, schedules, or appendices to accompany your direct**
22 **testimony?**

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1 **A.** Yes. The appraisal I submitted to the Seller pursuant to Section 1329(a)(5) is included in
2 the Application as Exhibit R. The appraisal includes a narrative and supporting exhibits in
3 sections. All were prepared under my supervision and control. Also, as stated above,
4 attached to this testimony as Appendix A is my CV.

5
6 **Q.** **Please summarize your results of the application of the cost, market, and income**
7 **approaches to valuation.**

8 **A.** The summary results of the cost, income, and market approaches is presented below.

9

Approach	Indicated Value	Weight	Weighted Value
Cost Approach	\$27,461,356	50%	\$13,730,678
Income Approach	\$21,729,647	40%	\$8,691,859
Market Approach	\$26,420,570	10%	\$2,642,057
		100%	\$25,064,594
Conclusion			\$25,064,594

10

11

12 **Q.** **Describe any assumptions, extraordinary assumptions, hypothetical conditions,**
13 **and/or limiting conditions that you applied to the valuation**

14 **A.** The major assumptions and limiting conditions used in preparing our appraisal of East
15 Norriton Township’s Sanitary Wastewater Collection System are described in our appraisal
16 report “Fair Market Appraisal Report of the East Norriton Township, Pennsylvania’s
17 Sanitary Wastewater Collection System, as of October 29, 2018.” Beyond the above

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1 described assumptions there are no extraordinary¹ or hypothetical² assumptions (as defined
2 in the 2018-2019 Uniform Standards of Profession Appraisal Practice (USPAP).

3
4 **Q. How was each assumption used and what was its result?**

5 **A.** The assumptions are detailed in my appraisal report and are discussed further in this
6 testimony.

7
8 **Q. How did you develop the weighting applied to each approach in your appraisal and
9 why are the individual weights you chose appropriate for this proposed transaction?**

10 **A.** For the cost approach I chose a weighting of 50%. It is my opinion that this weighting is
11 appropriate for the cost approach because the major purpose of this appraisal is to be an
12 input to the Commission's establishment of cost for future ratemaking and the cost
13 approach conclusion is directly reflective of the property cost.

14 For the market approach I chose a weighting of 10%. It is my opinion that this
15 weighting is appropriate for the market approach because while the market approach
16 provides some information as to the value of the property, establishing comparability
17 between the individual sales to the subject property is difficult and uncertain therefore
18 requiring less weight of the market approach and the 10% weight accomplishes that
19 objective.

¹ Extraordinary assumption: an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions. (2018-2019 USPAP page 4)

² Hypothetical condition: a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but used for the purpose of analysis. (2018-2019 USPAP page 4)

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1 For the income approach I chose a weighting of 40%. It is my opinion that this
2 weighting is appropriate for the income approach because the income approach reflects the
3 value of the property's return to the property's owner. And the 40% weight accomplishes
4 that objective.

5
6 **Q. Did you conduct an on-site inspection of the Selling Utility assets, and if so, what was**
7 **its result on the appraisal?**

8 A. Yes. I conducted an on-site inspection of East Norriton Township wastewater assets on
9 November 30, 2016. The on-site inspection was mainly used to provide an overview of
10 the collection system and verify its condition.

11
12 **Q. What Utility Earnings Report was used to create the capital structure used in your**
13 **appraisal?**

14 A. I used a market required capital structure based on an analysis of the market capital
15 structure analysis (detailed in the Cost of Capital / Required Return portion of our appraisal
16 report). Information used in developing the market capital structure was obtained from
17 financial statistics reported in Value Line Investment Survey for the water / wastewater
18 industry published in their October 12, 2018 issue.

19
20 **Q. What capital structure was used in your appraisal?**

21 A. The capital structure used in my appraisal is included below.

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1

Type of Capital	Capital Ratio	Cost Rate	Weighted Cost
Debt	30%	4.45%	1.34%
Preferred	0%	NA%	NA%
Common Equity	70%	9.95%	6.97%
Total	100%		8.31%

2

3

4 **Cost Approach**

5 **Q. Regarding your application of the cost approach, what method did you use to**
6 **determine the cost approach result (e.g. original cost, replacement cost, reproduction**
7 **cost)?**

8 **A.** I used the replacement cost method.

9

10 **Q. Please explain why you chose the replacement cost method.**

11 **A.** I chose the replacement cost method because it is considered the proper starting point for
12 a cost approach. Replacement cost reflects the appraisal date cost of providing the
13 property's functionality and capacity at the appraisal date cost using recognized materials
14 and labor costs.

15

16 **Q. What index did you use for that method?**

17 **A.** I used the Handy Whitman Index of Public Utility Construction Costs for the Water
18 Industry (North Eastern US Region), AUS Telephone Index (General Plant), and various
19 United States Bureau of Labor Statistics cost index series.

20

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1 **Q. Under your application of the cost approach what assets did you value or trend**
2 **differently from other assets and why was that necessary?**

3 **A.** I costed each property account with cost trends appropriate for the property contained in
4 the account. As such, the costing of each property account may differ from account to
5 account. It is my opinion that an accurate appraisal requires each property account be
6 costed with cost trends reflective of the property contained in the account.

7
8 **Q. Under your application of the cost approach, what year-end date did you use for**
9 **calculating the depreciation reserve?**

10 **A.** I used the date of October 29, 2018.

11
12 **Q. How did you determine the depreciation parameters of survival/retirement**
13 **characteristics and service lives for the utility property under the cost approach?**

14 **A.** I determined those parameters based on AUS Consultants' experience in preparing
15 depreciation studies for the water and wastewater industry and our experience appraising
16 water and wastewater properties.

17
18 **Q. Why are those parameters appropriate?**

19 **A.** Those parameters are appropriate because the parameters used in AUS Consultants'
20 experience reflect the survival / retirement characteristics of normal and functional service
21 lives of water and wastewater properties.

22
23

1 **Market Approach**

2 **Q. Regarding your application of the market approach, what methods did you use to**
3 **determine the market approach result?**

4 **A.** I used the comparable sales of water and wastewater properties in the Commonwealth of
5 Pennsylvania subsequent to the passage of Section 1329 and financial market value ratios
6 of publicly traded water and wastewater companies as reported in the October 12, 2018
7 issue of Value Line Investment Survey.

8

9 **Q. What assumptions, analyses, and/or adjustments did you make under each method?**

10 **A.** Under the comparable sales method, it is my opinion that sales amount to depreciated
11 replacement cost is the best indicator in arriving at the appraised value of physical assets
12 operating as a wastewater collection system. Under the financial ratios method, I believe
13 that an accurate result depends on using the weighted mean of the ratio of the market debt
14 and equity to book debt and equity.

15

16 **Q. What were the results of each analysis you performed?**

17 **A.** The comparable sales analysis produced a result of \$26,420,570. The financial market
18 analysis produced a result of \$15,973,314.

19

20 **Q. Which results were used to determine your market approach result?**

21 **A.** I used the results of \$26,420,570 because I believe those results represent an accurate
22 assessment and it was based on the relationship of market comparable sales to the
23 replacement cost less depreciation of those properties.

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Q. What was that calculation you used to determine your overall market approach results?

A. The calculation I used consisted of the ratio of the market sales to their replacement cost new applied to the replacement cost new less depreciation of the East Norriton property.

Q. What comparable transactions or comparable sales did you evaluate to develop your market approach?

A. I examined the following transactions to develop the result of my market approach:

Investor-Owned Utility As of October 29, 2018														
Comparable Sales Approach														
Market Sales Basis														
Description	New Garden Wastewater System	McKeesport Wastewater System	Limerick Wastewater System	East Bradford Wastewater Collection System	Sadsbury Wastewater Collection System	Exeter Wastewater Collection System	Steelton Water System	Cheltenham Wastewater Collection System		Simple Average / Standard Deviation	Remove Outliers Simple Average / Standard Deviation	Weighted Average	Remove Outliers Weighted Average / Standard Deviation	Use
System Description														
Type of System	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Wastewater Collection & Treatment	Wastewater Collection Only	Wastewater Collection Only	Wastewater Collection & Treatment	Water Treatment & Distribution	Wastewater Collection Only						
System Attributes														
Purchase Price	29,500,000	159,000,000	75,100,000	5,000,000	9,250,000	96,000,000	22,500,000	50,250,000				446,600,000	441,600,000	
Proportion of Purchase Price to Total	7%	36%	17%	1%	2%	21%	5%	11%				100%	99%	
Proportion of Purchase Price to Outlier Adjusted Total	7%	36%	17%		2%	22%	5%	11%					100%	
Acquirer	Aqua-PA	PA-American	Aqua-PA	Aqua-PA	PA-American	PA-American	PA-American	Aqua-PA						
Date	Aug-16	Sep-16		20-Dec-17		29-May-18	14-Nov-18	Jun-18						
Customers														
Original Cost														295,350,000
Depreciated Original Cost (AUS Consultants) OCLD	18,567,728	101,915,080	46,153,867	5,383,591	6,128,876	40,057,634	14,433,435	15,784,463				248,424,674	243,041,083	
Purchase Price to OCLD	1.5888	1.5601	1.6272	0.9287	1.5092	2.3965	1.5589	3.1835		1.7941	1.5688	1.7977	1.817	1.817
Variance to Simple Mean	-0.2053	-0.234	-0.1669	-0.8654	-0.2849	0.6024	-0.2352	1.3894		0.6426	0.5913			
Variance to Wtd Mean	-0.2089	-0.2376	-0.1705	-0.869	-0.2885	0.5988	-0.2388	1.3858					0.2148	
Replacement Cost New less Depreciation RCNLD	30,615,410	160,301,491	86,086,756	9,236,581	8,517,587	99,589,819	23,921,473	49,940,486				468,209,603	458,973,022	
Purchase Price to RCNLD	0.9636	0.9919	0.8724	0.5413	1.086	0.964	0.9406	1.0062		0.9208	0.975	0.9538	0.9621	0.9621
Variance to Simple Mean	0.0428	0.0711	-0.0484	-0.3795	0.1652	0.0432	0.0198	0.0854		0.1541	0.0604			
Variance to Wtd Mean	0.0098	0.0381	-0.0814	-0.4125	0.1322	0.0102	-0.0132	0.0524					0.0183	

Income Approach

Q. Regarding your application of the income approach, what method did you use to determine the income approach result?

A. I used the discounted cash flow method.

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1 **Q. What assumptions did you employ to develop your income approach result?**

2 **A.** Under the income approach, it is my opinion that the results of the future operations of the
3 East Norriton Sanitary Wastewater Collection System must be considered. I believe that
4 an accurate result depends on adjusting recent results of the systems operation to better
5 reflect how those result will migrate over future periods under the operation as a rate
6 regulated wastewater collection system regulated by the Pennsylvania PUC.

7
8 **Q. What discount rate did you use to calculate your income approach?**

9 **A.** I used a discount rate of 7.92% and 6.31% capitalization rate.

10
11 **Q. Please explain how you developed the discount rate.**

12 **A.** In each case the discount rate was a market discount rate at the appraisal date and was
13 determined using the weighted market cost of capital (WACC) of both debt and equity.
14 The inputs to the WACC determination, capital structure, cost of debt, cost of equity, and
15 income tax rate (state and federal) were determined based analysis of Value Line
16 Investment Surveys, Mergent Bond Record (formerly Moody's Bond Record), Standard
17 and Poor's Bond Guide (no longer published), Ibbotson Stock, Bonds, Bills, and Inflation
18 (Ibbotson SBBI) 2019 Edition (SBBI activity over the period 1926 through 2018). The
19 cost of debt was determined at October 29, 2018 based on the Mergent Bond Record, and
20 the Bureau of Technical Utility Services' Report on Quarterly Earnings of Jurisdictional
21 Utilities for Year Ended September 30, 2018. The cost of equity was based on the capital
22 asset pricing model (CAPM) and the Dividend Growth Model (DGM), two recognized cost
23 of equity estimating models. The above described data for the East Norriton appraisal can

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1 be found in the exhibits to my appraisal report in the section entitled Cost of Capital /
2 Required Return.

3

4 **Q. What capital structure inputs differ from those identified in capital structure set forth**
5 **earlier in your testimony?**

6 **A.** None. As described in the previous discussion of the capital structure, we utilized a market
7 required capital structure based on analysis of the water / wastewater industry's market
8 capital structure as defined by analysis of market financials as published in Value Line
9 Investment Survey (October 12, 2018). The theory in appraisal is to estimate the value of
10 a property in an arm's length transaction wherein the purchaser finances the purchase with
11 capital (debt and equity) available in the financial markets at the appraisal date. Those are
12 the current (appraisal date) financial markets.

13

14 **Q. What is the source and basis of the alternative input you propose in the income**
15 **approach?**

16 **A.** As discussed above, we had used Value Line Investment Survey to develop a market
17 required capital structure. Please see Application Exhibit R (AUS Appraisal) Income
18 Approach section, pages 6 of 38 for the cost of capital of the Income Approach and Cost
19 of Capital / Required Return pages 1 of 72 through 72 of 72 for the basis of the Cost of
20 Capital / Required Return.

21

22 **Q. If you used a terminal value in your discounted cash flow analysis what is the number**
23 **of years over which the cash flows are considered?**

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1 **A.** I considered those cash flows over 19 periods with period 20 representing all future periods.

2

3 **Q.** **What is the basis for using this number of years?**

4 **A.** It is my opinion that the use of 19 period is a reasonable number of periods for the forecast
5 revenues and expenses to stabilize.

6

7 **Q.** **What number of Selling Utility customers or equivalent dwelling units did you use to
8 value the Seller's system and how did you develop that number?**

9 **A.** I did not use customers/EDUs in developing the forecasted revenues and expense forecast.
10 Instead, I used past and budgeted results from operations to establish forecasted operating
11 results.

12

13 **Q.** **Did you make any updates to your appraisal after it was submitted to the Seller, and
14 if so, what was the update, when was it made, and why was it necessary?**

15 **A.** I did update my initial appraisal due to a revised Engineers' Assessment which I received
16 on June 6, 2019.

17

18 **Q.** **Does this conclude your direct testimony?**

19 **A.** It does. However, by filing this direct testimony I understand that I may have the
20 opportunity to submit additional testimony responsive to challenges to my appraisal.

Curriculum Vitae (CV) of Jerome C. Weinert, P.E., CDP, ASA

Mr. Weinert is currently Principal and Director of AUS Consultants, Depreciation and Valuation. He has forty-seven (2019-1972) years experience in valuation and depreciation consulting and management. AUS, with offices across the country, has provided consulting services to the regulated utility industry nationally for over thirty two years. A partial list of services provided includes: valuations depreciation studies, rate of return studies, cost of service studies, and rate design.

Prior to joining AUS in 1987, Mr. Weinert was employed by American Appraisal Associates, Inc. (American) for sixteen years in their Regulated Industries Group. He held various positions at American, the last being supervising appraiser. Among his other valuation responsibilities, he directed the firm's utility industry capital recovery studies and AUS Consultant's valuation of communication company assets and businesses.

Mr. Weinert graduated from the Milwaukee School of Engineering with a Bachelor of Science degree in Mechanical Engineering and received a Masters in Business Administration from Marquette University. He is a registered professional engineer (1976) (by examination) in the state of Wisconsin as well as a senior member (1982) of the American Society of Appraisers in the public utility valuation field. This latter designation is obtained by written examination primarily in the areas of utility valuation, depreciation, and the economics of regulated firms. He is also a Certified Depreciation Professional (1997) (CDP) and founding member of the Society of Depreciation Professionals and the Society's 1995 President and sponsor of the Society's Certification and re-certification program; as such Mr. Weinert developed these programs and oversaw their initial introduction into the Society. He also worked in conjunction with Society members in the development of the Society's training programs which as of 2003 has become the only such formalized depreciation training program in the North America and is an instructor in several of its courses.

During his professional career related to valuations and depreciation matters Mr. Weinert has testified before various courts and public service commissions on these subjects. He has also assisted numerous utilities in preparing capital recovery plans which specifically address the issues of plant replacement. Mr. Weinert has also presented expert testimony on valuation matters. On matters related to eminent domain issues, Mr. Weinert has presented expert testimony in the Massachusetts Superior Court, the Court of Common Pleas, Fayette County, Ohio, the New Hampshire Public Utilities Commission, the Twentieth Judicial Court (deposition only) in Charlotte County, Florida, the Nineteenth Judicial Circuit Court in St. Lucie County, Florida (deposition only). In regards to ad valorem taxation, Mr. Weinert has presented study results to the New York State Board of Equalization and Assessment (now the New York Office of Real Property Services (NY ORPS)), pertaining to useful life and net salvage values for all types of utility property subject to the Board's mass appraisal model. Mr. Weinert has appeared before the Valuation Adjustment Board in Florida for Duval, Hillsborough, Okeechobee, and Palm Beach counties, the Twelfth Judicial Circuit Sarasota County, Florida, the California Board of Equalization and Assessment, the Arizona Board of Assessment, the Missouri Board of Taxation, the Colorado and Texas Departments of Review, the Massachusetts Tax Appeal Court, the Superior Court of the State of Arizona in the County of Maricopa, the State Tax Appeal Board of the State of Montana and the New York City Tax Commission.

Mr. Weinert has appeared before regulatory bodies in Alaska, Arkansas, Illinois, Indiana, Iowa, Missouri, Nevada, Nebraska, North Carolina, Ohio, Oregon, Pennsylvania, and South Carolina in support of rate-base valuation determination and capital recovery. He has presented testimony on depreciation matters before the Canadian Radio-Television and Telecommunications Commission (CRTC) and the United States Federal Energy Regulatory Commission (FERC). In terms of water and wastewater acquisitions and applications for regulatory approval of rate base Mr. Weinert has testified for two investor-owned

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acquisitions of municipal wastewater authorities one representing the municipality and secondly for the acquiring investor-owned utility. He has submitted study results to the State Commissions of Alabama, Alaska, Arkansas, Idaho, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Carolina, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin, and the Federal Communications Commission.

Mr. Weinert has presented papers on valuation and depreciation topics to professional and utility industry trade organizations. He also directed AUS Consultants' semi-annual week-long depreciation training programs (1988-1997). These specialized training courses, offered at basic and advanced levels, teach depreciation study techniques to public utility and public service commission staff specialists. The training includes depreciation theory and concepts and hands-on experience with personal computer-based analytical depreciation programs.

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
2018				
AT&T Communications	North America	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	California	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2017	2018	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2017	2018	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2017	2018	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
East Bradford Township, PA	East Bradford Wastewater	2018	2018	Fair Market Value 1329
Pennsylvania American Water Company	Sadsbury Wastewater	2017	2018	Fair Market Value Appraisal
Pennsylvania American Water Company	Kane Wastewater	2017	2018	Appraisal for Planning
Pennsylvania American Water Company	Exeter Wastewater	2017	2018	Fair Market Value
Pennsylvania American Water Company	Steeltown Water	2017	2018	Fair Market Value
2017				
AT&T Communications	North America	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	California	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2016	2017	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	California	2016	2017	Ad Valorem Tax Appraisal
Whitpain Township, PA	Whitpain Wastewater	2016	2017	Appraisal for Planning
Plymouth Township, PA	Plymouth Wastewater	2016	2017	Appraisal for Planning
East Norriton Township, PA	East Norriton Wastewater	2016	2017	Appraisal for Planning
Pennsylvania American Water Company	Sadsbury Wastewater	2016	2017	Fair Market Value Appraisal
Pennsylvania American Water Company	McKeesport Wastewater	2016	2017	Fair Market Value Appraisal
2016				
AT&T Communications	North America	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	California	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2015	2016	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	California	2015	2016	Ad Valorem Tax Appraisal
New Garden Township, PA	New Garden Wastewater	2016	2016	Fair Market Value Appraisal
2015				
AT&T Communications	North America	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	California	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2014	2015	Ad Valorem Tax Appraisal

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Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Embarq Florida, Inc.	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	California	2014	2015	Ad Valorem Tax Appraisal
Verizon Wireless	Nationwide	2014	2015	Ad Valorem Tax Appraisal
2014				
AT&T Communications	North America	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	California	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2013	2014	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2013	2014	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	California	2013	2014	Ad Valorem Tax Appraisal
Cascade Natural Gas Corporation	Oregon & Washington	2013	2014	Depreciation Study
Intermountain Gas Company	Idaho	2013	2014	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2013	2014	Depreciation Study
Verizon Wireless	Nationwide	2013	2014	Ad Valorem Tax Appraisal
2013				
AT&T Communications	North America	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	California	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2012	2013	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2012	2013	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2012	2013	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2012	2013	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2012	2013	Ad Valorem Tax Appraisal
Sprint Nextel Corporation	North America	2012	2013	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2013	Ad Valorem Tax Appraisal
2012				
AT&T Communications	North America	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	California	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2011	2012	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2011	2012	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2011	2012	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2011	2012	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2011	2012	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Sprint Nextel Corporation	North America	2011	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2012	Ad Valorem Tax Appraisal
2011				
AT&T Communications	North America	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	California	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2010	2011	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2010	2011	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2010	2011	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2010	2011	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2010	2011	Ad Valorem Tax Appraisal
Global Crossing	North America	2010	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Sprint Nextel Corporation	North America	2010	2011	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2010	2011	Technical Update of Depreciation Study
2010				
AT&T Communications	North America	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	California	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2009	2010	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2009	2010	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2009	2010	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2009	2010	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2009	2010	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2009	2010	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2009	2010	Ad Valorem Tax Appraisal
Global Crossing	North America	2009	2010	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2009	2010	Ad Valorem Tax Appraisal
2009				
AT&T Communications	North America	2008	2009	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
AT&T Communications	California	2008	2009	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2008	2009	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2008	2009	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2008	2009	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2008	2009	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2008	2009	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2008	2009	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2008	2009	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2008	2009	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2008	2009	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2008	2009	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2008	2009	Ad Valorem Tax Appraisal
Global Crossing	North America	2008	2009	Ad Valorem Tax Appraisal
AboveNet, Inc	North America/California	2003	2009	Ad Valorem Tax Appraisal
Verizon Wireless	Ohio Properties	2004-2005	2009	Ad Valorem Tax Appraisal
Virgin Islands Telephone Corporation	US Virgin Islands	2008	2009	Depreciation Study
Sprint Nextel Corporation	North America	2008	2009	Ad Valorem Tax Appraisal
2008				
AT&T Communications	North America	2007	2008	Ad Valorem Tax Appraisal
AT&T Communications	California	2007	2008	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2007	2008	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2007	2008	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2007	2008	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2007	2008	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2007	2008	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2007	2008	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	California	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2008	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2007	2008	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2007	2008	Ad Valorem Tax Appraisal
Global Crossing	North America	2007	2007	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2007	2008	Depreciation Study
2007				
AT&T Communications	North America	2006	2007	Ad Valorem Tax Appraisal
AT&T Communications	California	2006	2007	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2006	2007	Ad Valorem Tax Appraisal

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Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
AT&T - Michigan Bell Telephone Company	Michigan	2006	2007	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2006	2007	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2006	2007	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas,	2006	2007	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2006	2007	Ad Valorem Tax Appraisal
Embarq North Carolina	North Carolina	2006	2007	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	California	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2006	2007	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2006	2007	Ad Valorem Tax Appraisal
Qwest Communications Corporation	North America	2006	2007	Ad Valorem Tax Appraisal
	California			
Level 3 Communications	North America,	2006	2007	Ad Valorem Tax Appraisal
	California, Michigan, & Arizona			
Level 3 Communications	Arizona	2002 - 2006	2007	Ad Valorem Tax Appraisal
Global Crossing	North America	2006	2007	Ad Valorem Tax Appraisal
Alaska Communications System, Inc. (ACS)	ACS of Alaska	2006	2007	Depreciation Studies
	ACS of Anchorage			
	ACS of Fairbanks			
	ACS of the Northland			
	ACS Holdings			
Intermountain Gas Company	Idaho	2006	2007	Depreciation Study

2006

AT&T Communications	Palm Beach Florida	2000 - 2003	2006	Ad Valorem Tax Appraisal
AT&T Communications	North America	2005	2006	Ad Valorem Tax Appraisal
AT&T Communications	California	2005	2006	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida	2005	2006	Ad Valorem Tax Appraisal
Sprint Texas, Inc.	Texas,	2005	2006	Ad Valorem Tax Appraisal
Sprint Missouri, Inc.	Missouri	2005	2006	Ad Valorem Tax Appraisal
Sprint North Carolina	North Carolina	2005	2006	Ad Valorem Tax Appraisal
Sprint Virginia	Virginia	2005	2006	Ad Valorem Tax Appraisal
Embarq Nevada	Nevada	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	California	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2005	2006	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	Massachusetts	2002-2--5	2006	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2005	2006	Ad Valorem Tax Appraisal
Level 3 Communications	Arizona	2002-2006	2006	Ad Valorem Tax Appraisal
Global Crossing	North America	2005	2006	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2005	2006	Depreciation Study

2005

AT&T Communications	North America	2004	2005	Ad Valorem Tax Appraisal
AT&T Communications	California	2004	2005	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida,	2004	2005	Ad Valorem Tax Appraisal
Sprint PCS	North America	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	California	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2004	2005	Ad Valorem Tax Appraisal

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Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Sprint Communications, LP	North America	2004	2005	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	New York Special Franchise Property	2003 & 2004	2005	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2004	2005	Depreciation Study
2004				
Sprint Florida, Inc.	Florida	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	California	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	New England	2003	2004	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2003	2004	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2003	2004	Ad Valorem Tax Appraisal
Global Crossing	North America	2003	2004	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	North America	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	California	2003	2004	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2003	2004	Depreciation Study
2003				
Sprint Florida, Inc.	Florida	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	California	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2002	2003	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2002	2003	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2002	2003	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	North America	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	California	2002	2003	Ad Valorem Tax Appraisal
Global Crossing	North America	2002	2003	Ad Valorem Tax Appraisal
Verizon Wireless	Broward County, FL	1998 through 2002	2003	Ad Valorem Tax Appraisal
2002				
Sprint Florida, Inc.	Florida	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	California	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2001	2002	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2001	2002	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Global Crossing	North America	2001	2002	Ad Valorem Tax Appraisal
AT&T Wireless	Plymouth, MI	2001	2002	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2001	2002	Ad Valorem Tax Appraisal
AT&T Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2001	2002	Depreciation Study
AT&T Communications	California	2001	2002	Ad Valorem Tax Appraisal
2001				
Verizon	Verizon - New York	2001	2001-2	Functional Obsolescence & Useful Life studies for valuation
Sprint Florida, Inc.	Sprint Florida, Inc.	2000	2001	Ad Valorem Tax Appraisal
Verizon Communications	California	2000	2001	Ad Valorem Tax Appraisal

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Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Sprint Communications, LP	North America	2000	2001	Ad Valorem Tax Appraisal
Global Crossing	North America	2000	2001	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2000	2001	Ad Valorem Tax Appraisal
Sprint Corporation	Centel - Nevada	2000	2001-2	Depreciation Study
Alaska Communications System, Inc. (ACS)	ACS of Alaska	2000	2001	Depreciation Study
	ACS of Anchorage			
	ACS of Fairbanks			
	ACS of the Northland			
	ACS Holdings			
2000				
Sprint PCS	BTS Equipment	2000	2000	Economic Life Study
Telus Communications	Telus - Alberta & British Columbia	2000	2000	Depreciation study Phase III Price Caps
Sprint Florida, Inc.	Florida	1999	2000	Ad Valorem Tax Appraisal
Verizon Communications	California	1999	2000	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1999	2000	Ad Valorem Tax Appraisal
1999				
Sprint Corporation	Centel - Nevada	1998	1999	Depreciation Study
Intermountain Gas Company	Intermountain Gas Company	1998	1999	Depreciation Study
Sprint Florida, Inc.	Florida	1998	1999	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1998	1999	Ad Valorem Tax Appraisal
1998				
Frontier Corporation	Frontier Telephone of Rochester	1998	1997	Valuation depreciation Lives and Net Salvage Parameters
Pacific Telecom, Inc.	Telephone Utilities of Washington	1997	1998	Depreciation Study
Sprint Florida, Inc.	Florida	1997	1998	Ad Valorem Tax Appraisal
Verizon Communications	Florida	1997	1998	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1997	1998	Ad Valorem Tax Appraisal
Sprint Corporation	United Telephone Company of South Carolina	1998	1998	Depreciation Expense Universal Service Fund
Sprint Corporation	Carolina Telephone and Telegraph and Central Telephone of North Carolina	1998	1998	Depreciation Expense Universal Service Fund
Telus Communications	Telus - Edmonton (TCE)	1997	1998	Depreciation Study Phase II Price Caps
1997				
Sprint Corporation	Centel - Nevada	1997	1997	Unbundling/ Inter-connection Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of Oregon	1996	1997	Depreciation Study

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Pacific Telecom, Inc.	Telephone Utilities of Alaska And the Northland	1996	1997	Depreciation Study
Telus Communications	Telus - TCI formerly AGT	1996	1997	Depreciation Study Phase II Price Caps
Indianapolis Power & Light	IPL	1996	1997	Depreciation Study
Sprint Florida, Inc.	Florida	1996	1997	Ad Valorem Tax Appraisal
Verizon Communications	Florida	1996	1997	Ad Valorem Tax Appraisal
Pacific Telecom, Inc.	Eagle Telephone (Colorado)	1996	1997	Depreciation Study
1996				
Intermountain Gas Company	Intermountain Gas Company	1995	1996	Depreciation Study
Sprint Florida, Inc.	Florida	1995	1996	Ad Valorem Tax Appraisal
Century Telephone	Century Telephone of Ohio, Inc.	1995	1996	Depreciation Study
Telus Communications	AGT Limited (Alberta Government Telephones)	1995	1996	Depreciation Study
Johnson County Kansas Office of the Assessor	Useful Life of Computer Equipment	1995	1995	Useful/Market Life Analysis
Milwaukee Metropolitan Sewerage District	Milwaukee Metropolitan Sewerage District	1995	1996	Depreciation Study
Sprint Corporation	Long Distance Division	1995	1995	Depreciation/Recovery Status Study
Sprint Corporation	Cellular Division	1995	1995	Depreciation/Recovery Status Study
Pacific Telecom, Inc.	Alascom, Inc.	1994	1995	Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of the Northland	1993	1994	Depreciation Study
	Telephone Utilities of Alaska	1993	1994	Depreciation Study
Indiana Energy	Indiana Gas Company	1993	1994	Depreciation Study
Columbia Gas Transmission	Gas Pipeline Property in Sullivan County, NY	1993	1993	Useful Life Study
United Telephone - Midwest Group	United Telephone Company of Missouri	1993	1993	Modernization/ Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1992	1993	Depreciation Study
Pacific Telecom, Inc.	Alascom, Inc.	1992	1993	Depreciation Study

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
	Telephone Utilities of Oregon, Inc.	1991	1992	Depreciation Study
	Telephone Utilities of Washington, Inc.	1991	1992	Depreciation Study
Small Telephone Company Coalition	Oregon Small Telephone Companies	1991	1992	Depreciation Support
United Telephone Systems	United Telephone Co. of Pennsylvania	1991	1992	Instructional Depreciation Study
New York State Division of Equalization and Assessment	Electric, Gas, Water, Telephone, Pipeline, Steam, CATV	1991	1992	Useful Lives and Net Salvage Values
Rochester Telephone Company	Enterprise Telephone	1991	1992	Study Review
Indiana Energy	Indiana Gas/Richmond Gas/Terre Haute Gas	1990	1991	Depreciation Study
American Electric Power	Indiana/Michigan Power Co.	1990	1991	Depreciation Study
Rochester Telephone Company	Rochester Telephone Co.	1990	1991	Study Review
United Telephone Systems	United Telephone Co. of Florida	1990	1991	Instructional Depreciation Study
United Telephone Systems	United Telephone Co. of Oregon	1989	1990	Study Review
Telephone and Data Systems, Inc.	Quincy Telephone Company	1990	1991	Depreciation Study
Telephone and Data Systems, Inc.	Wolverine Telephone Company	1989	1990	Depreciation Study
Indiana Energy	Indiana Gas Company, Inc.	1989	1990	Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1989	1990	Remaining Life/Net Salvage Support
North-West Telephone Company	North-West Telephone Company	1989	1990	Study Review
United Telephone System	United of Texas	1989	1990	Instructional Depreciation Study
	United of Missouri	1989	1990	Instructional

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Year</u>	<u>Study Performed</u>	<u>Year</u>	<u>Activity</u>
					Depreciation Study
Milwaukee Water	Milwaukee Water	1989	1990		Depreciation Study
Indiana Natural Gas Corp.	Indiana Natural Gas Corp.	1989	1990		Depreciation Study
Pacific Telecom	Telephone Utilities of the Northland	1989	1990		Depreciation Study
	Telephone Utilities of Alaska	1989	1990		Depreciation Study
	Alascom	1989	1990		Depreciation Study
	Telephone Utilities of Washington, Inc.	1988	1989		Depreciation Study
WICOR	Wisconsin Gas Company	1988	1989		Depreciation Study
ALLTEL	ALLTEL - Kentucky, Inc.	1987	1989		Depreciation Study
	ALLTEL - Ohio, Inc.	1988	1989		Depreciation Study
	Western Reserve Telephone Company	1988	1989		Depreciation Study
Milwaukee Metropolitan Sewer District	Milwaukee Metropolitan Sewer District	1988	1989		Depreciation Study
United Telephone Company	United of Ohio Telephone Company	1988 1988	1989 1989		ELG Support ELG Support
United Telecom	U.S. Sprint	1988	1988		Useful Life Study
Pacific Telecom	Telephone Utilities of Oregon	1987	1988		Depreciation Study
	Telephone Utilities of Eastern Oregon	1987	1988		Depreciation Study
	Rose Valley Telephone Company	1987	1988		Depreciation Study
United Telephone	United of Minnesota	1987	1988		Capital Planning Support
Wisconsin Southern Gas	Wisconsin Southern Gas	1987	1988		Depreciation Study
Pacific Telecom	Glacier State Telephone Company	1986	1987		Depreciation Study

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Year</u>	<u>Study Performed</u>	<u>Year</u>	<u>Activity</u>
	Sitka Telephone Co.	1986		1987	Depreciation Study
	Juneau-Douglas Tel Company	1986		1987	Depreciation Study
Pacific Telecom	Telephone Utilities of Alaska	1986		1987	Depreciation Study
	Alascom	1986		1987	Depreciation Study
Lincoln Telecommunications	Lincoln Telephone and Telegraph Company	1986		1987	Digital Switching Service Life
Northwest Natural Gas Corporation	Northwest Natural Gas Corporation	1985		1986	Depreciation Study
ALLTEL	Western Reserve Telephone Company	1984		1985	Depreciation Study
	ALLTEL - Ohio	1984		1985	Depreciation Study
	ALLTEL - Alabama	1984		1985	Depreciation Study
Gulf Telephone Co.	Gulf Telephone Company	1984		1985	Depreciation Study
United Telephone Systems, Inc.	United of Iowa	1984		1985	Depreciation Study
	United of Arkansas	1984		1985	Depreciation Study
Pacific Telecom	Telephone Utilities of Washington	1983		1984	Depreciation Study
	Telephone Utilities of Eastern Oregon	1983		1984	Depreciation Study
Pacific Telecom	Telephone Utilities of Oregon	1983		1984	Depreciation Study
	Northwestern Telephone Systems, Inc., Oregon	1983		1984	Depreciation Study
	Rose Valley Telephone Company	1983		1984	Depreciation Study
United Telecommunications	All United Telephone Companies	1983		1984	Capital Recovery Strategy
Lincoln Telecommunications	Lincoln Telephone & Telegraph Company	1983		1984	Depreciation Study
ALLTEL	ALLTEL - Mississippi	1982		1983	Depreciation Study

Appraisal & Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
	ALLTEL - Michigan	1982	1983	Depreciation Study
North Carolina Natural Gas Corp.	North Carolina Natural Gas Corporation	1982	1983	Depreciation Study
Mid Continent Telephone (Currently ALLTEL)	Western Reserve Telephone	1982	1983	Depreciation Study
	Mid Ohio Telephone	1982	1982	Depreciation Study
	Florence Telephone Company	1980	1981	Depreciation Study
	Leeds Telephone Co.	1980	1981	Depreciation Study
	Elmore Coosa Tel Company	1980	1981	Depreciation Study
	Brookville Telephone Company	1980	1981	Depreciation Study
	Mid Pennsylvania Telegraph	1980	1981	Depreciation Study
Telephone Utilities (Currently Pacific Telecom)	Telephone Utilities of Oregon	1979	1980	Depreciation Study
	Telephone Utilities of Eastern Oregon	1979	1980	Depreciation Study
	Northwestern Telephone Systems, Inc.-Oregon	1979	1980	Depreciation Study
	Rose Valley Telephone Company	1979	1980	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1979	1980	Depreciation Study
Telephone Utilities	Telephone Utilities of Washington	1978	1979	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1978	1979	Depreciation Study
Rochester Telephone	Rochester Telephone (Indiana)	1977	1978	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1977	1978	Depreciation Study
Princeton Telephone	Princeton Telephone (Indiana)	1976	1977	Depreciation Study
Northwestern Telephone	Northwestern Telephone (Illinois)	1975	1976	Depreciation Study

Papers and Seminars

- 2011 Training Instructor Depreciation Basics Sessions A & B and Life and Salvage Analysis
Society of Depreciation Professionals 25th Annual Meeting
Atlanta, GA September, 20-22, 2011
- 2010 Will the Real Cost Approach Please Stand Up?
National Association of Property Tax Representatives Transportation, Energy, & Communications (NAPTR-TEC)
Scottsdale, Arizona October 25-27, 2010
- Issues Affecting Assessment of Regulated Industries
Institute for Professionals in Taxation (IPT) Property Tax Symposium
Austin, Texas October 31 – November 3, 2010
- 2009 (Valuing) Intangibles
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 28, 2009
- Fair Value Accounting (Appraisal Panelist)
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 29, 2009
- 2008 Valuation Issues Valuation of Assets and the Impact of Depreciation
Society of Depreciation Professionals Annual Meeting
Greenville, SC September 21-26, 2008
- Obsolescence in the Long-Distance and Local Transport Networks
Technology Futures Inc. Asset Valuation Conference
Austin Texas February 8, 2008
- 2007 Communications Industry Issues
National Association of Property Tax Representative – Transportation, Energy, & Communications
New Orleans, LA October 30, 2007
- 2006 Appraisal Procedures & Issues in a Changing communications Industry
Florida Chapter International Association of Assessing Officers' Tangible Personal Property Conference
Ocala, Florida January 12, 2006
- Valuation of Intangibles
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 25, 2006
- SDP 20 years of History and Beyond
Society of Depreciation Professionals 20th Annual Meeting
Long Beach, CA September, 18, 2006
- 2005 Valuation in a World with Asset Impairments
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas August 1, 2005

Papers and Seminars

- 2004 Depreciation in the Valuation of Assets
Society of Depreciation Professionals' Eighteenth Annual Meeting
Washington, D.C., September 13, 2004
- 2003 Cost Approach and the Use of Appraisal Guidelines
Institute for Professionals in Taxation – Property Tax Symposium
Fort Lauderdale, FL, September 17, 2003
- Cost Approach – Obsolescence and Depreciation
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, July 28, 2003
- 2000 Appraisal Issues Associated with Technological Change in the Wireline Telecommunications Industry
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, July 31, 2000
- The Impact of Advancing Technology and the Changing Regulatory Environment on Obsolescence
Calculations for Ad Valorem Valuation Purposes
Journal of Property Tax Management, Spring 2000
- 1996 How to Develop a Reproduction/Replacement Cost New Less Depreciation Approach to Value
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, August 4, 1996
- 1995 Valuation Method, Techniques and Strategies (How to Quantify Stranded Investment) (Market, Income,
& Cost Approach
AGA Depreciation Committee Meeting
Denver, Colorado, August 6-9, 1995, jointly presented with Earl Robinson of AUS Consultants
- 1994 Integrating Future Expectations for the Telephone Industry into Historical Depreciation Analysis
United States Telephone Association (USTA's 1994 Capital Recovery Seminar)
Scottsdale, Arizona, September 12-13, 1994
- 1994 Capital Recovery: United States versus Canada
Canadian Telephone Industry's Annual Capital Recovery Seminar
Edmonton, Alberta, Canada June 14-15, 1994
- 1990 Capital Recovery: Methods, Terminology, Procedures, and Record Keeping
United States Telephone Association (USTA)'s
1990 Non-FCC Subject and Small Company Capital Recovery Seminar
Minneapolis, Minnesota April 10_11, 1990
- Integration of Technology Forecasting Into Historical Life Studies
29th Iowa State Regulatory Conference
Ames, Iowa May 15_17, 1990
- The 1990's and the Second Wave of Major Plant Retirements in the Communications Industry
NARUC's Seventh Biennial Information Conference
Columbus, Ohio September 12_14, 1990

Papers and Seminars

How Do We Incorporate Change Into the Study Filing Procedures?
USTA's 1990 Capital Recovery Seminar
Chicago, Illinois October 16_17, 1990

1989 Plant Modernization: Capital Planning and Capital Recovery
Midwest Utilities Conference
Chicago, Illinois September 11_14, 1989

Price Indexes Today: Procedures, Uses, and Misuses
Society of Depreciation Professionals' Third Annual Meeting
New Orleans, Louisiana December 6_7, 1989

1988 Plant Modernization: Capital Planning and Capital Recovery
National Association of Regulatory Utility Commissioners (NARUC)'s
Sixth Biennial Regulatory Information Conference
Columbus, Ohio September 14_16, 1988

Papers and Seminars

- 1997 Sprint Corporation - West Finance Center
Overland Park, Kansas, August 1997
- 1997 Rochester Telephone Corporation
Rochester, New York, April 1997
- 1996 Sprint-Florida-Vista United Telecommunications
Altamonte Springs, Florida August 27-29, 1996
- 1994 Saskatchewan Telecommunications
Regina, Saskatchewan, Canada, June 1994
- 1994 AUS Consultants/Leroy J. Murphy and Associates 1994 Capital Recovery Seminar
May 1994
- 1993 Manitoba Telephone System, Winnipeg, Manitoba, December 1993
- 1993 Society of Depreciation Professionals Annual Meeting
Charleston, South Carolina September 30, 1993
- 1993 SPRINT - Local Telephone Division
Atlanta, Georgia August 11-12, 1993
- 1993 AUS Consultants/Leroy J. Murphy and Associates 1993 Capital Recovery Seminar
Chicago, Illinois May 11 - 13, 1993
- 1993 Canadian Telephone Capital Recovery Seminar
Halifax, Nova Scotia April 20 - 22, 1993
- 1993 United Telephone, Midwest Group
Overland Park, Kansas January 20, 1993
- 1992 BellSouth Corporation
Birmingham, Alabama November 23, 1992
- 1992 Sprint - Local Telephone Division
Kansas City, Kansas November 18 - 20, 1992
- 1992 Society of Depreciation Professionals Annual Meeting
San Antonio, Texas September 9 - 10, 1992
- 1992 AUS Consultants/Leroy J. Murphy and Associates 1992 Capital Recovery Seminar
Chicago, Illinois October 6 - 8, 1992
- 1991 Society of Depreciation Professionals Annual Meeting
Nashville, Tennessee November 20-22, 1991
- 1991 ALLTEL Corporation Microcomputer Depreciation Studies System Training
Hudson, Ohio October 14-16, 1991

Capital Recovery Training

- 2016 Society of Depreciation Professionals
Annual Training
Charleston, South Carolina, September 18-23, 2016
- 2015 Society of Depreciation Professionals
Annual Training
Austin TX September 2015
- 2014 Society of Depreciation Professionals
Annual Training
New Orleans, LA September 2014
- 2013 Society of Depreciation Professionals
Annual Training
Salt Lake city, UT September 2013
- 2012 Society of Depreciation Professionals
Annual Training
Minneapolis, Minnesota, September 16-18, 2012
- 1991 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation
Studies System Training
Kansas City, Kansas September 23-25, 1991
- 1991 AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar
Lake Geneva, Wisconsin September 17_19, 1991
- 1991 Rochester Telephone Corporation, Capital Recovery/Microcomputer Depreciation Studies
System Training, Rochester, New York September 3-7, 1991
- 1991 Ameritech Services, Microcomputer Depreciation Studies System Training
Chicago, Illinois May 16-17, 1991
- 1991 AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar
Washington, D.C. April 9_11, 1991
- 1990 United Telecommunications, Inc., Capital Recovery Seminar
Overland Park, Kansas December 1990
- 1990 AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar
Chicago, Illinois September 24_27, 1990
- 1990 AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar
Chicago, Illinois January 29-February 1, 1990
- 1990 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies
System Training, Chicago, Illinois July 1990
- 1989 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies
System Training, Chicago, Illinois July 1989

Capital Recovery Training

- 1989 AUS Consultants/Leroy J. Murphy and Associates 1989 Capital Recovery Seminar
 Chicago, Illinois March 6_9, 1989
- 1988 AUS Consultants/Leroy J. Murphy and Associates 1988 Capital Recovery Seminar
 Chicago, Illinois July 25_28, 1988
- 1988 United Telecommunications, Inc., Microcomputer Depreciation Studies System Training
 Kansas City, Kansas January 1988