BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

In re: Application of Pennsylvania-American Water Company under Section 1102(a) of the Pennsylvania Public Utility Code, 66 Pa C.S. § 1102(a), for approval of (1) the transfer, by sale, of substantially all of Valley Township's assets, properties and rights related to its wastewater collection and conveyance system to Pennsylvania-American Water Company, and (2) the rights of Pennsylvania-American Water Company to begin to offer or furnish wastewater service to the public in Valley Township, and limited portions of East Fallowfield Township, Sadsbury Township and West Caln Township, Chester County, Pennsylvania	:	Docket No. A-2020-3020178

DIRECT TESTIMONY OF JEROME C. WEINERT, PE, ASA, CDP UTILITY VALUATION EXPERT SELECTED BY PENNSYLVANIA-AMERICAN WATER COMPANY

Date: October 9, 2020 **PAWC Statement No. 4 WW**

DIRECT TESTIMONY OF JEROME C. WEINERT

DIRECT TESTIMONY OF JEROME C. WEINERT

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

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

Q. Please describe your qualifications and indicate if you are registered as a Utility Valuation Expert ("UVE") with the Pennsylvania Public Utility Commission ("PUC" or "Commission").

A. My curriculum vitae ("CV") is attached to my report and this testimony. **PAWC Exhibit JCW-1 WW**. AUS Consultants is a registered UVE with the PUC. We obtained that registration in 2016 and were informed of our renewal by the PUC's Secretary on January 13, 2020.

Q. What is the purpose of your testimony?

A. This direct testimony provides clarification and explanation of the appraisal I provided to Pennsylvania-American Water Company ("PAWC"), the Acquiring Public Utility pursuant to 66 Pa. C.S. § 1329(a)(5) and in accordance with the Uniform Standards of Professional Appraisal Practice ("USPAP") (2020-2021 Edition).

Q. Are you advocating for any party or outcome?

A. No. The Ethics Rule of the USPAP, applicable here pursuant to 66 Pa. C.S. § 1329(a)(3), requires that I perform the appraisal with impartiality, objectivity, and independence, and without accommodation of personal interests. In addition, the USPAP Ethics Rule requires

that I not perform the assignment with bias, that I must not advocate the cause or interest of any party or issue and that I must not accept an assignment that includes the reporting of predetermined opinions and conclusions.

Q. Do you have any affiliation with either Valley Township ("Valley"), the Selling Utility pursuant to 66 Pa. C.S. § 1329(a)(5), or the Acquiring Public Utility?

A. No. Other than the current assignment to provide the subject appraisal, and similar on-going assignments to provide appraisals of other utility systems, I have no business or personal relationships with any party to the proposed acquisition.

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

A. A copy of the fee arrangement is included with the Application as **Appendix A-7.1**. In summary, AUS Consultants are to receive $25,200 plus expenses in compensation for our appraisal.

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

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

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

A. Yes. The appraisal I submitted to the Acquiring Public Utility pursuant to Section 1329(a)(5) is included in the Application as **Appendix A-5.1**. The appraisal includes a narrative and supporting exhibits in sections. All were prepared under my supervision and control. Also, as stated above, attached to this testimony as **PAWC Exhibit JCW-1 WW** is my CV.

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

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

Appraisal Approach	Value Indicator	Weight	Wtd Value Indicator
Cost	19,252,333	50%	9,626,166
Income	19,154,327	40%	7,661,731
Market	17,931,623	10%	1,793,162
Appraisal Conclusion			19,081,059

Q. Please describe any assumptions, extraordinary assumptions, hypothetical conditions, and/or limiting conditions that you applied to the valuation.

A. The major assumptions and limiting conditions used in preparing our appraisal of Valley's Wastewater Collection System (the "System") are described in our appraisal report "Fair Market Appraisal Report of Valley Township (PA) Wastewater System, as of December

17, 2019." Beyond the above-described assumptions, there are no extraordinary[1] or hypothetical[2] assumptions (as defined in the 2020-2021 edition of USPAP).

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

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

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

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

For the market approach, I chose a weighting of 10%. It is my opinion that this weighting is appropriate for the market approach because while the market approach provides some information as to the value of the property, establishing comparability between the individual sales to the subject property is difficult and uncertain therefore requiring less weight of the market approach and the 10% weight accomplishes that 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. 2020-2021 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. 2020-2021 USPAP page 4.

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

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

A. Yes. AUS Consultants conducted an on-site inspection of Valley's wastewater assets during June 2020. The on-site inspection was mainly used to provide an overview of the System and verify its condition.

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

A. I used a market required capital structure based on an analysis of the market capital structure analysis (detailed in the Cost of Capital / Required Return portion of our appraisal report). Information used in developing the market capital structure was obtained from financial statistics reported in Value Line Investment Survey for the water / wastewater industry published in their January 10, 2020 issue.

Q. What capital structure was used in your appraisal?

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

Water and Wastewater Cost of Capital First Quarter 2020 (1-1-2020) As an Investor-Owned Utility Weighted Cost of Capital (Discount Rate)							
(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital	Type of Data	Capital Cost	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost
	AUS Input		AUS Input				(2)*(3)*(4a)
Debt	26%	Market	3.23%	Market	28.89%	71.11%	0.60%
Equity	74%	Market	9.90%	Market	0.0%	100.0%	7.33%
Total Capital r	100.0%						**7.93%**
Growth (g)							**1.82%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.00%**

Cost Approach

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

A. I used the replacement cost method.

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

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

Q. What index did you use for that method?

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

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

A. I costed each property account with cost trends appropriate for the property contained in the account. As such, the costing of each property account may differ from account to account. It is my opinion that an accurate appraisal requires each property account be costed with cost trends reflective of the property contained in the account. Valley's property as detailed in the Pennoni Associates, Inc. Engineer's Assessment of $13,389,110 was determined to have a replacement cost new of $31,729,237 summarized as follows:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Investor-Owned Utility
As of December 17, 2019

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Asemnt NARUC Code	AUS Input NARUC Code	Pennoni Associates, Inc. - Valley Wastewater Engineer's Assessment Asset Description	Eng Asemnt Original Cost	AUS Input Cost Index Table	Translator	RCN	AUS Input COR / RCN Factor	Col (14) * (15) COR
353.20	353.20	Land & Land Rights - Original Basin	3,368	USBLS1	5.86	19,749	1.00	19,749
353.30	353.30	Land & Land Rights - Pumping	3	USBLS1	1.84	6	1.00	6
354.30	354.30	Stuctures & Improvements - Pumping	1,712,310	HWW-18	1.66	2,843,619	1.00	2,843,619
355.30	355.30	Generating Equipment - Pumping	21,547	USBLS4	1.71	36,781	1.00	36,781
360.21	360.21	Collection Sewers - Force - Mains	1,187,519	HWW-144	1.67	1,986,812	1.00	1,986,812
360.23	360.23	Collection Sewers - Force - Manholes / Meter Pits	20,733	HWW-145	1.22	25,356	1.00	25,356
361.21	361.21	Collection Sewers - Gravity - Mains	6,263,231	HWW-144	2.87	17,984,560	1.00	17,984,560
361.22	361.22	Collection Sewers - Gravity - Mains Relining	52,870	HWW-144	1.11	58,580	1.00	58,580
361.23	361.23	Collection Sewers - Gravity - Manholes	2,183,510	HWW-145	2.08	4,533,510	1.00	4,533,510
363.20	363.20	Service Laterals	1,934,160	HWW-139	2.17	4,198,363	1.00	4,198,363
365.20	365.20	Flow Measuring Installations Meter Pits	9,859	HWW-140	4.25	41,901	1.00	41,901
Grand Total	Grand Total	Grand Total	13,389,110		2.37	31,729,237	1.00	31,729,237

These results are detailed in the Application **Appendix A-5.1** (AUS Appraisal) under the Cost Approach section.

Q. Under your application of the cost approach, what year-end date did you use for calculating the depreciation or condition of the property?

A. I used the date of December 17, 2019.

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

A. I determined those parameters based on our review of the depreciation studies filed by PAWC in support of their depreciation parameters (Iowa-type Survival Characteristics and Service Lives) and the resultant depreciation expense and rate base (net book) in their recent General Rate Cases (R-2017-2595853 and R-2020-3019371) and AUS Consultants' experience in preparing depreciation studies for the water and wastewater industry and our experience appraising water and wastewater properties. The following table summarizes those studies and AUS Consultants' review of the depreciation parameters:

Summary of PAWC Depreciation Studies Prepared for Rate Case

Account	Account Description	Iowa Curves		Service Life		Remaining Life	
		12/31/2018	12/31/2018	12/31/2018	12/31/2018	12/31/2018	12/31/2018
				years	years	years	years
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	45	45	39.1	33.3
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	50	55	45.2	32.6
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	65	55	56.6	31.7
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	35	35	33.3	23.2
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5	35	35	29.7	19.3
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	70	75	53.1	52.5
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	70	80	56.9	54.8
361.20	MANHOLES	S1.5	S2.5	50	50	41.3	32.2
363.00	SERVICES	R3	R3	38	47	22.9	30.2
364.00	FLOW MEASURING DEVICES	L3	L2.5	20	15	13.3	5.1
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2	30	25	23.1	10.8
370.00	RECEIVING WELLS	R3	R3	50	50	42.7	33.7
371.00	PUMPING EQUIPMENT	SO	S0.5	40	30	35.5	18.2
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	45	35	37.1	20.1
381.00	PLANT SEWERS	R3	R3	50	50	43.1	32.7
382.00	OUTFALL SEWER LINES	R3	R3	50	50	37.8	28.3
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	S2.5	S2.5	20	20	13.6	11.3
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	20	5	12.3	3.5
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	15	20	9.5	10.1
391.00	TRANSPORTATION EQUIPMENT	SQ	L4	25	14	19,9	9.8
392.00	STORES EQUIPMENT	SQ	SQ	20	25	16.4	17.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	15	20	11,3	15.4
394.00	LABORATORY EQUIPMENT	L2.5	SQ	16	15	8.7	10.4
395.00	POWER OPERATED EQUIPMENT	SQ	R2	15	22	10.3	13.2
396.00	COMMUNICATION EQUIPMENT	SQ	SQ	15	15	9.6	6.9
397.00	MISCELLANEOUS EQUIPMENT		SQ		15		12.8
398.00	OTHER TANGIBLE PLANT		SQ		25		21.5

Q. Why are those parameters appropriate?

A. Those parameters are appropriate because the parameters reflect the actual service life experienced by PAWC in serving wastewater customers in the Commonwealth of Pennsylvania and which were adjudicated by the PUC in the 2017 General Rate Cases and will be adjudicated by the PUC in the 2020 General Rate Cases (Docket Nos. R-2020-3019369 and R-2020-30193371). The parameters in the following table also reflect AUS Consultants' experience of the survival / retirement characteristics of normal and functional service lives of wastewater properties:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Investor-Owned Utility
December 17, 2019

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)		(5)	(6)	
		(4a)	(4b)		(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence	Tax Depreciation	
			years	% of CORLD	Table	Life
353.20	Land & Land Rights - Original Basin	ZNonDep	0.00	0.00%	Non-Depr	0.00
353.30	Land & Land Rights - Pumping	ZNonDep	0.00	0.00%	Non-Depr	0.00
353.40	Land & Land Rights - Treatment	ZNonDep	0.00	0.00%	Non-Depr	0.00
354.30	Stuctures & Improvements - Pumping	R4.0	45.00	0.00%	MACRS	25.00
355.30	Generating Equipment - Pumping	R3.0	35.00	0.00%	MACRS	25.00
360.21	Collection Sewers - Force - Mains	R3.0	75.00	0.00%	MACRS	25.00
360.23	Collection Sewers - Force - Manholes / Meter Pits	R3.0	75.00	0.00%	MACRS	25.00
361.21	Collection Sewers - Gravity - Mains	R2.5	80.00	0.00%	MACRS	25.00
361.22	Collection Sewers - Gravity - Mains Relining	R2.5	60.00	0.00%	MACRS	25.00
361.23	Collection Sewers - Gravity - Manholes	R2.5	80.00	0.00%	MACRS	25.00
363.20	Service Laterals	R3.0	45.00	0.00%	MACRS	25.00
365.20	Flow Measuring Installations Meter Pits	S2.0	30.00	0.00%	MACRS	25.00
364.40	Flow Measuring Devices - WWTP	S2.0	30.00	0.00%	MACRS	25.00

Also, due the age of Valley Township's early property installations the maximum depreciation was limited to 85% of the cost new.

Q. What was the result of the application of the depreciation parameters to the previously described replacement cost new of $31,729,237?

A. With the application of the above described depreciation parameters, the replacement cost new of $31,729,237 results in a replacement cost new less depreciation of $19,252,333 determined as follows:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Investor-Owned Utility
As of December 17, 2019

Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at December 17, 2019 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Asssmt	Pennoni Associates, Inc.'s Valley Wastewater Engineers Assessment		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.20	Land & Land Rights - Original Basin	46.50	19,749	ZNonDep	-	-	-	1.00	19,749
353.30	Land & Land Rights - Pumping	26.76	6	ZNonDep	-	-	-	1.00	6
354.40	Stuctures & Improvements - Pumping	16.38	2,843,619	R4.0	45.00	28.99	45.37	0.64	1,821,032
355.30	Generating Equipment - Pumping	29.50	36,781	R3.0	35.00	10.11	39.61	0.26	9,388
360.21	Collection Sewers - Force - Mains	18.79	1,986,812	R3.0	75.00	57.14	75.93	0.75	1,498,282
360.23	Collection Sewers - Force - Manholes / Meter Pits	11.50	25,356	R3.0	75.00	64.04	75.54	0.85	21,496
361.21	Collection Sewers - Gravity - Mains	34.90	17,984,560	R2.5	80.00	49.57	84.48	0.59	10,631,978
361.22	Collection Sewers - Gravity - Mains Relining	5.50	58,580	R2.5	60.00	54.94	60.44	0.91	53,249
361.23	Collection Sewers - Gravity - Manholes	28.68	4,533,510	R2.5	80.00	54.71	83.39	0.66	2,995,110
363.20	Service Laterals	23.77	4,198,363	R3.0	45.00	24.29	48.05	0.52	2,195,757
360.21	Flow Measuring Installations Meter Pits	49.50	41,901	S2.0	30.00	4.50	54.00	0.15	6,285
Grand Total	Grand Total	29.82	31,729,237		71.71	45.48	75.27	0.61	19,252,333

The above replacement cost new less depreciation represents the preliminary cost approach conclusion which was tested for economic obsolescence based on the results of the income and market approaches which will be described in the remainder of this testimony. Based on our review of the preliminary cost approach and the results of the income and market approaches, no economic obsolescence exists at the preliminary cost approach conclusion of $19,252,333; therefore, the final cost approach conclusion was determined to be $19,252,333. These results are detailed in the Application **Appendix A-5.1** (AUS Appraisal) under the Cost Approach section.

Market Approach

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

A. I used the comparable sales of water and wastewater properties in the Commonwealth of Pennsylvania subsequent to the passage of Section 1329 and financial market value ratios of publicly traded water and wastewater companies as reported in the January 10, 2020 issue of Value Line Investment Survey.

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

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

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

A. The comparable sales analysis produced a result of $17,931,623. The financial market analysis produced a result of $19,443,097 detailed as follows:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Investor-Owned Utility
As of December 17, 2019

Comparable Sales Approach

Market Sales Data

Central Tendancy and Reliability Analysis

Market Sales Analysis - PP/OCLD

	Simple	Weighted	
Mean	2.082	1.9992	
Standard Deviation	0.8607	0.6008	
Median	1.608	1.5598	
Mode	Not Applicable	1.5601	
Conclusion		**2.0000**	AUS Input
Valley Township Wastewater System OCLD		9,214,738	Cost Approach - OCLD
Market Value Indication		**18,429,476**	

Market Sales Analysis - PP/CORLD

	Simple	Weighted	
Mean	0.813	0.9285	
Standard Deviation	0.1852	0.1086	
Median	0.8908	0.9637	
Mode	Not Applicable	0.9919	
Conclusion		**0.9314**	AUS Input
Valley Township Wastewater System CORLD		19,252,333	Cost Approach - CORLD
Market Value Indication		**17,931,623**	

Market Sales Analysis - PP/Customer

	Simple	Weighted	
Mean	7441	9,157	
Standard Deviation	4031	3,158	
Median	8221	6,312	
Mode	Not Applicable	7,825	
Forecast	7,293		
Conclusion		**7,300**	Valley Wastewater Info
Valley Township Wastewater System Customers		1,596	AUS Input
Market Value Indication		**11,650,800**	

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	3.40	
Market to Book (equity and debt)	2.11	
Use (equity and debt)	2.11	AUS Input
Valley Township Wastewater System OCLD	9,214,738	Cost Approach - OCLD
Market Value Indication	**19,443,097**	

Market Sales Analysis - PP/Cash Flows (EBITDA)

	Simple	Weighted	
Mean	22.38	21.58	
Standard Deviation	11.60	8.02	
Median	20.93	13.00	
Mode	Not Applicable	Not Applicable	
Forecast			
Conclusion		**22.00**	AUS Input
Valley Township Wastewater System Cash Flows		685,766	Income Approach
Market Value Indication		**15,086,845**	

Summary of Market Analyses

Indicators	
OCLD	18,429,476
CORLD	17,931,623
Customers	11,650,800
Cash Flows	15,086,845
Value Line	19,443,097
Mean	16,508,368
Median	17,931,623
Conclusion	**17,931,623**

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

A. I used the results of $17,931,623 because I believe those results represent an accurate assessment and it was based on the relationship of market comparable sales to the

replacement cost new less depreciation of those properties. These results are detailed in the Application **Appendix A-5.1** (AUS Appraisal) under the Market Approach section.

Q. What was the 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 Valley's 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:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Investor-Owned Utility
As of December 17, 2019

Comparable Sales Approach

Market Sales Data

RowID	Approximate Date	Buyer	Seller	County	Type of Facility	Initial Purchase Price	Final Purchase Price[1]	Number of Total Customers	OCA Market Value per customer	Relationship to the passage of Section 1329	Average Purchase Price per Customer	AUS Market Value per customer
20	6/1/2016	PA American Water	City of McKeesport	Allegheny	Wastewater Collection and Treatment	180,000,000	159,000,000	21,953	7,197	Post	7,242.75	7,243
21	8/1/2016	Aqua PA	New Garden Twp. SA	Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	14,008	Post	14,007.60	14,008
22	12/1/2017	Aqua PA	Limerick Township	Montgomery	Wastewater Collection and Treatment	64,373,000	64,373,000	5,434	11,846	Post	9,264	11,846
23	12/10/2017	Aqua PA	East Bradford Township	Chester	Wastewater Collection and paid for treatment Capacity	5,000,000	5,000,000	1,248	4,006	Post	4,006.41	4,006
24		SUEZ	Mahoning	Carbon	Water Treatment and Distribution System	4,734,800	4,734,800	2,806		Post		1,687
25		SUEZ	Mahoning	Carbon	Wastewater Collection and Treatment	4,765,200	4,765,200	2,806		Post		1,698
26	6/1/2018	Aqua PA	Cheltenham	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500		Post	4,785.71	4,786
27	11/14/2018	PA American Water	Steelton	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325		Post	9,354.84	9,355
28		PA American Water	Sadsbury	Chester	Wastewater Collection	9,250,000	8,600,000	998		Post	8,617.23	8,617
29	5/28/2018	PA American Water	Exeter	Berks	Wastewater Collection and Treatment	96,000,000	96,000,000	9,000		Post	10,666.67	10,667
30	10/29/2018	Aqua PA	East Norriton	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950		Post	4,242.42	
31	9/30/2018	PA American	Kane	McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2006		Post	8,753.74	

Notes:
1 Final Purchase Price reflects the agreed upon purchase price achieved to settle the acquistion application

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.

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

A. Under the income approach, it is my opinion that the results of the future operations of Valley's System must be considered. I believe that an accurate result depends on adjusting recent results of the System's operation to better reflect how those results will migrate over future periods under the operation as a rate regulated wastewater system regulated by the PUC.

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

A. I used a discount rate of 7.93% and 6.00% capitalization rate.

Q. Please explain how you developed the discount rate.

A. In each case, the discount rate was a market discount rate at the appraisal date and was determined using the weighted average cost of capital ("WACC") of both debt and equity. The inputs to the WACC determination, capital structure, cost of debt, cost of equity, and income tax rate (state and federal) were determined based on an analysis of Value Line Investment Surveys and the Ibbotson Stock, Bonds, Bills, and Inflation ("Ibbotson SBBI") 2020 Edition (SBBI activity over the period 1926 through 2019). The cost of debt was determined at December 10, 2019, based on the Value Line Investment Survey. The cost

of equity was based on the capital asset pricing model ("CAPM") and the Dividend Growth Model ("DGM"), two recognized cost of equity estimating models and the PUC's Bureau of Technical Utility Services' Report on Quarterly Earnings of Jurisdictional Utilities for Year-ending September 30, 2019. The above described data for Valley's appraisal can be found in the exhibits to my appraisal report in the section entitled Cost of Capital / Required Return.

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

A. None. As described in the previous discussion of the capital structure, we utilized a market required capital structure based on analysis of the water / wastewater industry's market capital structure as defined by analysis of market financials as published in Value Line Investment Survey (January 10, 2020). The theory in appraisal is to estimate the value of a property in an arm's length transaction wherein the purchaser finances the purchase with capital (debt and equity) available in the financial markets at the appraisal date. Those are the current (appraisal date) financial markets.

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

A. As discussed above, we used Value Line Investment Survey to develop a market required capital structure. Please see Application **Appendix A-5.1** (AUS Appraisal) Income Approach section for the cost of capital of the Income Approach and Cost of Capital / Required Return section for the basis of the Cost of Capital / Required Return.

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

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

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

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

Q. What is your Income Approach conclusion?

A. AUS Consultants' income approach conclusion was determined to be $19,154,327 detailed as follows:

Pennsylvania American Water Company
Valley Township Wastewater System
Wastewater Collection System
Potential Purchaser: Investor-Owned Utility
As of December 17, 2019
Discounted Cash Flow Analysis

Discount Rate: 7.93%
Capitalization Rate: 6.00%

(1) Period	(2) Age	(3) Revenues	(4) O&M Expenses	(5) Tax Depreciation	(6) Cash Flow from Operations	(7) Taxable Income before State & Federal Taxes	(8) State and Federal Taxes @ 28.89%	(9) Capital Expenditures	(10) Change in Working Capital	(11) Net Cash Flows	(12) Period Present Worth Factor (PW)	(13) PW of Cashflow	(14) Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	2,857,439	3,122,464	561,233	(265,025)	(826,258)	(238,706)	127,144	5,956	(159,419)	0.963	(153,520)	(153,520)
2	1.5	2,972,157	3,183,945	565,173	(211,788)	(776,961)	(224,464)	129,051	6,195	(122,570)	0.892	(109,332)	(262,852)
3	2.5	3,685,912	3,246,645	569,249	439,267	(129,982)	(37,552)	130,987	38,542	307,290	0.826	253,822	(9,030)
4	3.5	3,833,891	3,310,589	573,465	523,302	(50,163)	(14,492)	132,951	7,991	396,852	0.766	303,989	294,959
5	4.5	3,987,810	3,375,802	577,824	612,008	34,184	9,876	134,945	8,312	458,875	0.709	325,342	620,301
6	5.5	4,730,060	3,438,275	582,329	1,291,785	709,456	204,962	136,970	40,081	909,772	0.657	597,720	1,218,021
7	6.5	4,900,956	3,502,149	589,917	1,398,807	808,890	233,688	150,021	9,229	1,005,869	0.609	612,574	1,830,595
8	7.5	5,078,027	3,567,447	595,037	1,510,580	915,543	264,500	152,162	9,562	1,084,356	0.564	611,577	2,442,172
9	8.5	5,566,177	3,634,194	600,317	1,931,983	1,331,666	384,718	154,334	26,360	1,366,571	0.523	714,717	3,156,889
10	9.5	5,767,282	3,702,414	605,760	2,064,868	1,459,108	421,536	156,537	10,859	1,475,936	0.484	714,353	3,871,242
11	10.5	5,975,653	3,772,132	611,373	2,203,521	1,592,148	459,971	158,775	11,252	1,573,523	0.449	706,512	4,577,754
12	11.5	6,550,091	3,843,375	617,158	2,706,716	2,089,558	603,673	161,044	31,019	1,910,980	0.416	794,968	5,372,722
13	12.5	6,786,745	3,916,168	623,118	2,870,577	2,247,459	649,291	163,347	12,781	2,045,158	0.385	787,386	6,160,108
14	13.5	7,031,949	3,990,540	629,257	3,041,409	2,412,152	696,871	165,684	13,241	2,165,613	0.357	773,124	6,933,232
15	14.5	7,707,929	4,066,518	635,581	3,641,411	3,005,830	868,384	168,055	36,502	2,568,470	0.331	850,164	7,783,396
16	15.5	7,785,008	4,147,105	634,884	3,637,903	3,003,019	867,572	158,959	4,162	2,607,210	0.306	797,806	8,581,202
17	16.5	7,862,858	4,229,296	641,243	3,633,562	2,992,319	864,481	161,344	4,204	2,603,533	0.284	739,403	9,320,605
18	17.5	8,413,258	4,313,124	647,794	4,100,134	3,452,340	997,381	163,764	29,722	2,909,267	0.263	765,137	10,085,742
19	18.5	8,497,391	4,398,620	654,541	4,098,771	3,444,230	995,038	166,220	4,543	2,932,970	0.244	715,645	10,801,387
20 and beyond	19.5	8,582,365	4,485,819	661,489	4,096,546	3,435,057	992,388	168,713	4,589	2,930,856	2.850	8,352,940	19,154,327
								3,041,007					

Age	19.5
$PW(Age) = 1/(1+Discount Rate)^{(Age)}$	0.226
PW to Perpetuity = 1/Capitalization Rate	12.610
$PW_{(20and Beyond)}$ = PW to Perpetuity * $PW Factor_{(19.5)}$	2.850

Net Plant		10,175,851			
ADIT		(1,548,965)			
Rate Base		8,626,886	0.226	1,949,676	12,751,063
Annual Plant Construction Inflation Rate		**0.0422** Input			
Plant Inflation over 19.5 years		19,718,571	0.226	4,456,397	15,257,784
PP	13,950,000				
OCLD	9,214,738				
PP/OCLD	1.514				
RCNLD	19,252,333				
RCNLD/PP		1.380095529			
		11,905,927.12	0.226	2,690,740	13,492,127
Average					15,163,825

These results are detailed in the Application **Appendix A-5.1** (AUS Appraisal) under the Income Approach section.

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

A. I did not use customers/EDUs in developing the forecasted revenues and expenses. Instead, I used past and budgeted results from operations to establish forecasted operating results.

Q. Did you make any updates to your appraisal after it was submitted to the Acquiring Public Utility, and if so, what was the update, when was it made, and why was it necessary?

A. I did update my initial appraisal after it was submitted to PAWC since an additional year of financials (2019) was available and a final Engineers Assessment dated May 28, 2020 was available, which I received in early May 2020.

Q. Does this conclude your direct testimony?

A. It does. However, by filing this direct testimony I understand that I may have the 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-eight (2020-1972) 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-nine 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 master's 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. Mr. Weinert has testified before the Pennsylvania Public Utility Commission on regulatory matters associated with Pennsylvania Section 1329 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 regard 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, the New York City Tax Commission and the Public Utility Commission of Pennsylvania Section 1329 hearings (8).

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 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

Company	Property	Study Year	Year Performed	Activity
2020				
AT&T Communications	North America	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	California	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2019	2020	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2019	2020	Ad Valorem Tax Appraisal
Verizon New York, Inc.	New York	2019	2020	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2019	2020	Ad Valorem Tax Appraisal
East Norriton Township, PA	East Norriton Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Kane Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Royersford Wastewater	2019	2020	Fair Market Value 1329
2019				
AT&T Communications	North America	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	California	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2018	2019	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2018	2019	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2018	2019	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2018	2019	Ad Valorem Tax Appraisal
Cheltenham Township, PA	Cheltenham Wastewater	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Steelton Water	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Exeter Wastewater	2018	2019	Fair Market Value 1329
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	Fair Market Value Appraisal
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
Intermountain Gas Company	Idaho	2016	2017	Depreciation Study
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
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
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 Depreciati

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed Study	Activity
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
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
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 California	2006	2007	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan, & Arizona	2006	2007	Ad Valorem Tax Appraisal
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 ACS of Anchorage ACS of Fairbanks ACS of the Northland ACS Holdings	2006	2007	Depreciation Studies
Intermountain Gas Company	Idaho	2006	2007	Depreciation Study

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
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 ACS of Anchorage ACS of Fairbanks ACS of the Northland ACS Holdings	2000	2001	Depreciation Study
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
	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

Appraisal & Capital Recovery Activities Client List

Company	Property	Year	Study Year Performed	Activity
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 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

Utility Industries
Capital Recovery Activities Client List

Company	Property	Year	Study Year Performed	Activity
	Western Reserve Telephone Company	1988	1989	Depreciation Study
Milwaukee Metropolitan Sewer District	Milwaukee Metropolitan Sewer District	1988	1989	Depreciation Study
United Telephone	United of Ohio	1988	1989	ELG Support
Telephone Company	Telephone Company	1988	1989	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
	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

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
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
	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	1979	1980	Depreciation Study

Papers and Seminars

	Eastern Oregon			
	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 Texas September 2015

2014 Society of Depreciation Professionals
Annual Training
New Orleans, Louisiana September 2014

2013 Society of Depreciation Professionals
Annual Training
Salt Lake City, Utah 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

VERIFICATION

I, Jerome C. Weinert, P.E., hereby state that the facts above set forth above are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Jerome C. Weinert

Jerome C. Weinert, P.E. Principal and Director
AUS Consultants, Inc.

Dated: October 7, 2020