

Patricia D. Kravtin

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Summary

Consulting economist with specialization in telecommunications, cable, and energy markets. Extensive knowledge of complex economic, policy and technical issues facing incumbents, new entrants, regulators, investors, and consumers in rapidly changing telecommunications, cable, and energy markets.

Experience

CONSULTING ECONOMIST

2000– Principal and Owner, PDK Economic Consulting, Park City, UT

- Providing expert witness services and full range of economic, policy, and technical advisory services in the fields of telecommunications, cable, and energy.

SENIOR VICE PRESIDENT/SENIOR ECONOMIST

1982–2000 Economics and Technology, Inc., Boston, MA

- Active participant in regulatory proceedings in over thirty state jurisdictions, before the Federal Communications Commission, Federal Energy Regulatory Commission, Canadian Radio-Television and Telecommunications Commission, Ontario Energy Board, and other international regulatory authorities on telecommunications, cable, and energy matters.
- Provided expert witness and technical advisory services in connection with litigation and arbitration proceedings before state and federal regulatory agencies, and before U.S. district court, on behalf of diverse set of public and private sector clients (see Record of Prior Testimony).
- Extensive cable television regulation expertise in connection with implementation of the Cable Act of 1992 and the Telecommunications Act of 1996 by the Federal Communications Commission and local franchising authorities.
- Led analysis of wide range of issues related to: rates and rate policies; cost methodologies and allocations; productivity; cost benchmarking; business case studies for entry into cable, telephony, and broadband markets; development of competition; electric industry restructuring; incentive or performance based regulation; universal service; access charges; deployment of advanced services and broadband technologies; access to pole attachments, conduit, and other rights-of-way.

Petition for Resolution of Rate Dispute

- Served as advisor to state regulatory agencies, assisting in negotiations with utilities, non-partial review of record evidence, deliberations and drafting of final decisions.
- Author of industry reports and papers on topics including market structure, competition, alternative forms of regulation, patterns of investment, telecommunications modernization, and broadband deployment.
- Invited speaker before various national organizations, state legislative committees and participant in industry symposiums.
- Grant Reviewer for the Broadband Technology Opportunities Program (BTOP) administered by National Telecommunications and Information Administration (NTIA), Fall 2009.

RESEARCH/POLICY ANALYST

1978–1980 Various Federal Agencies, Washington, DC

- Prepared economic impact analyses concerning allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis concerning the effect of securities regulations on the acquisition of high-technology firms (Securities and Exchange Commission).
- Prepared analyses and recommendations on national economic policy issues including capital recovery. (U.S. Dept. of Commerce).

Education

1980–1982 Massachusetts Institute of Technology, Boston, MA

- Graduate Study in the Ph.D. program in Economics (Abd). General Examinations passed in fields of Government Regulation of Industry, Industrial Organization, and Urban and Regional Economics.

- National Science Foundation Fellow.

1976–1980 George Washington University, Washington, DC

- B.A. with Distinction in Economics.
- Phi Beta Kappa, Omicron Delta Epsilon in recognition of high scholastic achievement in field of Economics. Recipient of four-year honor scholarship.

Prof. Affiliation American Economic Association

Reports and Studies (authored and co-authored)

“An Economic Study of the Barriers Erected by Current Utility Pole Replacement Practices and of Policy Prescriptions to Better Align Incentives and Promote Broadband Expansion,” co-authored with Patricia D. Kravtin and Edward J. Lopez, June 2022.

“Advancing Pole Attachment Policies to Accelerate National Broadband Buildout,” co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Pole Attachment Policies and Broadband Expansion in the State of Florida, co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Pole Attachment Policies and Broadband Expansion in the State of Kentucky, co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Pole Attachment Policies and Broadband Expansion in the State of Texas, co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Pole Attachment Policies and Broadband Expansion in the State of Missouri, co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Pole Attachment Policies and Broadband Expansion in the State of Wisconsin, co-authored with Dr. Edward Lopez, underwritten by Connect the Future, December, 2021.

“Utility Pole Policy: A Cost-Effective Prescription for Achieving Full Broadband Access in North Carolina,” co-authored with Dr. Edward Lopez, underwritten by the North Carolina Cable Telecommunications Association, August 2021.

“Pole Policy and the Public Interest: Cost Effective Policy Measures for Achieving Full Broadband Access in the Commonwealth of Kentucky,” July 22, 2021, underwritten by Charter Communications and submitted to the Kentucky Public Service Commission in *Regulations Regarding Access and Attachments to Utility Pole and Facilities*; 807 KAR 5:015.

“The Economic Case for a More Cost Causative Approach to Make-ready Charges Associated with Pole Replacement in Unserved/Rural Areas: Long Overdue, But Particularly Critical Now in Light of the Pressing Need to Close the Digital Divide,” dated September 2, 2020, underwritten Charter Communications, Inc. and submitted to the Federal Communications Commission in WC Docket No. 17-84.

“An Analysis of Just and Reasonable Pole Attachment Rates for Bandera Electric Cooperative Pursuant to Senate Bill 14,” prepared on behalf of Guadalupe Valley Telephone Cooperative, Inc., Preliminary Report dated December 6, 2019.

Report on the Ohio Municipal Electric Association Pole Attachment Rate Study, prepared for the Ohio Cable Telecommunications Association, November 9, 2012.

Report on the Financial Viability of the Proposed Greenfield Overbuild in the City of Lincoln, California, prepared for Starstream Communications, August 12, 2003.

“Assessing SBC/Pacific’s Progress in Eliminating Barriers to Entry, The Local Market in California is Not Yet ‘Fully

and Irreversibly Open,” prepared for CALTEL, August 2000.

“Final Report on the Qualifications of Wide Open West-Texas, LLC For a Cable Television Franchise in the City of Dallas,” prepared for the City of Dallas, July 31, 2000.

“Final Report on the Qualifications of Western Integrated Networks of Texas Operating L.P. For a Cable Television Franchise in the City of Dallas,” prepared for the City of Dallas, July 31, 2000.

“Price Cap Plan for USWC: Establishing Appropriate Price and Service Quality Incentives in Utah” prepared for The Division of Public Utilities, March, 2000.

“Building a Broadband America: The Competitive Keys to the Future of the Internet,” prepared for The Competitive Broadband Coalition, May 1999.

“Broken Promises: A Review of Bell Atlantic-Pennsylvania's Performance Under Chapter 30,” prepared for AT&T and MCI Telecommunications, June 1998.

“Analysis of Opportunities for Cross Subsidies Between GTA and GTA Cellular,” prepared for Guam Cellular and Paging, submitted to the Guam Public Utilities Commission, July 11, 1997.

“Reply to Incumbent LEC Claims to Special Revenue Recovery Mechanisms,” submitted in the Matter of Access Charge Reform in CC Docket 96-262, February 14, 1997.

“Assessing Incumbent LEC Claims to Special Revenue Recovery Mechanisms: Revenue opportunities, market assessments, and further empirical analysis of the ‘Gap’ between embedded and forward-looking costs,” FCC CC Docket 96-262, January 29, 1997.

“Analysis of Incumbent LEC Embedded Investment: An Empirical Perspective on the ‘Gap’ between Historical Costs and Forward-looking TSLRIC,” Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, FCC CC 96-98, May 30, 1996.

“Reply to X-Factor Proposals for the FCC Long-Term LEC Price Cap Plan,” prepared for the Ad Hoc Telecommunications User Committee, submitted in FCC CC Docket 94-1, March 1, 1996.

“Establishing the X-Factor for the FCC Long-Terms LEC Price Cap Plan,” prepared for the Ad Hoc Telecommunications User Committee, submitted in FCC CC Docket 94-1, December 1995.

“The Economic Viability of Stentor's ‘Beacon Initiative,’ Exploring the Extent of its Financial Dependency upon Revenues from Services in the Utility Segment,” prepared for Unitel, submitted before the Canadian Radio-television and Telecommunications Commission, March 1995.

“Fostering a Competitive Local Exchange Market in New Jersey: Blueprint for Development of a Fair Playing Field,” prepared for the New Jersey Cable Television Association, January 1995.

“The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers,” Feb. 1994.

“A Note on Facilitating Local Exchange Competition,” prepared for E.P.G., Nov. 1991.

“Testing for Effective Competition in the Local Exchange,” prepared for the E.P.G., October 1991.

“A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network” prepared for the National Regulatory Research Institute, October 1991.

“Report on the Status of Telecommunications Regulation, Legislation, and modernization in the states of Arkansas, Kansas, Missouri, Nebraska, Oklahoma and Texas,” prepared for the Mid-America Cable-TV Association, December 13, 1990.

“The U S Telecommunications Infrastructure and Economic Development,” presented at the 18th Annual Telecommunications Policy Research Conference, Airlie, Virginia, October 1990.

“An Analysis of Outside Plant Provisioning and Utilization Practices of US West Communications in the State of Washington,” prepared for the Washington Utilities and Transportation Commission, March 1990.

“Sustainability of Competition in Light of New Technologies,” presented at the Twentieth Annual Williamsburg Conference of the Institute of Public Utilities, Williamsburg, VA, December 1988.

“Telecommunications Modernization: Who Pays?,” prepared for the National Regulatory Research Institute, September 1988.

“Industry Structure and Competition in Telecommunications Markets: An Empirical Analysis,” presented at the Seventh International Conference of the International Telecommunications Society at MIT, July 1988.

“Market Structure and Competition in the Michigan Telecommunications Industry,” prepared for the Michigan Divestiture Research Fund Board, April 1988.

“Impact of Interstate Switched Access Charges on Information Service Providers - Analysis of Initial Comments,” submitted in FCC CC Docket No. 87-215, October 26, 1987.

“An Economic Analysis of the Impact of Interstate Switched Access Charge Treatment on Information Service Providers,” submitted in FCC CC Docket No. 87-215, September 24, 1987.

“Regulation and Technological Change: Assessment of the Nature and Extent of Competition from a Natural Industry Structure Perspective and Implications for Regulatory Policy Options,” prepared for the State of New York in collaboration with the City of New York, February 1987.

“BOC Market Power and MFJ Restrictions: A Critical Analysis of the ‘Competitive Market’ Assumption,” submitted to the Department of Justice, July 1986.

“Long-Run Regulation of AT&T: A Key Element of a Competitive Telecommunications Policy,” *Telematics*, August 1984.

“Economic and Policy Considerations Supporting Continued Regulation of AT&T,” submitted in FCC CC Docket No. 83-1147, June 1984.

“Multi-product Transportation Cost Functions,” MIT Working Paper, September 1982.

Record of Prior Testimony

2022

Before the **State of New Hampshire Public Utilities Commission**, Public Service Company of New Hampshire d/b/a/Eversource Energy and Consolidated Communications of Northern New England Company, LLC d/b/a Consolidated Communications, *Joint Petition to Approve Pole Asset Transfer*, DE 21-020, Prefiled Direct Testimony, January 31, 2022, Cross-examination March 15, 2022, May 10, 2022.

Before the **Commonwealth of Kentucky Public Service Commission**, *In the Matter of: Electronic Investigation of the Proposed Pole Attachment Tariffs of Rural Electric Cooperative Corporations*, Case Nos. 2022-00105, 2022-00106, 2022-00107, 2022-00108, Direct Testimony submitted June 9, 2022.

Before the **Public Utilities Commission of the State of California**, *In the Matter of: Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2023. (U39M)*, A.21-06-021, Opening Testimony, submitted June 13, 2022.

2021

Before the **Commonwealth of Kentucky Public Service Commission**, *Regulations Regarding Access and Attachments to Utility Poles and Facilities*; 807 KAR 5:015, Oral Testimony, July 29, 2021.

Before the **United States District Court Western District of New York**, ExteNet Systems Inc., Plaintiff, vs. City of Rochester, New York, Defendant, Civil Action No. 6:20-cv-7129, Expert Report submitted August 12, 2021.

2020

Before the **Georgia Public Service Commission**, *In Re: Generic Proceeding to Implement House Bill 244*, Docket No. 43453, Pre-filed Direct Testimony submitted October 23, 2020, Rebuttal Testimony submitted November 9, 2020, Cross-examination, November 19, 2020.

Before the **Public Utilities Commission of the State of California**, in *Southern California Edison 2021 General Rate Case (U 338-E)*, Docket No. A. 19-08-013 (Filed August 30, 2019), Pre-filed Direct Testimony submitted May 5, 2020.

2019

Before the **Public Utilities Commission of Ohio**, *In the Matter of the Application of the Filing by Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company, of a Grid Modernization Plan, of an Application for Approval of a Distribution Platform Modernization Plan, to Implement Matters Relating to the Tax Cuts and Jobs Act of 2017, and for Approval of a Tariff Change*, Case Nos. 16-481-EL-UNC, Case No. 17-2436-EL-UNC, Case No.18-1604-EL-UNC, and Case No. 18-1656-EL-ATA, adopted and accepted into evidence, February 6, 2019.

2018

Before the **Public Utilities Commission of the State of California**, in *California Cable & Telecommunications Association, Complainant v. San Diego Gas & Electric Company (U902E) Defendant*, Case No. C.17-11-002 (Filed November 6, 2017), Pre-filed Direct Testimony submitted November 21, 2018, Rebuttal submitted December 28, 2018, Cross-examination January 8, 2019.

Before the **Public Utilities Commission of Ohio**, *In the Matter of the Application of the Commission's Investigation of the Financial Impact of the Tax Cuts and Jobs Act of 2017 on Regulated Ohio Utility Companies*, Case No. 18-47-AU-COI, filed June 29, 2018.

Before the **Louisiana Public Service Commission**, in *Re: Complaint and Petition for Declaratory Ruling on Proper Formula for the Pole Attachment Rental Rate Under Louisiana Public Service Commission Order Dated September 4, 2014*, Docket No. U-34688, Affidavit submitted March 27, 2018.

Before the **Connecticut Department of Public Utility Control**, in *Re: In the Matter of the Application of The Connecticut Light and Power Company d/b/a Eversource Energy, to Amend its Rate Schedule*, Dkt. No. 17-10-46, Direct Prefiled January 26, 2018.

2017

Before the **North Carolina Public Utility Commission**, in *Blue Ridge Electric Membership Corporation, Complainant v. Charter Communications Properties LLC, Respondent*, Docket No. EC-23, SUB 50, Responsive Pre-filed October 30, 2017; Cross-examination November 8, 2017, December 18, 2017.

Before the **Kentucky Public Service Commission**, *In the Matter of: Electronic Application of Kentucky Power Company for (1) A General Adjustment of its Rates for Electric Service; (2) An Order Approving its 2017 Environmental Compliance Plan; (3) An Order Approving its Tariffs and Riders; (4) An Order Approving Accounting Practices to Establish Regulatory Assets and Liabilities, and (5) An Order Granting All Other Required Approvals and Relief*, Case No. 2017-00179, Direct Testimony submitted on behalf of The Kentucky Cable Telecommunications Association, October 3, 2017.

Before the **North Carolina Public Utility Commission**, in *Re: In the Matter of Time Warner Cable Southeast LLC, Complainant v. Carteret-Craven Electric Membership Corporation, Respondent*, Docket No. EC-55, SUB 70, Direct Pre-filed May 30, 2017; Rebuttal Pre-filed June 15, 2017; Cross-examination June 20, 2017.

Before the **North Carolina Public Utility Commission**, in *Re: In the Matter of Time Warner Cable Southeast LLC, Complainant v. Jones-Onslow Electric Membership Corporation, Respondent*, Docket No. EC-43, SUB 88, Direct Pre-filed May 30, 2017; Rebuttal Pre-filed June 15, 2017; Cross-examination June 20, 2017.

Before the **North Carolina Public Utility Commission**, in *Re: In the Matter of Time Warner Cable Southeast LLC, Complainant v. Surry-Yadkin Electric Membership Corporation, Respondent*, Docket No. EC-49, SUB 55, Direct Pre-filed May 30, 2017; Rebuttal Pre-filed June 15, 2017; Cross-examination June 20, 2017.

Before the **North Carolina Public Utility Commission**, in *Re: In the Matter of Union Electric Membership Corporation, Complainant v. Time Warner Cable Southeast LLC, Respondent*, Docket No. EC-39, SUB 44, Responsive Pre-filed June 15, 2017; Cross-examination June 20, 2017.

2016

Before the **State of Connecticut Department of Public Utility Control**, in *Re: In the Matter of the Application of The United Illuminating Company to Increase Its Rates and Charges*, Docket No. 16-06-04, filed September 9, 2016.

Before the **United States District Court, District of Maryland**, *Zayo Group, LLC, et al., Plaintiffs v. Mayor and City of Council of Baltimore, et al., Defendants*, Civil No. 16-cv-592, Declaration filed March 30, 2016; Cross-ex. May 17, 2016.

2015

Before the **Arkansas Public Service Commission**, *In the Matter of a Rulemaking Proceeding to Consider Changes to the Arkansas Public Service Commission's Pole Attachment Rules*, Docket No. 15-019-R, Report filed July 22, 2015, Second Report filed August 19, 2015; Cross-examination October 27, 2015.

Before the **Public Service Commission of Wisconsin**, Wisconsin Cable Communications Association, Charter Cable Partners, LLC, and Time Warner Cable Midwest LLC, Complainants, v. City of Oconomowoc, Respondent, Docket No. 4340-EI-100, Direct Testimony submitted May 29, 2015; Rebuttal Testimony submitted June 19, 2015; Surrebuttal Testimony submitted July 2, 2015; Cross-examination July 9, 2015.

Before the **Kentucky Public Service Commission**, *In the Matter of: Application of Kentucky Utilities Company for An Adjustment of its Base Rates*, Case No. 2014-00371, submitted March 6, 2015.

Before the **Kentucky Public Service Commission** *In the Matter of: Application of Louisville Gas and Electric Company for An Adjustment of its Electric and Gas Base Rates*, Case No. 2014-00372, submitted March 6, 2015.

2013

Before the **Commonwealth of Virginia State Corporation Commission**, in *Application of Northern Virginia Electric Cooperative, For Approval of pole attachment rates and terms and conditions under § 56-466.1 of the Code of Virginia*, Pre-filed Direct Testimony on behalf of Comcast California/Maryland/Pennsylvania/Virginia/West Virginia LLC, August 29, 2013. Live testimony and cross-examination, November 22/25, 2013.

Petition for Resolution of Rate Dispute

Before the **General Court of Justice Superior Court Division, State of North Carolina, County of Rutherford**, *Rutherford Electric Membership Corporation, Plaintiff, vs. Time Warner Entertainment– Advance/Newhouse Partnership d/b/a Time Warner Cable, Defendant*, 13 CVS 231, submitted July 10, 2013, Deposition July 22, 2013. Live testimony and cross-examination, September 6, 2013.

Before the **Chancery Court for Davidson County, Tennessee at Nashville**, *The Metropolitan Government of Nashville and Davidson County, Tennessee, Plaintiff v. XO Tennessee, Inc., Defendant, Docket No. 02-679-IV; The Metropolitan Government of Nashville and Davidson County, Tennessee, Plaintiff v. TCG Midsouth, Inc., Defendant, Docket No. 02-749-IV*, Affidavit dated January 25, 2013, Reply Affidavit dated February 19, 2013. Live testimony and cross-examination, May 14-15, 2013.

2012

Before the **State of New Hampshire Public Utilities Commission**, in *Time Warner Entertainment Company L.P. d/b/a Time Warner Cable, Petition for Resolution of Dispute with Public Service Company of New Hampshire*, DT 12-084, on behalf of Time Warner Entertainment Company L.P. d/b/a Time Warner Cable, Comcast Cable Communications Management, LLC, Comcast of New Hampshire, Inc., Comcast of Massachusetts/New Hampshire, LLC, and Comcast of Maine/New Hampshire, Inc. Initial Direct Testimony submitted July 20, 2012; Reply Direct Testimony submitted October 31, 2012; Live panel testimony, November 14, 2012.

Before the **Ontario Energy Board**, *In the Matter of the Application by Canadian Distributed Antenna Systems Coalition (“CANDAS”)*, File No. EB-2011-1020, Joint Written Statement (with J. Lemay, M. Starkey, A. Yatchew), filed July 20, 2012.

Before the **Chancery Court for Davidson County, Tennessee at Nashville**, *The Metropolitan Government of Nashville and Davidson County, Tennessee, Plaintiff v. XO Tennessee, Inc., Defendant, Docket No. 02-679-IV; The Metropolitan Government of Nashville and Davidson County, Tennessee, Plaintiff v. TCG Midsouth, Inc., Defendant, Docket No. 02-749-IV*, Expert Report submitted May 15, 2012; Supplemental Report dated November 6, 2012.

2011

Before the **Ontario Energy Board**, *in the Matter of the Application by Canadian Distributed Antenna Systems Coalition (“CANDAS”)*, File No. EB-2011-1020, Reply Evidence, filed December 16, 2011.

Before the **Public Utilities Commission of Ohio**, *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company, Individually and, if Their Proposed Merger is Approved, as a Merged Company (collectively, AEP Ohio) for an Increase in Electric Distribution Rates, Case No. 11-351-EL-AIR, Case No. 11-352-EL-AIR; In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company, Individually and, if Their Proposed Merger is Approved, as a Merged Company (collectively, AEP Ohio) for Tariff Approval, Case No. 11-353-EL-ATA Case No. 11-354-EL-ATA; In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company, Individually and, if Their Proposed Merger is Approved, as a Merged Company (collectively, AEP Ohio) for Approval to Change Accounting Methods, Case No. 11-356-EL-AAM, Case No. 11-258-EL-AAM*. filed October 24, 2011.

Before the **Virginia State Corporation Commission**, *In the Matter of Determining Appropriate Regulation of Pole Attachments and Cost Sharing in Virginia*, Case No. PUE-2011-00033, Affidavit filed June 22, 2011, Live Testimony given July 13, 2011.

Before the **Public Utility Commission of Texas**, State Office of Administrative Hearings, *Petition of CPS Energy for Enforcement Against AT&T Texas and Time Warner Cable Regarding Pole Attachments*, SOAH Docket No. 473-09-5470, PUC Docket No. 36633, Supplemental Testimony submitted March 17, 2011; Further Supplemental Testimony submitted April 22, 2011, Cross-examination, September 13, 2011.

2010

Before the **General Court of Justice Superior Court Division, State of North Carolina, County of Rowan**, *Time Warner Entertainment– Advance/Newhouse Partnership, Plaintiff, V. Town Of Landis, North Carolina, Defendant*, 10 CVS 1172, Expert Report submitted October 20, 2010, Deposition December 1, 2010, Live testimony and cross-examination July 20, 2011.

Before the **Federal Communications Commission**, *In the Matter of Implementation of Section 224 of the Act; Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, WC Docket No. 07-245, GN Docket No. 09-51. Report submitted August 16, 2010, Attachment A to Comments filed by the National Cable and Telecommunications Association.

Before the **Public Utility Commission of Texas**, State Office of Administrative Hearings, *Petition of CPS Energy for Enforcement Against AT&T Texas and Time Warner Cable Regarding Pole Attachments*, SOAH Docket No. 473-09-5470, PUC Docket No. 36633, Direct Testimony submitted July 23, 2010.

Before the **Kentucky Public Service Commission**, *In the Matter of: Application of Kentucky Utilities Company for An Adjustment of its Base Rates*, Case No. 2009-00548, submitted April 22, 2010.

Before the **Kentucky Public Service Commission** *In the Matter of: Application of Louisville Gas and Electric Company for An Adjustment of its Electric and Gas Base Rates*, Case No. 2009-00549, submitted April 22, 2010.

Before the **Arkansas Public Service Commission**, *Coxcom, Inc., D/B/A Cox Communications, Complainant V. Arkansas Valley Electric Cooperative Corporation, Respondent*. Docket No. 09-133-C, submitted March 17, 2010.

2009

Before the **Circuit Court of the Thirteenth Judicial Circuit in and for Hillsborough County, State of Florida**, *Tampa Electric Company, Plaintiff, vs. Bright House Networks, LLC, Defendant*, Case No. 06-00819, Division L. Expert Report submitted December 30, 2009, Deposition February 2, 2010, Live testimony and cross-examination, March 24, 2010.

Before the **Superior Court of the State Of Washington for the County of Pacific**, *Pacific Utility District No. 2 Of Pacific County, Plaintiff, V. Comcast of Washington Iv, Inc., Centurytel of Washington, Inc., and Falcon Community Ventures I, L.P. D/B/A Charter Communications, Defendants*, Case No. 07-2-00484-1, Expert Report filed September 18, 2009, Reply Report filed October 16, 2009, Deposition December 21, 2009, Live testimony and cross-examination October 12-13, 2010.

Before the **Public Utilities Commission of Ohio**, *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates, Case No. 08-709-EL-AIR, In the Matter of the Application of Duke Energy Ohio, Inc., for a Tariff Approval, Case No. 08-710-EL-ATA, In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods, Case No. 08-11-EL-AAM, In the Matter of the Application of Cincinnati Gas & Electric Company for Approval of its Rider BDP, Backup Delivery Point, Case No. 06-718-EL-ATA*, filed February 26, 2009.

2008

Before the **Arkansas Public Service Commission**, *In the Matter of a Rulemaking Proceeding to Establish Pole Attachment Rules In Accordance With Act 740 of 2007*, Docket No. 08-073-R, filed May 13, 2008, reply filed June 3, 2008, Cross-examination June 10, 2008.

Before the **Federal Communications Commission**, *In the Matter of Implementation of Section 224 of the Act; Amendment of the Commission's Rules and Policies Governing Pole Attachments*, WC Docket No. 07-245, RM 11293, RM 11303, filed March 7, 2008, reply filed April 22, 2008.

2006

Before the **State of New Jersey Board of Public Utilities**, Office of Administrative Law, *in the Matter of the Verified Petition of TCG Delaware Valley, Inc. and Teleport Communications New York for an Order Requiring PSE&G Co. to Comply with the Board's Conduit Rental Regulations*, OAL Docket PUC 1191-06, BPU Docket No. EO0511005, filed September 29, 2006; rebuttal filed November 17, 2006.

Before the **Federal Communications Commission**, *In the Matter of Florida Cable Telecommunications Association, Inc., Comcast Cablevision of Panama City, Inc.; Mediacom Southeast, L.L.C.; and Cox Communications Gulf, L.L.C.; Complainants v. Gulf Power Company, Respondent*. EB Docket No. 04-381. Testimony on behalf of Complainants, March 31, 2006, Deposition March 15, 2006, Live Cross April 26-27, 2006.

2005

Before the **United States District Court for the Eastern District of New York**, *Coastal Communication Service, Inc. and Telebeam Telecommunications Corporation, Plaintiffs - against -The City of New York and New York City Department of Information Technology and Telecommunications*, 02 Civ. 2300 (RJD) (SMG), Expert Report filed February 4, 2005; Rebuttal Expert Report, filed August 29, 2005, Deposition December 1, 2005.

2004

Before the **Ontario Energy Board**, *In the Matter of the Ontario Energy Board Act 1998*, S.O.1998, c.15, (Schedule B); and *In the Matter of an Application pursuant to section 74 of the Ontario Energy Board Act, 1998* by the Canadian Cable Television Association for an Order or Orders to amend the licenses of electricity distributors, RP-2003-024, Reply Evidence, filed September 27, 2004 (joint w/ Paul Glist), Cross-examination October 26-27, 2004.

2003

Before the **United States District Court for the Southern District of California**, *Level 3 Communications, LLC v. City of Santee*, Civil Action No. 02-CV-1193, Rebuttal Expert Report, filed July 18, 2003.

2002

Before the **New York State Public Service Commission**, *In the Matter of the Cable Television & Telecommunications Association of New York, Inc., Petitioner, v. Verizon New York, Inc., Respondent*, Case 02-M-1636, Affidavit filed Dec. 19, 2002.

Before the **West Virginia Public Service Commission**, *Community Antenna Service, Inc. v. Charter Communications*, Case No. 01-0646-CTV-C, Live Direct Testimony and Cross-examination, June 12, 2002.

Before the **Public Service Commission of the District of Columbia**, *Comcast Cablevision of the District, L.L.C., Complainant, v. Verizon Communications Inc. – Washington, D.C., Respondent*, Formal Case No. 1006, Direct Testimony filed June 11, 2002; Rebuttal Testimony filed June 24, 2002.

Before the **Federal Communications Commission**, in *Cavalier Telephone, LLC, Complainant, v. Virginia Electric & Power Co., D/b/a Dominion Virginia Power, Respondent*, Case No. EB-02-MD-005, Declaration filed May 21, 2002.

Before the **Puerto Rico Telecommunications Regulatory Board**, in *Re: Petition of Centennial Puerto Rico License Corp. for arbitration pursuant to Sections 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Puerto Rico Telephone Company*, on behalf of Centennial Puerto Rico License Corp., Direct Testimony filed April 16, 2002; Deposition May 7, 2002, May 14, 2002; Reply Testimony, May 20, 2002, Cross-examination May 22, 2002.

Before the **Federal Energy Regulatory Commission**, in *Re: In the Matter of Transcontinental Gas Pipe Line Corporation*, Docket No. RP01-245, on behalf of the University of Maryland-College Park, Johns Hopkins University and Johns Hopkins University Health System, and the North Carolina Utilities Commission, Cross-answering Testimony, January 23, 2002; Rebuttal Testimony, May 31, 2002, Cross-examination July 31, 2002.

2001

Before the **United States District Court for the Northern District of New York**, *TC Systems, Inc. and Teleport Communications-New York vs. Town of Colonie, New York*, Civil Action No. 00-CV-1972, Expert Report filed November 16, 2001; Deposition Dec. 7, 2001, Rebuttal Report December 20, 2001, Deposition Jan. 9, 2002.

Before the **Federal Energy Regulatory Commission**, in *Re: In the Matter of Transcontinental Gas Pipe Line Corporation*, Docket No. RP01-245, on behalf of the University of Maryland-College Park, Johns Hopkins University and Johns Hopkins University Health System, and the North Carolina Utilities Commission, filed November 15, 2001.

Before the **Public Service Commission of the District of Columbia**, *Comcast Cable Communications, Inc. d/b/a/Comcast Cable of Washington, D.C., Complainant, v. Verizon Communications Inc. – Washington, D.C., Respondent*, filed Sept. 21, 2001.

Before the **Public Utility Commission of Texas**, State Office of Administrative Hearings, SOAH Docket No. 473-00-1014, PUC Docket No. 22349, *Application of Texas-New Mexico Power Company for Approval of Unbundled Cost of Service Rate Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule §25.344*, on behalf of Cities Served by Texas-New Mexico Power, filed January 25, 2001.

2000

Before the **Puerto Rico Telecommunications Regulatory Board**, in *AT&T of Puerto Rico, Inc. et al v. Puerto Rico Telephone Company, Inc., Re: Dialing Parity*, Docket Nos. 97-Q-0008, 98-Q-0002, on behalf of Lambda Communications Inc., Cross-examination October 19-20, 2000.

Before the **Department of Telecommunications and Energy of the Commonwealth of Massachusetts**, Docket No. DTE 98-57 – Phase III, *Re: Bell Atlantic- Massachusetts Tariff No. 17 Digital Subscriber Line Compliance Filing and Line Sharing Filing*, (Panel Testimony with Joseph Riolo, Robert Williams, and Michael Clancy) on behalf of Rhythms Links Inc. and Covad Communications Company, filed July 10, 2000.

Before the **New York State Public Service Commission** in *Re: Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements* on behalf of the Cable Television & Telecommunications Association of New York, Inc., Direct Testimony filed June 26, 2000, Supplemental Testimony filed November 29, 2000.

Before the **Maryland Public Service Commission**, on behalf of Rhythms Links Inc. and Covad Communications Company, filed jointly with Terry L. Murray and Richard Cabe, May 5, 2000.

Before the **Public Utility Commission of Texas**, in *Re: Proceeding to Examine Reciprocal Compensation Pursuant to Section 252 of the Federal Telecommunications Act of 1996*, CC Docket No. 21982, on behalf of AT&T Communications of Texas, L.P., TCG Dallas, and Teleport Communications Houston, Inc., filed March 31, 2000.

Before the **Federal Communications Commission**, in *Re: In the Matter of Price Caps Performance Review for Local Exchange Carriers, Access Charge Reform*, CC Dockets 94-1, 96-262, on behalf of Ad Hoc Telecommunications Users Committee, filed January 24, 2000.

Before the **Federal Energy Regulatory Commission**, in *Re: In the Matter of Northern Border Pipeline Company*, on behalf of the Canadian Association of Petroleum Producers and the Alberta Department of Resource Development, filed January 20, 2000.

1999

Before the **Connecticut Department of Public Utilities**, in *Re: Evaluation and Application to Modify Franchise Agreement by SBC Communications Inc., Southern New England telecommunications Corporation and SNET Personal Vision, Inc.*, Docket No. 99-04-02, on behalf of the Office of Consumer Counsel, filed June 22, 1999; cross-examination July 8, 1999

Before the **Illinois Commerce Commission**, in *Re: Illinois Commerce Commission on its own Motion v. Illinois Bell Telephone Company; et al: Investigation into Non-Cost Based Access Charge Rate Elements in the Intrastate Access Charges of the Incumbent Local Exchange Carriers in Illinois, Illinois Commerce Commission on its own Motion Investigation into Implicit Universal Service Subsidies in Intrastate Access Charges and to Investigate how these Subsidies should be Treated in the Future, Illinois Commerce Commission on its own motion Investigation into the Reasonableness of the LS2 Rate of Illinois Bell Telephone Company*, Docket No. 97-00601, 97-0602, 97-0516, Consolidated, on behalf of City of Chicago, filed January 4, 1999; rebuttal February 17, 1999.

Before the **Puerto Rico Telecommunications Regulatory Board**, in *Re: In the Matter of Arbitration of Interconnection Rates, Terms and Conditions between Centennial Wireless PCS Operations Corp., Lambda Communications Inc., and the Puerto Rico Telephone Company*, behalf of Centennial Wireless PCS Operations Corp. and Lambda Communications Inc., cross-examination February 16, 1999.

1998

Before the **California Public Utilities Commission**, in *Re: In the Matter of the Application of Pacific Bell (U 1001 C), a Corporation, for Authority for Pricing Flexibility and to Increase Prices of Certain Operator Services, to Reduce the Number of Monthly Assistance Call Allowances, and Adjust Prices for Four Centrex Optional Features*, Application No. 98-05-038, on behalf of County of Los Angeles, filed November 17, 1998, cross-examination, December 9, 1998.

Before the **Puerto Rico Telecommunications Regulatory Board**, in *Re: In the Matter of PRTC's Tariff K-2 (Intra-island access charges)*, Docket no. 97-Q-0001, 97-Q-0003, on behalf of Lambda Communications, Inc., filed and cross-exam. October 9, 1998.

Before the **Connecticut Department of Public Utility Control**, in *Re: Application of the Southern New England Telephone Company*, Docket no. 98-04-03, on behalf of the Connecticut Office of Consumer Counsel, filed August 17, 1998, cross-examination February 18, 1999.

Before the **California Public Utilities Commission**, in *Re: Pacific Gas & Electric General Rate Case*, A.97-12-020, on behalf of Office of Rate Payers Advocates CA PUC, filed June 8, 1998.

1997

Before the **South Carolina Public Service Commission**, in *Re: Proceeding to Review BellSouth Telecommunications, Inc.'s Cost for Unbundled Network Elements*, Docket no. 97-374-C, on behalf of the South Carolina Cable Television Association, filed November 17, 1997.

Before the **State Corporation Commission of Kansas**, in *Re: In the Matter of and Investigation to Determine whether the Exemption from Interconnection Granted by 47 U.S.C. 251(f) should be Terminated in the Dighton, Ellis, Wakeeney, and Hill City Exchanges*, Docket No. 98-GIMT-162-MIS, on behalf of Classic Telephone, Inc., filed October 23, 1997.

Before the **Georgia Public Services Commission**, in *Re: Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services*, Docket No. 7061-U, on behalf of the Cable Television Association of Georgia, filed August 29, 1997, cross-examination September 19, 1997.

Before the **Federal Communications Commission**, in *Re: In the Matter of Price Caps Performance Review for Local Exchange Carriers, Access Charge Reform*, CC Dockets 94-1, 96-262, on behalf of Ad Hoc Telecommunications Users Committee, filed July 11, 1997.

Before the **Federal Communications Commission**, in *Re: In the Matter of Amendment of Rules and Policies Governing Pole Attachments*, CS Docket 97-98, on behalf of NCTA, filed June 27, 1997.

Before the **Public Utilities Commission of the State of California**, in *Re: Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, R.93-04-003, 1.93-04-002 on behalf of AT&T, filed March 19, 1997, reply April 7, 1997.

Before the **Puerto Rico Telecommunications Regulatory Board**, in *Re: In the Matter of Centennial Petition for Arbitration with PRTC*, on behalf of Centennial Cellular Corporation, filed February 14, 1997, supplemental March 10, 1997.

Before the **Federal Communications Commission**, in *Re: In the Matter of Access Charge Reform*, CC Docket 96-262, on behalf of AT&T, filed January 29, 1997, reply February 14, 1997.

1996

Before the **New Jersey Board of Public Utilities**, in *Re: In the Matter of the Investigation Regarding Local Exchange Competition for Telecommunications Services*, TX95120631, on behalf of New Jersey Cable Television Association, filed on August 30, 1996, reply September 9, 1997, October 20, 1997, cross-examination September 12, 1996, December 20, 1996.

Before the **State Corporation Commission of the State of Kansas**, in *Re: In the Matter of a General Investigation Into Competition Within the Telecommunications Industry in the State of Kansas*, 190, 492-U 94-GIMT-478-GIT, on behalf of Kansas Cable Telecommunications Association, Inc., filed July 15, 1996, cross-examination August 14, 1996.

Before the **Federal Communications Commission**, in *Re: Price Caps Performance Review for Local Exchange Carriers*, CC Docket 94-1, on behalf of Ad Hoc Telecommunications Users Committee, filed July 12, 1996.

Before the **State Corporation Commission of the State of Kansas**, in *Re: In the Matter of a General Investigation Into Competition Within the Telecommunications Industry in the State of Kansas*, 190, 492-U 94-GIMT-478-GIT, on behalf of Kansas Cable Telecommunications Association, Inc., filed June 14, 1996, cross-examination August 14, 1996.

Before the **Federal Communications Commission**, in *Re: In the Matter of Implementation of the Local Competition Provisions of Telecommunications Act of 1996*, CC Docket 96-98, filed May 1996.

Before the **Federal Communications Commission**, in *Re: Puerto Rico Telephone Company (Tariff FCC No. 1)*, Transmittal No. 1, on behalf of Centennial Cellular Corp., filed April 29, 1996.

Before the **United States District Court for the Eastern District of Tennessee at Greeneville**, in *Re: Richard R. Land, Individually and d/b/a The Outer Shell, and on behalf of all others similarly situated, Plaintiffs, vs. United Telephone-Southeast, Inc., Defendant*, CIV 2-93-55, filed December 7, 1996.

1995

Before the **Federal Communications Commission**, in *Re: Bentleyville Telephone Company Petition and Waiver of Sections 63.54 and 63.55 of the Commission's Rules and Application for Authority to Construct and Operate, Cable Television Facilities in its Telephone Service Area*, W-P-C-6817, on behalf of the Helicon Group, L.P. d/b/a Helicon Cablevision, filed November 2, 1995.

Before the **US District Court for the Eastern District of Tennessee**, in *Re: Richard R. Land, Individually and d/b/a The Outer Shell, and on behalf of all others similarly situated, Plaintiffs, vs. United Telephone-Southeast, Inc., Defendant*, 2-93-55, Class Action, filed June 12, 1995.

Before the **Connecticut Department of Public Utility Control**, in *Re: Application of SNET Company for approval to trial video dial tone transport and switching*, 95-03-10, on behalf of New England Cable TV Association, filed May 8, 1995, cross-examination May 12, 1995.

Before **Canadian Radio-Television and Telecommunications Commission**, in *Re: CRTC Order in Council 1994-1689*, Public Notice CRTC 1994-130 (Information Highway), filed March 10, 1995.

Before the **Federal Communications Commission**, in *Re: GTE Hawaii's Section 214 Application to provide Video Dialtone in Honolulu, Hawaii*, W-P-C- 6958, on behalf of Hawaii Cable TV Association, filed January 17, 1995 (Reply to Amended Applications).

Before the **Federal Communications Commission**, in *Re: GTE Hawaii's Section 214 Application to provide Video Dialtone in Ventura County*, W-P-C 6957, on behalf of the California Cable TV Association, filed January 17, 1995 (Reply to Amended Applications).

Before the **Federal Communications Commission**, in *Re: GTE Florida's Section 214 Application to Provide Video Dialtone in the Pinellas County and Pasco County, Florida areas*, W-P-C 6956, on behalf of Florida Cable TV Association, filed January 17, 1995 (Reply to Amended Applications).

Before the **Federal Communications Commission**, in *Re: GTE Virginia's Section 214 Application to provide Video Dialtone in the Manassas, Virginia area*, W-P-C 6956, on behalf of Virginia Cable TV Association, filed January 17, 1995 (Reply to Amended Applications).

1994

Before the **Federal Communications Commission**, in *Re: NET's Section 214 Application to provide Video Dialtone in Rhode Island and Massachusetts*, W-P-C 6982, W-P-C 6983, on behalf of New England Cable TV Association, filed December 22, 1994 (Reply to Supp. Responses).

Before the **State Corporation Commission of the State of Kansas**, in *Re: General Investigation into Competition*, 190, 492-U 94-GIMT-478-GIT, on behalf of Kansas CATV Association, filed November 14, 1994, cross-examination December 1, 1994.

Before the **Federal Communication Commission**, in *Re: Carolina Telephone's Section 214 Application to provide Video Dialtone in areas of North Carolina*, W-P-C 6999, on behalf of North Carolina Cable TV Association, filed October 20, 1994, reply November 8, 1994.

Before the **Federal Communication Commission**, in *Re: NET's Section 214 Application to provide Video Dialtone in Rhode Island and Massachusetts*, W-P-C 6982, W-P-C 6983, on behalf of New England Cable TV Association, filed September 8, 1994, reply October 3, 1994.

Before the **California Public Utilities Commission**, in *Re: Petition of GTE-California to Eliminate the Preapproval Requirement for Fiber Beyond the Feeder*, I.87-11-033, on behalf of California Bankers Clearing House, County of LA, filed August 24, 1994.

Before the **Federal Communications Commission**, in *Re: BellSouth Telecommunications Inc., Section 214 Application to provide Video Dialtone in Chamblee, GA and Dekalb County, GA*, W-P-C 6977, on behalf of Georgia Cable TV Association, filed August 5, 1994.

Before the **Federal Communications Commission**, in *Re: Bell Atlantic Telephone Companies Section 214 Application to provide Video Dialtone within their Telephone Services Areas*, W-P-C 6966, on behalf of Mid Atlantic Cable Coalition, filed July 28, 1994, reply August 22, 1994.

Before the **Federal Communication Commission**, in *Re: GTE Hawaii's 214 Application to provide Video Dialtone in Honolulu, Hawaii*, W-P-C 6958, on behalf of Hawaii Cable TV Association, filed July 1, 1994, and July 29, 1994.

Before the **Federal Communication Commission**, in *Re: GTE California's Section 214 Application to provide Video Dialtone in Ventura County*, W-P-C 6957, on behalf of California Cable TV Association, filed July 1, 1994, and July 29, 1994.

Before the **Federal Communication Commission**, in *Re: GTE Florida's 214 Application to provide Video Dialtone in the Pinellas and Pasco County, Florida areas*, W-P-C 6956, on behalf of Florida Cable TV Association, filed July 1, 1994, and July 29, 1994.

Before the **Federal Communication Commission**, in *Re: GTE Virginia's 214 Application to provide Video Dialtone in the Manassas, Virginia area*, W-P-C 6955, on behalf of the Virginia Cable TV Association, filed July 1, 1994, and July 29, 1994. Before the **Federal Communications Commission**, in *Re: US WEST's Section 214 Application to provide Video Dialtone in Boise, Idaho and Salt Lake City, Utah*, W-P-C 6944-45, before the Idaho and Utah Cable TV Association, filed May 31, 1994.

Before the **Federal Communication Commission**, in *Re: US WEST's Section 214 Application to provide Video Dialtone in Portland, OR; Minneapolis, St. Paul, MN; and Denver, CO*, W-P-C 6919-22, on behalf of Minnesota & Oregon Cable TV Association, filed March 28, 1994.

Before the **Federal Communications Commission**, in *Re: Ameritech's Section 214 Application to provide Video Dialtone within areas in Illinois, Indiana, Michigan, Ohio, and Wisconsin*, W-P-C-6926-30, on behalf of Great Lakes Cable Coalition, filed March 10, 1994, reply April 4, 1994.

Before the **Federal Communications Commission**, in *Re: Pacific Bell's Section 214 Application to provide Video Dialtone in Los Angeles, Orange County, San Diego, and Southern San Francisco Bay areas*, W-P-C-6913-16, on behalf of Comcast/Cablevision Inc., filed Feb. 11, 1994, reply March 11, 1994.

Before the **Federal Communications Commission**, in *Re: SNET's Section 214 Application to provide Video Dialtone in Connecticut*, W-P-C 6858, on behalf of New England Cable TV Association, filed January 20, 1994, reply February 23, 1994.

1993

Before the **Arkansas Public Service Commission**, in *Re: Earnings Review of Southwestern Bell Telephone Company*, 92-260-U, on behalf of Arkansas Press Association, filed September 2, 1993.

Before the **United States District Court for the Eastern District of Tennessee at Greenville**, in *Re: Cleo Stinnett, et al. Vs. BellSouth Telecommunications, Inc. d/b/a/ South Central Bell Telephone Company, Defendant*, Civil Action No 2-92-207, Class Action, cross-examination May 10, 1993, and Feb. 10, 1994.

Before the **Federal Communications Commission**, in *Re: NJ Bell's Section 214 Application to provide Video Dialtone service within Dover Township, and Ocean County, New Jersey*, W-P-C-6840, on behalf of New Jersey Cable TV Association, filed January 21, 1993.

1992

Before the **New Jersey Board of Regulatory Commissioners**, in *Re: NJ Bell Alternative Regulation*, T092030358, on behalf of NJ Cable TV Association, filed September 21, 1992.

Before the **New Hampshire Public Utilities Commission**, in *Re: Generic competition docket*, DR 90-002, on behalf of Office of the Consumer Advocate, filed May 1, 1992, reply July 10, 1992, Surrebuttal August 21, 1992.

Before the **New Jersey General assembly Transportation, Telecommunications, and Technology Committee, Concerning A-5063**, on behalf of NJ Cable TV Association, filed January 6, 1992.

1991

Before the **New Jersey Senate Transportation and Public Utilities Committee**, in *Re: Concerning Senate Bill S-3617*, on behalf of New Jersey Cable Television Association, filed December 10, 1991.

Before the **119th Ohio General Assembly Senate Select Committee on Telecommunications Infrastructure and Technology**, in *Re: Issues Surrounding Telecommunications Network Modernization*, on behalf of the Ohio Cable TV Association, filed March 7, 1991.

Before the **Tennessee Public Service Commission**, in *Re: Master Plan Development and TN Regulatory Reform Plan*, on behalf of TN Cable TV Association, filed February 20, 1991.

1990

Before the **Tennessee Public Service Commission**, in *Re: Earnings Investigation of South Central Bell*, 90-05953, on behalf of the TN Cable Television Association, filed September 28, 1990.

Before the **New York Public Service Commission**, in *Re: NYT Rates, 90-C-0191, on behalf of User Parties NY Clearing House Association*, filed July 13, 1990, Surrebuttal July 30, 1990.

Before the **Louisiana Public Service Commission**, in *Re: South Central Bell Bidirectional Usage Rate Service*, U-18656, on behalf of Answerphone of New Orleans, Inc., Executive Services, Inc., King Telephone Answering Service, et al, filed January 11, 1990.

1989

Before the **Georgia Public Service Commission**, in *Re: Southern Bell Tariff Revision and Bidirectional Usage Rate Service*, 3896-U, on behalf of Atlanta Journal Const./Voice Information Services Company, Inc., GA Association of Telemessaging Services, Prodigy Services, Company, Telnet Communications, Corp., filed November 28, 1989.

Before the **New York State Public Service Commission**, in *Re: NYT Co. - Rate Moratorium Extension - Fifth Stage Filing*, 28961 Fifth Stage, on behalf of User Parties NY Clearing House Association Committee of Corporate Telecommunication Users, filed October 16, 1989.

Before the **Delaware Public Service Commission**, in *Re: Diamond State Telephone Co. Rate Case*, 86-20, on behalf of DE PSC, filed June 16, 1989.

Before the **Arizona Corporation Committee**, in *Re: General Rate Case*, 86-20, on behalf of Arizona Corporation Committee, filed March 6, 1989.

1988

Before **New York State Public Service Commission**, in *Re: NYT Rate Moratorium Extension*, 28961, on behalf of Capital Cities/ABC, Inc., AMEX Co., CBS, Inc., NBC, Inc., filed December 23, 1988.

1989

Before **Rhode Island Public Utilities Commission**, in *Re: New England Telephone*, 1475, on behalf of RI Bankers Association, filed August 11, 1987, cross-examination August 21, 1987.

Before the **New York State Public Service Commission**, in *Re: General Rate Case Subject to Competition*, 29469, on behalf of AMEX Co., Capital Cities/ ABNC, Inc., NBC, Inc., filed April 17, 1987, cross-examination May 20, 1987.

Before the **Minnesota Public Utilities Commission**, in *Re: Northwestern Bell*, P-421/ M-86-508, on behalf of MN Bus. Utilities Users Counsel, filed February 10, 1987, cross-examination March 5, 1987.

1986

Before the **Kansas Public Utilities Commission**, in *Re: Southwestern Bell*, 127, 140-U, on behalf of Boeing Military, et al., filed August 15, 1986.

1985

Before the **Washington Utilities and Transportation Commission**, in *Re: Cost of Service Issues bearing on the Regulation of Telecommunications Company*, on behalf of US Department of Energy, filed November 18, 1985 (Reply Comments).

1984

Before the **Maine Public Utilities Commission**, in *Re: New England Telephone*, 83-213, on behalf of Staff, ME PUC, filed February 7, 1984, cross-examination March 16, 1984.

Before the **Kentucky Public Service Commission**, in *Re: South Central Bell*, U-4415, on behalf of MS PSC, filed January 24, 1984, cross-examination February 1984.

1983

Before the **Kentucky Public Service Commission**, in *Re: South Central Bell*, 8847, on behalf of KY PSC, filed November 28, 1983, cross-examination December 1983.

Before the **Florida Public Service Commission**, in *Re: Southern Bell Rate Case*, 820294-TP, on behalf of Florida Department of General Services, FL Ad Hoc Telecommunications Users, filed March 21, 1983, cross-examination May 5, 1983.

1982

Before the **Maine Public Utilities Commission**, in *Re: New England Telephone*, 82-142, on behalf of Staff, ME PUC, filed November 15, 1982, cross-examination December 9, 1982.

Before the **Kentucky Public Service Commission**, in *Re: South Central Bell*, 8467, on behalf of the Commonwealth of Kentucky, cross-examination August 26, 1982.

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 21-020

Date Request Received: 04/12/2021

Date of Response: 04/26/2021

Request No. STAFF 1-028

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Request from: New Hampshire Public Utilities Commission Staff

Witness: Douglas P. Horton, Erica L. Menard

Request:

Reference Horton and Menard Testimony, Bates 47. Please describe and explain in detail any difference in pole attachment fees currently paid to Consolidated as compared to pole attachment fees paid to Eversource. Provide at least three examples of the difference in fees for third parties which currently have attachments on poles and pay fees to Consolidated and also pay fees to Eversource.

Response:

Consolidated's third party pole attachment rates were inherited as part of the acquisition of FairPoint Communications in 2017. In 2009, the rates FairPoint charged were \$9.67 per pole, per year for an attachment on a solely owned pole and \$4.84 per pole, per year for an attachment on a jointly owned pole. Sometime between 2009 and 2011, both the solely owned rate and jointly owned rate were increased by \$2.00 per pole, per year to the current rates of \$11.67 per pole, per year for an attachment on a solely owned pole and \$6.84 per pole, per year for an attachment on a jointly owned pole. The rates Consolidated currently charges are not calculated using a specific formula. Therefore, a detailed comparison of the differences in how each company's rates are calculated cannot be performed.

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DT 22-047
Petition for Resolution of Rate Dispute

OVERVIEW OF THE WIDELY USED FEDERAL COMMUNICATIONS COMMISSION
(FCC) CABLE RATE FORMULA METHODOLOGY AS APPLIED TO CONSOLIDATED

In the 1978 Pole Attachment Act, Section 224 (the section of the Federal Communications Act dealing with pole attachments), Congress directed the FCC to implement a cost-based methodology for determining a just and reasonable pole attachment rate that “assures a utility the recovery of not less than the additional costs of providing pole attachments, nor more than an amount determined by multiplying the percentage of the total usable space...occupied by the pole attachment by the sum of the operating expenses and actual capital costs of the utility attributable to the entire pole.”¹ Pursuant to this directive, the FCC developed a methodology, that has come to be known as the FCC cable rate formula and that has been widely adopted in this country for setting rates for third-party pole attachments for telephone utilities such as Consolidated. The FCC cable rate formula is a straightforward cost-based approach that allows recovery of a portion of the utilities’ operating expenses and actual capital costs (including overall return to capital) attributable to the entire pole from the attacher, based on the attacher’s relative use or direct occupancy of the pole.

As directed by Congress in Section 224(d)(1), the FCC cable rate formula produces a rate falling within a range of reasonableness bounded by marginal or “but for” costs at the lower end of the range, and fully allocated costs at the upper end of the range. By design, and as is widely recognized, the FCC cable rate formula adheres to the *higher* fully allocated cost standard set forth in Section 224(d)(1).² The fully allocated cost standard allows for recovery of costs from the attacher pertaining to the entire pole, including costs that would exist independent of the existence of the third-party attachment. By definition, adherence to a fully allocated cost standard allows the utility to recover through the rental rate ongoing costs *much more* than the

¹See 47 U.S.C. §224 (d)(1).

²See, e.g., *Alabama Power Company v. FCC*, 311 F.3d.1357,1363 (11th Cir. 2002) (“Based on these guidelines [47 U.S.C. 224(d)(1)], the FCC promulgated regulations that focused on the upper end of this range”); and at 1369 (“[T]he fact [is] that much more than marginal cost is paid under the Cable Rate.”)

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additional or marginal cost of attachment and results in a pole attachment rate that lies at the high end of the lawfully permissible range.

Following the economic principles of cost causation underlying Section 224, the FCC cable formula calculates a maximum annual pole attachment rent for cable operators by taking the sum of the actual capital costs and operating expenses of the utility attributable to the entire pole, expressed on an annual basis, and attributing those costs to the attacher based on the attacher's direct occupancy of the pole, as measured by the share of usable space on the pole occupied by the attacher.³ Operationally, the FCC cable formula methodology consists of the following three major components: (1) the net bare pole investment expressed on a per pole basis, (2) a carrying charge factor comprised of five distinct cost elements, and (3) a space allocation factor, defined as the percentage of usable space on the pole occupied by an attacher. Expressed as an equation, the FCC cable formula is as follows:

FCC cable rate formula Maximum Pole Rental Rate =

[Net Bare Pole Cost] x [Carrying Charge Factor] x [Space Allocation Factor]

Where Space Allocation Factor = Space occupied by attacher / Usable Space on Pole

Following is a more detailed explanation of the three major components of the FCC Cable Formula as applied to a telephone utility such as Consolidated.

Net Bare Pole Cost:

The net bare pole cost (NBP) is calculated in the following four steps: First, the pole owning telephone utility's *gross* investment in pole cost is determined based on the amount reported on the FCC's ARMIS Annual Summary Report, Table III - Pole and Conduit Rental Calculation Information," Row 101.⁴ Second, this gross investment amount is converted to a *net* investment

³See 47 C.F.R. §1.1406(d)(1).

⁴ The ARMIS Annual Summary Report requiring pole attachment rental calculation information is part of the FCC's "Automated Reporting Management Information System." The ARMIS was initiated in 1987 to facilitate the collection of financial and operational data from the largest local exchange carriers and later, expanded by the FCC to collect more comprehensive service and network infrastructure data from local exchange carriers subject to price

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figure by subtracting accumulated depreciation for pole plant (as reported on Row 201) and accumulated deferred taxes (“ADIT”) applicable to poles (as reported on Rows 401 and 404).⁵ Third, the net investment in *bare* pole plant is determined by making a further reduction to remove amounts booked to Account 364 for “appurtenances,” such as cross-arms or other non-pole related apparatus, from which communications attachers do not benefit. For a telephone utility, the FCC methodology sets a rebuttable assumption for appurtenances of 5% of reported gross pole investment.⁶ The fourth and final step is to divide the net investment in bare pole plant figure by the total number of poles the utility has in service (as reported on Row 601 of the ARMIS Table III) to derive a *per-unit* pole cost figure.

Under the FCC rules, jointly owned poles enter into the utility’s pole count as fractional units, referred to as “sole pole equivalents,” in accordance with the contractual ownership percentages as set in the joint ownership agreements between the electric and telephone utilities.⁷ For example, if the joint ownership agreement specifies a 50/50% ownership percentage then the jointly owned poles would enter into the utility’s pole count as a ½ unit for each of the joint pole owners. If the joint ownership agreement specifies a 60 (electric)/40% (telephone) ownership percentage, then the jointly owned poles would enter the electric utility’s pole count as 3/5 of a unit, and into the telephone utility’s pole count as 2/5 of a unit. Thus, the Consolidated sole pole equivalent pole count identified in Row 601 of the ARMIS equivalent data provided by

cap regulation. Pursuant to the ARMIS Procedures Order (DA 14-1387), released September 24, 2014, the FCC disabled the Electronic ARMIS Filing System (EAFS) submission capabilities and required key tables previously reported by communications carriers in the electronic ARMIS submissions, including the “Pole and Conduit Rental Calculation Information” provided in Table III of FCC Report 43-01, be made through the Commission’s Electronic Comment Filing System (ECFS) in CC Docket No. 86-182, rather than the EAFS. The modified filing procedures went into effect on January 1, 2015. See *In the Matter of Revision of ARMIS Annual Summary Report (FCC Report 43-01)*, *ARMIS USOA Report (FCC Report 43-02)*, *ARMIS Joint Cost Report (FCC Report 43-03)*, *ARMIS Access Report (FCC Report 43-04)*, *ARMIS Service Quality Report (FCC Report 43-05)*, *ARMIS Customer Satisfaction Report (FCC Report 43-06)*, *ARMIS Infrastructure Report (FCC Report 43-07)*, *ARMIS Operating Data Report (FCC Report 43-08)*, *ARMIS Forecast of Investment Usage Report (FCC Report 495A)*, and *ARMIS Actual Usage of Investment Report (FCC Report 495B) for Certain Class A and Tier 1 Telephone Companies*, DA 14-387 (2014).

⁵ Under the FCC methodology, the ADIT applicable to poles is typically determined using a proration method by multiplying total utility ADIT by the ratio of gross pole investment to total utility plant investment.

⁶ The corresponding appurtenance presumption for electric utilities is 15%.

⁷ The FCC sole equivalent methodology assumes that the cost responsibility burden of the jointly owned poles carried on the books of account for each owner reflect each owner’s contractual obligations.

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Consolidated is the sum of whole units of poles solely owned by Consolidated and fractional units of pole jointly owned with Eversource, in accordance with its contractual agreement with Eversource.

It is this per unit net bare pole investment figure that the formula takes and multiplies by the other two components of the formula, i.e., the carrying charge factor and the space allocation factor, to derive the maximum pole rental rate.

Carrying Charge Factor

The carrying charge factor (CCF) is used to convert the net cost per bare pole investment figure into an annualized cost. The carrying charge factor is comprised of the sum of five expense factors including maintenance, depreciation, administrative, taxes, and overall rate of return, each expressed as a percentage of expense to net plant in service.⁸ The CCF includes a wide range of capital and operating expenses of the utility, including those not directly related to poles. This is consistent with the FCC's "fully allocated cost" approach for setting pole rates at the upper range of the just and reasonable rates allowed pursuant to Section 224.

The expense amounts used to calculate the formula are those in specific FCC designated accounts as publicly tracked and reported on the FERC Form 1 for electric utilities and the FCC ARMIS reporting system for telephone utilities.⁹ The appropriate net plant in service figure used to calculate the various elements of the CCF varies with the level of aggregation with which the relevant expense data used in the numerator of the calculation is tracked in the FERC or ARMIS reporting systems or utility books of account. The important principle to follow is one of consistency between the level of aggregation of the expense data and the level of aggregation of the net plant investment figure. For example, under the ARMIS reporting system for telephone utilities, tax and administrative expenses are reported on an aggregate utility basis such that the denominator of the expense ratio used in the calculation of these expense factors is total utility

⁸ The FCC methodology does allow for the use of an alternate formulation of the pole attachment rate calculated using gross investment in those circumstances where the utility's net pole plant in service is negative.

⁹ See C.F.R. Title 47, Part 1, Subpart J.

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net plant in service. Maintenance expenses are allocated to pole plant such that the denominator for this expense factor is net pole plant in service.

The other expense elements of the CCF, i.e., depreciation and rate of return are reported in percentage terms. Under the FCC methodology, the depreciation rate and rate of return used to calculate pole rates are based on the last reported regulatory approved rates. In the case of the rate of return, if no such rate is available, an FCC default rate may be utilized. Because the depreciation rate is based on gross investment, and the pole rate formula is calculated on a net investment basis (except in the limited case where net pole plant investment is negative), the depreciation CCF is calculated by multiplying the last reported regulatory approved depreciation rate for poles by the ratio of gross to net pole investment. Once calculated, these five expense elements are then summed together prior to being multiplied against the net cost per bare pole component.

Space Allocation Factor (Percentage of Fully Allocated Costs Recoverable from Attachers)

As noted above, the Cable Rate Formula assigns costs relating to the entire pole – including both usable and unusable space – on the basis of a proportionate-use allocator, based on the percentage of total usable space on the pole occupied by the attacher. Under FCC rules, the ratio is presumed to be 1 foot of occupied space divided by 13.5 feet of total usable space¹⁰ on an average joint use pole of 37.5-foot pole (i.e., $1/13.5 = 7.41\%$). The 37.5-foot presumptive joint use pole height figure was set by the FCC decades ago based on historical joint use pole heights of 35 and 40 feet.¹¹ The FCC rules are set as rebuttable presumptions. As with any presumptive value in the formula, to the extent there is more current, actual (or statistically significant) utility or attacher specific data to support the use of alternative space presumptions those can be used in lieu of the FCC's established space presumptions subject to Commission oversight. If actual utility data exists to support the use of more current, accurate pole height and related space

¹⁰ The 13.5 feet usable space presumptive figure is based on a 37.5-foot pole with 24 feet of unusable space, consisting of 18 feet above ground clearance and 6 feet of underground support. The above and below ground support are based on well accepted industry safety and engineering guidelines.

¹¹ Poles come in standard 5-foot increments.

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characteristics, then those figures should be used. In this case, there is data to support the use of an average 39-foot joint use pole height¹² with 15 feet of usable space and 24 feet of unusable space.¹³ The use of a 39-foot pole height with these space characteristics, result in a space allocation factor of 6.67% (1 foot occupied /15 usable space = 6.67%.)

Advantages of the FCC Cable Rate Formula over FCC Telecom Rate Formula

Pursuant to the 1996 Telecom Act, Congress directed the FCC to apply a second formulation of its pole rate methodology to companies offering telecommunications services as defined under the 1996 Act, referred to as the Telecom rate formula as distinct from companies offering cable and internet services. This second formulation, however, is not binding on states such as New Hampshire which have self-certified to regulate pole rates. Under the FCC rules, the cable and telecom formulas are calculated in exactly the same manner as to the first two components of the rate formula, i.e., the net bare pole cost and the carrying charge factor. These first two components are calculated in a straightforward but multistep process. However, the Telecom rate involves a more complicated calculation of the space allocation factor, one that involves the fractional division of unusable space on the pole by the number of attaching entities and the application of a cost factor that varies in accordance with the number of attaching entities.¹⁴ While the two formulas historically differed as to this third component, i.e., the space allocation factor, changes adopted by the FCC in April 2011 and further refined in November 2015

¹² See DE 21-020, Exhibit 62 (Eversource Response to NECTA TS 3-004, citing the Eversource response to Staff 3-005, Attachments Staff 3-005b.2020 3.xlsx containing Eversource pole inspection reports in native excel format). The average 39-foot joint use pole height figure is calculated using actual Eversource data from inspection reports provided in response to Staff data requests in DE 21-020, consistent with the widely acknowledged standard deployment by utilities of 40 and 45 feet joint use poles in more recent decades. The FCC's space presumptions are based on historic utility data where standard joint use poles installed had heights of 35 and 40 feet.

¹³ See footnote 10.

¹⁴ The Telecom and DT-12-084 unified rate formulas assign the cost of usable space on the pole based on the proportionate share of usable space occupied by the attacher (the same as the Cable Formula), but assigns costs relating to the unusable space by dividing those costs by the number of attachers multiplied by 2/3, and per the FCC 2011 decision, further reduced by a cost reduction factor of .44 for non-urban areas and .66 for urbanized areas.

Attachment PDK-3
DT 22-047
Petition for Resolution of Rate Dispute

conformed the two formulas so that today there is effectively no difference between the two formulations under current rules.¹⁵

The New Hampshire Unified rate formula adopted in 2013 in connection with a settlement of a dispute between Time Warner Cable and Public Service of New Hampshire in DT 12-084 is based on the FCC telecom rate formula under the 2011 rules calculated using 2.7 attaching entities. Especially with the further equilibration of the two formulas by the FCC in 2015,¹⁶ there is no policy rationale for this Commission to apply the more complex and administratively burdensome Unified Formula since, unlike the FCC, it has no legal requirement to do so. This is especially true in calculating Consolidated's pole attachment rate in that it was not a party to the 2012 settlement. Of the two formulations, the FCC cable rate formula is by far the most widely used formula, in large part, due to its inherent simplicity, transparency, reliance on publicly reported data, and use of a proportional cost allocator that most closely embodies the economic cost causation principles underlying Section 224.

¹⁵See *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245, GN Docket No. 09-51, Report and Order and Order on Reconsideration, 26 FCC Rcd. 5240, 5301, ¶ 149 (Apr. 7, 2011) (“2011 Pole Attachment Order”), *aff’d sub. nom. Am. Elec. Power Serv. Corp. v. FCC*, 708 F.3d 183 (D.C. Cir. 2013) (“AEP”); also *In the Matter of Implementation of Section 224 of the Act; A National Broadband Plan for Our Future, Order on Reconsideration*, 30 FCC Rcd. 13731 at ¶ 1 (Nov. 24, 2015) (WC Docket No. 07-245, GN Docket No. 09-51) (2015 Order on Reconsideration).

¹⁶ The FCC 2015 decision refined the fixed 2011 cost reduction factors to vary according to the number of attaching entities. See *2015 Order on Reconsideration*, Appendix A, Final Rule, 47 C.F.R. §1.1409(e)(2)(i).

FCC Paper Report 43-01

ARMIS Annual Summary Report

COMPANY: Consolidated Communications of Northern New England Company, LLC

STUDY AREA: New Hampshire

SUBMISSION 1

PERIOD: From: Jan 2020 To: Dec 2020

Table III

COSA: FPNH

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Table III - POLE AND CONDUIT RENTAL CALCULATION INFORMATION

(Dollars in thousands; Operating data in actual units)

ROW	ROW TITLE (a)	Amount (b)
Financial Information (\$000)		
100	Telecommunications Plant-in-Service	395,349
101	Gross Investment - Poles	63,530
102	Gross Investment - Conduit	17,388
200	Accumulated Depreciation - Total Plant-in-Service	184,883
201	Accumulated Depreciation - Poles	35,765
202	Accumulated Depreciation - Conduit	4,924
301	Depreciation Rate - Poles	5.8
302	Depreciation Rate - Conduit	2.2
401	Net Current Deferred Operating Income Taxes - Poles	0
402	Net Current Deferred Operating Income Taxes - Conduit	0
403	Net Current Deferred Operating Income Taxes - Total	0
404	Net Non-current Deferred Operating Income Taxes - Poles	4,865
405	Net Non-current Deferred Operating Income Taxes - Conduit	-11,148
406	Net Non-current Deferred Operating Income Taxes - Total	-20,842
501.1	Pole Maintenance Expense	13,625
501.2	Pole Rental Expense	3,507
501	Pole Expense	17,132
502.1	Conduit Maintenance Expense	439
502.2	Conduit Rental Expense	0
502	Conduit Expense	439
503	General & Administrative Expense	8,615
504	Operating Taxes	8,043
Operational Data (Actual)		
601	Equivalent Number of Poles	251,845
602	Conduit System Trench Kilometers	1,108
603	Conduit System Duct Kilometers	6,483
700	Additional Rental Calculation Information	0