

## **Patricia D. Kravtin**

[pdkravtin@comcast.net](mailto:pdkravtin@comcast.net)

### **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.
- 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)**

“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

### 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-El-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.

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, I.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 **119<sup>th</sup> 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.

**OVERVIEW OF THE WIDELY USED FCC POLE RATE FORMULA  
METHODOLOGY AS APPLIED TO THE UNIFIED POLE ATTACHMENT RATE  
FORMULA ADOPTED IN DT-12-084, ORDER NO. 25,453**

The Unified Pole Attachment Rate Formula adopted as part of a settlement in a 2012 dispute between Public Service Company of New Hampshire (d/b/a Eversource) and Time Warner Cable in DT-12-084 in Order No. 25,453 dated January 17, 2013 is based upon the Federal Communications Commission (FCC) pole rate formula methodology. The “Unified Rate Formula” adopted in DT-12-084 is so named because it applies to pole attachments without regard to the type of communications service the attachment is used to provide (i.e., telecommunications services or cable service), and consists of the following three major components: (1) the net investment per bare pole, (2) a carrying charge factor (used to convert the net cost per bare pole figure into an annual rental amount), and (3) a space allocation factor (i.e., the percent of pole capacity attributable to the attacher) that determines the percent of the pole owner’s fully allocated costs recoverable from the attacher. Expressed as an equation, the FCC formula methodology is the straightforward multiplication of these three components as follows:

**FCC Pole Rate Formula Methodology =**

$$\text{Net Bare Pole Cost (NBP)} \times \text{Carrying Charge Factor (CCF)} \times \text{Space Allocation Factor (SAF)}$$

There are two formulations of the FCC pole rate formula applied at the federal level pursuant to the 1996 Telecom Act (but not binding on states such as New Hampshire which have self-certified to regulate pole rates): one applicable to cable operators (“cable formula”), and one for telecommunications carriers (“telecom formula”). 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. Both of these components are calculated in a straightforward but multistep process. While the two formulas historically differed as to the third component, i.e., the space allocation factor, changes adopted by the FCC in a 2015 decision conformed them so that there is effectively no difference between the two

formulations under current rules.<sup>1</sup> As noted above, the Unified Rate Formula was adopted in January 2013 and accordingly, as initially applied, calculated the space allocation factor under the old (pre-2015) FCC rules concerning the usable space factor described below.

### **Net Bare Pole Cost:**

The net bare pole cost (NBP) is calculated in the following four steps: First, the pole owning utility's *gross* investment in pole cost is determined based on amounts reported in the utility's books of account in Federal Regulatory Energy Commission (FERC) Account 364 ("Poles, Towers and Fixtures") as reported in the utility's FERC Form 1. The corresponding figure of a telephone utility's is based on amounts reported on the FCC's ARMIS Annual Summary Report, Table III - Pole and Conduit Rental Calculation Information," Line 101.<sup>2</sup> Second, this gross investment amount is converted to a *net* investment figure by subtracting accumulated depreciation for pole plant and accumulated deferred taxes applicable to poles. 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. 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 to derive a *per-unit* pole cost figure. It is this unitized net investment figure that the formula 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**

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<sup>1</sup> See *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).

<sup>2</sup> 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 cap regulation. While, effective January 2015, the FCC granted carriers forbearance from their ARMIS reporting obligations, it is my understanding that many telecom providers continue to submit the pole attachment data corresponding to the ARMIS report 43-01 as part of a transmittal in the FCC's Electronic Comment Filing System (ECFS) captioned as CC Docket 86-182.

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. 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 use of "fully allocated cost" approach to pole rates – the upper range of the just and reasonable rates allowed pursuant to 47 U.S. Code Section 224 (the section of the Federal Communications Act dealing with pole attachments).

The appropriate net plant in service figure used to calculate the various elements of the CCF varies on the level of aggregation with which the relevant expense data used in the numerator of the calculation is tracked in the FERC reporting system 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, if the expense is reported on an aggregate utility basis, as is the case with tax expenses, then the denominator of the expense ratio used in the calculation is total utility net plant in service. For maintenance expense for electric utilities, the expense is tracked at the level of the three overhead line FERC Accounts 364, 365, and 369, such that the denominator is net plant in service for those three accounts. For telephone utilities, the ARMIS reports the expenses allocated to pole plant such that the denominator is pole plant in service for the various expense factors. Once calculated, these five expense elements are then summed together prior to being multiplied against the net cost per bare pole component.

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.<sup>3</sup>

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

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<sup>3</sup>See C.F.R. Title 47, Part 1, Subpart J.

As noted above, the two FCC rate formulas (i.e., Cable and Telecom) derive a recurring pole attachment rental rate by multiplying the same three basic formula components: net bare pole cost, carrying charge factor, and space allocation factor. The two differ in the calculation of the space allocation factor and, in particular, the manner in which the Telecom formula (and the DT-12-084 Unified Rate Formula which is based on the Telecom formula), allocates the costs associated with the *unusable* space on the pole.

Whereas the Cable Formula assigns costs relating to the entire pole – including both usable and unusable space – on the basis of a proportionate-use allocator, i.e., 1 foot occupied space / total usable space on the pole (which under FCC rebuttable presumptions is calculated as  $1/13.5 = 7.41\%$ ), 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 (exactly the same as the Cable Formula), but assigns costs relating to the unusable space on the pole using a per-capita allocator.

The allocation of unusable space has evolved over time with the growing recognition by federal and state regulators of the vital role of broadband service and the detrimental impacts on the public interest that the charging of excessive pole rents has on the deployment of broadband services. As originally prescribed in the 1996 Telecom Act, the Telecom Formula assigned 2/3 of the unusable space on the pole equally by the number of attaching entities. Assuming the FCC rebuttable presumption of 3 attaching entities for non-urbanized areas applicable to New Hampshire, the original Telecom formula applied a space allocator factor of 16.89%. Both federal and state regulators alike, found the use of the 1996 formula resulted in rates well in excess of efficient cost levels and that serve to place a damper on broadband deployment, competition and the widespread availability and adoption of advanced broadband services.

This growing recognition led the FCC to adopt a revised formula in April 2011. In its April 7, 2011 Order, the FCC adopted a new Telecom Formula that included cost reduction factors for purposes of aligning the rate produced by the Telecom Formula with that produced by the Cable Formula. Specifically, the FCC adopted a definition of cost for urbanized areas as “66 percent of the fully allocated costs used for purposes of the pre-existing telecom rate,” and a

definition of cost for rural or non-urbanized areas as “44 percent of the fully allocated costs,” where fully allocated cost is defined as net bare pole cost times carrying charge factor (i.e., the first two components of the rate formula for both cable and telecom formulas).<sup>4</sup>

The 2011 Revised Telecom Formula - the version of the Telecom Formula that the DT-12-084 Unified Rate Formula adopted in 2013 was based upon - is summarized formulaically as follows:

**Revised 2011 FCC Telecom Rate Formula Applicable to Eversource:**

***Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor [Usable Space Percentage + Unusable Space Percentage] x Cost Factor*** where:

Usable Space Percentage =

(Space occupied by attacher / Usable Space) x (Usable Space/Pole Height);

Unusable Space Percentage =  $2/3 \times (\text{Unusable} / \text{Pole Height}) \times (1/\text{No. Attachers})$ ; and

Cost Reduction Factor applicable to non-urbanized areas = .44

Under the 2011 definition of cost and FCC presumptive values (i.e., for pole height and usable space on the poles), the percentage of fully allocated costs allocated under the revised telecom rate, 7.43% under the standard presumptions (.44 x 16.89%) approximately equals that allocated under cable, i.e., 7.41% (1/13.5%). Per settlement, the DT-12-084 Unified Rate Formula used a number of attaching entities value of 2.7 (as compared to the FCC presumptive value of 3), which increased the unusable space percentage from 14.22% to 15.80% (the usable space percentage of 2.67% remained unchanged) for a total space allocation factor of 18.47% (as compared to the FCC presumptive 16.89%). After applying the .44 cost reduction factor for non-urbanized areas, the percentage of fully allocated costs applied in the DT-12-084 Unified Rate was 8.13% (18.47% x .44 = 8.13%) – as compared to the FCC presumptive value of 7.43%.

<sup>4</sup> See *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”).

In 2015, in its Order on Reconsideration, the FCC made a further refinement to the cost reduction factor to better achieve its stated objection of harmonizing the cable and telecom formulas. Specifically, the FCC revised its previously adopted fixed factors to allow these factors to vary in order to bring the Telecom formula into better cost causative alignment with the proportionate-based cable rate formula, noting rates produced by the revised Telecom formula could be as much as 70 percent higher than cable rates.<sup>5</sup> These further revisions were also expressly motivated by the FCC's desire to incent the deployment of broadband infrastructure especially in non-urbanized underserved areas, with the FCC noting its concern that subjecting cable operators to higher, inefficient pole attachment rates merely because they "also provide telecommunications services including broadband Internet access could defer investment...which would undermine the Commission's broadband deployment policy."<sup>6</sup>

As applied to the settled value of 2.77 number of attaching entities under the DT-12-084 Unified Rate Formula but otherwise using FCC presumptive values (i.e., pole height and usable space on the pole), the current FCC rules would result in a cost reduction factor of 39.6% versus the presumptive .44% applicable to the presumptive 3.0 attaching entities, for a corresponding allocation of fully allocated costs of 7.31% ( $18.47 \times .396$ ) versus the 8.13% derived under the now superseded 2011 rules.

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<sup>5</sup> See *id.* at ¶ 3. ("When the average number of attaching entities is a fraction, the percentage cost allocator will be located between the whole numbers at the point where it most closely approximates the cost used in the cable rate formula. This flexible series of cost allocators should more fully realize the intent of the Commission in its *2011 Pole Attachment Order* to bring parity to pole attachment rates at the cable rate formula level.")

<sup>6</sup> See *id.* at ¶ 4.

**Current 2015 FCC Telecom Rate Formula As Applied to Eversource:**

*Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor [Usable Space Percentage + Unusable Space Percentage] x Cost Factor* where:

Usable Space Percentage =

(Space occupied by attacher / Usable Space) x (Usable Space/Pole Height);

Unusable Space Percentage =  $2/3 \times (\text{Unusable} / \text{Pole Height}) \times (1/\text{No. Attachers})$ ; and

Cost Reduction Factor applicable to Eversource =  $.44 \times [1 - (2.7 - 3)/3] = .396$

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

**Date Request Received: 04/12/2021**

**Date of Response: 04/28/2021**

**Request No. NECTA 1-023**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

Referencing page 11, lines 3-5 of the Direct Testimony of Horton/Menard, please indicate when the Transferred Poles will be fully incorporated into Eversource's accounting system.

**Response:**

The purchase price of the Transferred Poles will be incorporated into Eversource's accounting system on the date in which the agreement is approved and executed. The increase to the pole plant account will be reflected on the Company's books at that time. The updates to the Company's plant records/systems and GIS system will be completed over several months after the completion of the transaction.

Please also see the response to NECTA 1-026.

**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. NECTA 1-043**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

---

**Request:**

Please state the book value in terms of dollars and cents that Eversource will assign to the poles when it acquires ownership of them.

**Response:**

The book value that Eversource will assign to the poles when it acquires ownership will be equal to the net purchase price of the transferred poles as stated on Bates page 18, lines 14-15.

Attachment PDK-4 CONFIDENTIAL				
Based on Eversource 2023 Rate Calculations/ Year-End 2021 Data Per Confidential Attachment Staff 1-032 Watermarked.xls		Estimated Impact of Acquisition Premium over CCI Net Book Value for Transferred Poles on Pole Attachment Rate under NHPSC Unified Rate Formula Calculated per Pre-2015 FCC Rules		
		Transferred Poles Valued at CCI Regulatory NBV	Transferred Poles Valued at Acquisition Premium	Sources/ Notes*
1	Gross Investment in Pole Plant	\$ [REDACTED]	\$ [REDACTED]	FERC Form 1 Report Acct 364 plus Transferred Poles
2	- Accumulated depreciation for poles	-\$ [REDACTED]	-\$ [REDACTED]	Prorated from Distribution Plant
3	- Accumulated deferred income taxes for poles	-\$ [REDACTED]	-\$ [REDACTED]	Prorated from Total/Electric Plant including Excess ADIT
4	= Net Pole Investment	\$ [REDACTED]	\$ [REDACTED]	Ln 1 - Ln 2- Ln 3
5	x (1- Appurtenances Factor)	[REDACTED]	[REDACTED]	FCC 15% Rebuttable Presumption or Actual
6	= Net Bare Pole Investment	\$ [REDACTED]	\$ [REDACTED]	Ln 4 x L5
7	/ Total Number of Poles	[REDACTED]	[REDACTED]	Utility Records
8	= Estimated NBV Value/Pole*	\$ [REDACTED]	\$ [REDACTED]	Ln 6 / Ln 7
9	x Carrying Charge Factor	[REDACTED]	[REDACTED]	Per FCC Methodology
10	x Usable Space Factor =	[REDACTED]	[REDACTED]	Per pre-2015 FCC rules
11	Pole Attachment Rate	\$ [REDACTED]	\$ [REDACTED]	L 8 x L9 x L10

***THE COMMONWEALTH OF MASSACHUSETTS***

**ANNUAL RETURN  
OF THE  
MASSACHUSETTS ELECTRIC COMPANY  
TO THE  
DEPARTMENT OF PUBLIC UTILITIES  
For the Year Ended December 31,  
2019**

**nationalgrid**

Name of Respondent Massachusetts Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission		Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2019/Q4
SUMMARY OF UTILITY PLANT AND ACCUMULATED PROVISIONS FOR DEPRECIATION, AMORTIZATION AND DEPLETION					
Report in Column (c) the amount for electric function, in column (d) the amount for gas function, in column (e), (f), and (g) report other (specify) and in column (h) common function.					
Line No.	Classification (a)	Total Company for the Current Year/Quarter Ended (b)		Electric (c)	
1	Utility Plant				
2	In Service				
3	Plant in Service (Classified)	4,694,371,537		4,694,371,537	
4	Property Under Capital Leases				
5	Plant Purchased or Sold				
6	Completed Construction not Classified	324,817,490		324,817,490	
7	Experimental Plant Unclassified				
8	Total (3 thru 7)	5,019,189,027		5,019,189,027	
9	Leased to Others				
10	Held for Future Use	561,509		561,509	
11	Construction Work in Progress	202,288,732		202,288,732	
12	Acquisition Adjustments	1,062,533,002		1,062,533,002	
13	Total Utility Plant (8 thru 12)	6,284,572,270		6,284,572,270	
14	Accum Prov for Depr, Amort, & Depl	1,943,766,123		1,943,766,123	
15	Net Utility Plant (13 less 14)	4,340,806,147		4,340,806,147	
16	Detail of Accum Prov for Depr, Amort & Depl				
17	In Service:				
18	Depreciation	1,889,145,676		1,889,145,676	
19	Amort & Depl of Producing Nat Gas Land/Land Right				
20	Amort of Underground Storage Land/Land Rights				
21	Amort of Other Utility Plant	331,443		331,443	
22	Total In Service (18 thru 21)	1,889,477,119		1,889,477,119	
23	Leased to Others				
24	Depreciation				
25	Amortization and Depletion				
26	Total Leased to Others (24 & 25)				
27	Held for Future Use				
28	Depreciation				
29	Amortization				
30	Total Held for Future Use (28 & 29)				
31	Abandonment of Leases (Natural Gas)				
32	Amort of Plant Acquisition Adj	54,289,004		54,289,004	
33	Total Accum Prov (equals 14) (22,26,30,31,32)	1,943,766,123		1,943,766,123	

Name of Respondent Massachusetts Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission		Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2019/Q4
OTHER PAID-IN CAPITAL (Accounts 208-211, inc.)					
Report below the balance at the end of the year and the information specified below for the respective other paid-in capital accounts. Provide a subheading for each account and show a total for the account, as well as total of all accounts for reconciliation with balance sheet, Page 112. Add more columns for any account if deemed necessary. Explain changes made in any account during the year and give the accounting entries effecting such change.					
(a) Donations Received from Stockholders (Account 208)-State amount and give brief explanation of the origin and purpose of each donation.					
(b) Reduction in Par or Stated value of Capital Stock (Account 209): State amount and give brief explanation of the capital change which gave rise to amounts reported under this caption including identification with the class and series of stock to which related.					
(c) Gain on Resale or Cancellation of Reacquired Capital Stock (Account 210): Report balance at beginning of year, credits, debits, and balance at end of year with a designation of the nature of each credit and debit identified by the class and series of stock to which related.					
(d) Miscellaneous Paid-in Capital (Account 211)-Classify amounts included in this account according to captions which, together with brief explanations, disclose the general nature of the transactions which gave rise to the reported amounts.					
Line No.	Item (a)				Amount (b)
1	Account 211 - Miscellaneous Paid-in Capital				
2					
3	Surplus invested in plant representing the excess net depreciation of				41,978
4	properties acquired from Deerfield Electric Company as of July 1, 1994				
5	Value of securities issues therefore				
6					
7	Capital contribution made by New England Electric System of 8,222 com.				653,987
8					
9	Merger purchase accounting adjustments - acquisition by National Grid				1,246,836,382
10					
11	Acquired other paid in capital - Acquisition of Eastern Edison Co.				249,325,404
12					
13	Equity contribution made by parent company (NGUSA) - CY2007				60,000,000
14					
15	Gain on Capital Stock (Account 210):				
16					
17	Premium paid on -4.76% preferred stock redemption - CY2007				-92,056
18					
19	Stock Compensation Adjustment - CY2014				1,283,355
20					
21	Equity contribution made by parent company (NGUSA) - CY 2015 Additions				135,000,000
22					
23	Equity contribution made by parent company (NGUSA) - CY 2016 Additions				160,300,000
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40	TOTAL				1,853,349,050

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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 Page 1 of 1

**Table III - POLE AND CONDUIT RENTAL CALCULATION INFORMATION**  
 (Dollars in thousands; Operating data in actual units)

ROW	ROW TITLE (a)	Amount (b)
<b>Financial Information (\$000)</b>		
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
<b>Operational Data (Actual)</b>		
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

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

Date Request Received: 04/12/2021

Date of Response: 05/03/2021

Date Revision Request Received: 05/07/2021

Date of Revision Response: 05/07/2021

Request No. STAFF 1-031-RV01

Page 1 of 5

Request from: New Hampshire Public Utilities Commission Staff

Witness: Douglas P. Horton, Erica L. Menard  
Michael Shultz, Senior Vice President (Consolidated Communications)  
Sarah Davis, Senior Director (Consolidated Communications)

**Request:**

Reference Horton/Menard Testimony, Bates 51-52, stating "On an annual basis, Eversource will calculate the net revenue requirement associated with the Transferred Poles," including "the return on the average rate base, depreciation expense, O&M associated with transferring lines and appurtenances on replaced poles, and O&M inspection costs."

- a. Please provide the net book value of the transferred poles as it exists on Consolidated's books today, including any relevant depreciation schedules by FCC/FERC account. Please provide copies of all relevant ARMIS reports as filed with the FCC.
- b. Please provide the net book value of the transferred poles as it existed on Consolidated's books at the time of Consolidated's acquisition of FairPoint, including any relevant depreciation schedules by FCC/FERC account. Please provide copies of all relevant ARMIS reports as filed with the FCC.
- c. Please explain whether it is Eversource's position that the Commission should consider the estimated incremental revenue requirement detailed at Bates 55 when determining whether the transfer is in the public interest.
- d. Please explain whether material deviations from the estimated revenue requirement during reconciliations would trigger reconsideration of whether the pole transfer is for the public good.

**Response:**

**ORIGINAL RESPONSE:**

Objections: Consolidated Communications objects to subsections (a) and (b) of this request on the grounds that they are not intended to lead to the discovery of relevant or admissible evidence in this Docket, and are overly broad and burdensome. Without waiving these or any other objections, Consolidated Communications responds as follows:

- a. As an initial matter, it is important to note that Consolidated, as a minimally regulated Excepted Local Exchange Carrier under New Hampshire law, is not required to adhere to regulatory accounting requirements applicable to EDCs for ratemaking purposes. In particular, the depreciation expense recorded for GAAP purposes is not required to be the result of a Commission-approved depreciation study, as is the case for regulated utilities. Consequently, from the point at which Consolidated purchased FairPoint Communications in 2017, it has depreciated its purchased pole plant over an approximate 5-year period. This extraordinarily shortened amortization period was the result of a management decision based on GAAP purchase accounting and has the effect of allowing Consolidated Communications to minimize any potential accounting losses at the time of sale that would arise from having a higher GAAP net book value.

As a result, the Joint Petitioners do not see Consolidated's GAAP net book value as a relevant or useful data point for purposes of going forward ratemaking for Eversource post-acquisition. Unlike the net book value reported for a regulated utility, which represents the unrecovered plant balance not-yet-paid for by customers, Consolidated's GAAP reported net book value does not represent an amount paid for (or not paid for) by its customers.

Notwithstanding this practicality, to be responsive to this question, Consolidated's GAAP net book value of the Transferred Poles as of March 2019 when the Joint Petitioners initially started negotiating this transaction was as follows.

Total Costs	\$ [REDACTED]
Total Accumulated Depreciation	\$ [REDACTED]
Net Book Value	\$ [REDACTED]

As of December 31, 2020, the GAAP net book value of the Transferred Poles was:

Total Costs	\$ [REDACTED]
Total Accumulated Depreciation	\$ [REDACTED]
Net Book Value	\$ [REDACTED]

The net book value of the poles as of December 31, 2020, is the most recent net book value of the poles that is available. In accordance with GAAP, Consolidated Communications classified the poles as "held for sale" (as of the date of the Joint Petitioners' agreement) and stopped depreciating the poles. GAAP accounting requires that the poles not be further depreciated pending the sale. There is no depreciation by "FCC/FERC account".

Lastly, Eversource notes that it jointly owns the vast majority of poles being purchased as part of this transaction. Naturally, Eversource follows traditional regulatory accounting for its assets, including adhering to regulated utility practices for recording depreciation of pole plant over a 30+ year period. The current balance of all Eversource jointly owned poles, the majority of which are joint-owned with Consolidated, is as follows.

Total Eversource Costs	\$129,060,753
Total Accumulated Depreciation	\$61,635,989
Net Book Value	\$67,424,764

This served as assurance to Eversource during negotiations that the net purchase price for the Transferred Poles, which is less than half the net book value of those same poles recorded in Eversource's financial statements, is a fair and reasonable price to pay for the Transferred Poles.

Consolidated Communications has provided its last ARMIS report filed for FY 2017 in PDF in Attachment Staff 1-031. Consolidated Communications is not required to file ARMIS reports for its study area for New Hampshire.

b. Consolidated Communications has no mechanism to produce the net book value of the Eversource poles at the time of the closing of the Consolidated Communications/FairPoint Communications acquisition transaction. However, as of the data of the closing of that transaction,

the net book value of all of Consolidated Communications' New Hampshire utility poles as of July 3, 2017 was:

Pole Investment - NH	\$ [REDACTED]
% Estimated as Eversource	68%
Estimated Eversource NBV	\$ [REDACTED]

There is no depreciation by "FCC/FERC account".

c. It is not clear what is intended by this question. If the question is asking about the nature of the public interest review, as described in the petition, the public interest standard, as it has been interpreted by the Commission, is a no net harm standard where the Commission would approve the transaction if there is no adverse impact on the public based upon all the circumstances. Thus, the Commission should look at all of the circumstances, including the operational benefits and the customer safety and satisfaction issues, rather than merely the incremental revenue requirement in determining whether the public interest is met.

To the extent the question is seeking to know whether the estimated incremental revenue requirement is accurate, the estimates are based upon the information presently available subject to the assumptions noted. It is Eversource's position that the estimate is reasonable and presents an appropriate initial estimate of the incremental revenue requirement.

d. No, Eversource does not view that deviations, material or otherwise, revealed during a reconciliation would trigger reconsideration. Presuming that the Commission approves the transaction, it would necessarily have to find that the transaction is reasonable and prudent. It would be inappropriate, and potentially illegal, for the Commission to later rescind that approval on the basis of a deviation from an estimate years later.

Also, as noted in the testimony (Bates page 50) without approval of the cost recovery mechanism, Eversource would not move forward with the transaction. If the Commission were to condition the approval on a later reconciliation at an unknown future date and under which it could void the transaction, that would present an untenable risk for Eversource and Eversource would not move forward with the transaction.

Lastly, as a practical matter, such reconsideration would be impossible. Once the transaction closes and Eversource pays Consolidated in accordance with the Joint Petitioners' agreement, Eversource owns the assets. Any reconsideration would, of necessity, force Eversource to return the assets (at some to be determined price), and would force Consolidated to retake ownership of the assets and reincorporate them into its business. It is not clear the Commission would have authority to order such an outcome.

#### REVISED RESPONSE:

Objections: Consolidated Communications objects to subsections (a) and (b) of this request on the grounds that they are not intended to lead to the discovery of relevant or admissible evidence in this Docket, and are overly broad and burdensome. Without waiving these or any other objections, Consolidated Communications responds as follows:

- a. As an initial matter, it is important to note that Consolidated, as a minimally regulated Excepted Local Exchange Carrier under New Hampshire law, is not required to adhere to regulatory

accounting requirements applicable to EDCs for ratemaking purposes. In particular, the depreciation expense recorded for GAAP purposes is not required to be the result of a Commission-approved depreciation study, as is the case for regulated utilities. Consequently, from the point at which Consolidated purchased FairPoint Communications in 2017, it has depreciated its purchased pole plant over an approximate 5-year period. This extraordinarily shortened amortization period was the result of a management decision based on GAAP purchase accounting and has the effect of allowing Consolidated Communications to minimize any potential accounting losses at the time of sale that would arise from having a higher GAAP net book value.

As a result, the Joint Petitioners do not see Consolidated's GAAP net book value as a relevant or useful data point for purposes of going forward ratemaking for Eversource post-acquisition. Unlike the net book value reported for a regulated utility, which represents the unrecovered plant balance not-yet-paid for by customers, Consolidated's GAAP reported net book value does not represent an amount paid for (or not paid for) by its customers.

Notwithstanding this practicality, to be responsive to this question, Consolidated's GAAP net book value of the Transferred Poles as of March 2019 when the Joint Petitioners initially started negotiating this transaction was as follows.

Total Costs	\$ [REDACTED]
Total Accumulated Depreciation	\$ [REDACTED]
Net Book Value	\$ [REDACTED]

As of December 31, 2020, the GAAP net book value of the Transferred Poles was:

Total Costs	\$ [REDACTED]
Total Accumulated Depreciation	\$ [REDACTED]
Net Book Value	\$ [REDACTED]

The net book value of the poles as of December 31, 2020, is the most recent net book value of the poles that is available. In accordance with GAAP, Consolidated Communications classified the poles as "held for sale" (as of the date of the Joint Petitioners' agreement) and stopped depreciating the poles. GAAP accounting requires that the poles not be further depreciated pending the sale. There is no depreciation by "FCC/FERC account".

Lastly, Eversource notes that it jointly owns the vast majority of poles being purchased as part of this transaction. Naturally, Eversource follows traditional regulatory accounting for its assets, including adhering to regulated utility practices for recording depreciation of pole plant over a 30+ year period. The current balance of all Eversource jointly owned poles, the majority of which are joint-owned with Consolidated, is as follows.

Total Eversource Costs	\$129,060,753
Total Accumulated Depreciation	\$61,635,989
Net Book Value	\$67,424,764

This served as assurance to Eversource during negotiations that the net purchase price for the Transferred Poles, which is less than half the net book value of those same poles recorded in Eversource's financial statements, is a fair and reasonable price to pay for the Transferred Poles.

Consolidated Communications has provided its last ARMIS report filed for FY 2017 in PDF in Attachment Staff 1-031. Consolidated Communications is not required to file ARMIS reports for its study area for New Hampshire.

- b. Consolidated Communications has no mechanism to produce the net book value of the Eversource poles at the time of the closing of the Consolidated Communications/FairPoint Communications acquisition transaction. However, as of the data of the closing of that transaction, the net book value of all of Consolidated Communications' New Hampshire utility poles as of July 3, 2017 was:

Pole Investment - NH	\$ [REDACTED]
% Estimated as Eversource	75%
Estimated Eversource NBV	\$ [REDACTED]

There is no depreciation by "FCC/FERC account".

- c. It is not clear what is intended by this question. If the question is asking about the nature of the public interest review, as described in the petition, the public interest standard, as it has been interpreted by the Commission, is a no net harm standard where the Commission would approve the transaction if there is no adverse impact on the public based upon all the circumstances. Thus, the Commission should look at all of the circumstances, including the operational benefits and the customer safety and satisfaction issues, rather than merely the incremental revenue requirement in determining whether the public interest is met.

To the extent the question is seeking to know whether the estimated incremental revenue requirement is accurate, the estimates are based upon the information presently available subject to the assumptions noted. It is Eversource's position that the estimate is reasonable and presents an appropriate initial estimate of the incremental revenue requirement.

- d. No, Eversource does not view that deviations, material or otherwise, revealed during a reconciliation would trigger reconsideration. Presuming that the Commission approves the transaction, it would necessarily have to find that the transaction is reasonable and prudent. It would be inappropriate, and potentially illegal, for the Commission to later rescind that approval on the basis of a deviation from an estimate years later.

Also, as noted in the testimony (Bates page 50) without approval of the cost recovery mechanism, Eversource would not move forward with the transaction. If the Commission were to condition the approval on a later reconciliation at an unknown future date and under which it could void the transaction, that would present an untenable risk for Eversource and Eversource would not move forward with the transaction.

Lastly, as a practical matter, such reconsideration would be impossible. Once the transaction closes and Eversource pays Consolidated in accordance with the Joint Petitioners' agreement, Eversource owns the assets. Any reconsideration would, of necessity, force Eversource to return the assets (at some to be determined price), and would force Consolidated to retake ownership of the assets and reincorporate them into its business. It is not clear the Commission would have authority to order such an outcome.

Consistent with Puc 203.08(d), the Joint Petitioners state that they have a good faith basis for confidential treatment of the material provided in this response and will file an appropriate motion for confidential treatment prior to the commencement of hearings in this matter.



350 S. Loop 336 W., Conroe, TX 77304 | consolidated.com | NASDAQ: CNSL

Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, DC 20554

Re: CC Docket No. 86-182  
Report: Pole Attachment Data  
Year of Data: 2017  
Submission Number: 1

Dear Ms. Dortch:

Pursuant to the Commission's *Revisions to ARMIS Filing Procedures Order*,<sup>1</sup> FairPoint Communications, Inc. ("FairPoint") files pole attachment data for calendar year 2017 for its price cap local exchange carrier subsidiaries. Included with this filing are pole attachment data for the COSAs listed below:

<u>COSA</u>	<u>Submission No.</u>
FPME	1
FPNH	1
FPVT	1

This filing fulfills FairPoint's obligation to continue filing annually the pole attachment data previously required in ARMIS Report 43-01.<sup>2</sup>

<sup>1</sup> 28 FCC Rcd 11436 (Wireline Competition Bur. 2014)

<sup>2</sup> *Wireline Competition Bureau Approves FairPoint Communications Compliance Plan*, Public Notice DA 16-1212, WC Docket Nos. 12-61, 07-204, 02-21 (Wireline Competition Bur., released Oct 21, 2016)



350 S. Loop 336 W., Conroe, TX 77304 | [consolidated.com](http://consolidated.com) | NASDAQ: CNSL

If you have any questions concerning this filing, please contact me at telephone (936) 521-7736.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Scott W. Kitchen', written over a light blue circular background.

SCOTT W. KITCHEN | SENIOR DIRECTOR, REGULATORY COMPLIANCE

D: 936.521.7736 | F: 936.788.1229

[scott.kitchen@consolidated.com](mailto:scott.kitchen@consolidated.com)

[consolidated.com](http://consolidated.com) | NASDAQ: CNSL

**Certification of the FairPoint COMMUNICATIONS, INC.**

I hereby certify that I am an officer FairPoint Communications, Inc. ("FairPoint"), I have examined the attached Pole Attachment Data for calendar year 2017, and to the best of my knowledge, information and belief, all statements of fact contained in the attached filing are true, and these reports are accurate statements of the affairs of FairPoint in respect to the data set forth therein for the period from January 1, 2017 through December 31, 2017 and Submission Number 1.

PRINTED NAME: Michael Schultz

TITLE Vice President, Legislative and Regulatory

DATE: 3/29/18

SIGNATURE:



[Persons making willful false statements in this report can be punished by fine or imprisonment under the Communications Act of 1934, as amended, 47 U.S.C. §220(e).]

CONTACT PERSON: Scott W. Kitchen

TELEPHONE NUMBER: (936) 521-7736

E-MAIL ADDRESS: [scott.kitchen@consolidated.com](mailto:scott.kitchen@consolidated.com)

FCC Paper Report 43-01  
ARMIS Annual Summary Report

COMPANY: FairPoint Communications, Inc.  
 STUDY AREA: Maine  
 PERIOD: From: Jan 2017 To: Dec 2017  
 COSA: FPME

SUBMISSION 1  
 Table III  
 Page 1 of 1

**Table III - POLE AND CONDUIT RENTAL CALCULATION INFORMATION**  
 (Dollars in thousands; Operating data in actual units)

ROW	ROW TITLE (a)	Amount (b)
<b>Financial Information (\$000)</b>		
100	Telecommunications Plant-in-Service	2,106,925
101	Gross Investment - Poles	201,530
102	Gross Investment - Conduit	69,620
200	Accumulated Depreciation - Total Plant-in-Service	2,052,029
201	Accumulated Depreciation - Poles	204,588
202	Accumulated Depreciation - Conduit	42,080
301	Depreciation Rate - Poles	6.4
302	Depreciation Rate - Conduit	2.1
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	-513
404	Net Non-current Deferred Operating Income Taxes - Poles	-4,376
405	Net Non-current Deferred Operating Income Taxes - Conduit	5,573
406	Net Non-current Deferred Operating Income Taxes - Total	-31,687
501.1	Pole Maintenance Expense	205
501.2	Pole Rental Expense	4,745
501	Pole Expense	4,951
502.1	Conduit Maintenance Expense	546
502.2	Conduit Rental Expense	0
502	Conduit Expense	546
503	General & Administrative Expense	32,308
504	Operating Taxes	8,663
<b>Operational Data (Actual)</b>		
601	Equivalent Number of Poles	276,959
602	Conduit System Trench Kilometers	813
603	Conduit System Duct Kilometers	4,469
700	Additional Rental Calculation Information	0

FCC Paper Report 43-01  
ARMIS Annual Summary Report

COMPANY: FairPoint Communications, Inc.  
 STUDY AREA: New Hampshire  
 PERIOD: From: Jan 2017 To: Dec 2017  
 COSA: FPNH

SUBMISSION 1  
 Table III  
 Page 1 of 1

**Table III - POLE AND CONDUIT RENTAL CALCULATION INFORMATION**  
 (Dollars in thousands; Operating data in actual units)

ROW	ROW TITLE (a)	Amount (b)
<b>Financial Information (\$000)</b>		
100	Telecommunications Plant-in-Service	2,600,232
101	Gross Investment - Poles	220,791
102	Gross Investment - Conduit	121,067
200	Accumulated Depreciation - Total Plant-in-Service	2,480,113
201	Accumulated Depreciation - Poles	200,831
202	Accumulated Depreciation - Conduit	69,300
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	3,502
404	Net Non-current Deferred Operating Income Taxes - Poles	-1,047
405	Net Non-current Deferred Operating Income Taxes - Conduit	10,259
406	Net Non-current Deferred Operating Income Taxes - Total	-35,753
501.1	Pole Maintenance Expense	10,238
501.2	Pole Rental Expense	2,199
501	Pole Expense	12,436
502.1	Conduit Maintenance Expense	773
502.2	Conduit Rental Expense	0
502	Conduit Expense	773
503	General & Administrative Expense	21,305
504	Operating Taxes	3,679
<b>Operational Data (Actual)</b>		
601	Equivalent Number of Poles	251,720
602	Conduit System Trench Kilometers	1099
603	Conduit System Duct Kilometers	6,430
700	Additional Rental Calculation Information	0

FCC Paper Report 43-01  
ARMIS Annual Summary Report

COMPANY: FairPoint Communications, Inc.  
 STUDY AREA: Vermont  
 PERIOD: From: Jan 2017 To: Dec 2017  
 COSA: FPVT

SUBMISSION 1  
 Table III  
 Page 1 of 1

**Table III - POLE AND CONDUIT RENTAL CALCULATION INFORMATION**  
 (Dollars in thousands; Operating data in actual units)

ROW	ROW TITLE (a)	Amount (b)
<b>Financial Information (\$000)</b>		
100	Telecommunications Plant-in-Service	1,401,333
101	Gross Investment - Poles	156,637
102	Gross Investment - Conduit	56,935
200	Accumulated Depreciation - Total Plant-in-Service	2,876,016
201	Accumulated Depreciation - Poles	186,832
202	Accumulated Depreciation - Conduit	28,917
301	Depreciation Rate - Poles	6.4
302	Depreciation Rate - Conduit	2.1
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	3,903
404	Net Non-current Deferred Operating Income Taxes - Poles	-9,209
405	Net Non-current Deferred Operating Income Taxes - Conduit	5,210
406	Net Non-current Deferred Operating Income Taxes - Total	-53,760
501.1	Pole Maintenance Expense	2,869
501.2	Pole Rental Expense	2,680
501	Pole Expense	5,549
502.1	Conduit Maintenance Expense	307
502.2	Conduit Rental Expense	0
502	Conduit Expense	307
503	General & Administrative Expense	17,209
504	Operating Taxes	2,745
<b>Operational Data (Actual)</b>		
601	Equivalent Number of Poles	159,802
602	Conduit System Trench Kilometers	719
603	Conduit System Duct Kilometers	2,819
700	Additional Rental Calculation Information	0

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

**Date Request Received: 12/20/2021**  
**Request No. DOE 6-03**  
**Request from: NH Department of Energy**

**Date of Response: 01/10/2022**  
**Page 3 of**

**Witness: Michael Shultz**

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**Request:**

- 6-3. Reference the December 6 information provided in response to NECTA 2-019 and 3-020, providing the pole and conduit rental calculation information of CCI in the New Hampshire study area.
- a. Please describe what percent of the company's study area is represented by the transferred poles, as compared to all of the poles in the study area, and how that figure was arrived at.
  - b. Please describe whether the net book value of the transferred poles differs at all from the net book value of the poles in the study area by factors other than number of poles in the study area versus the number of transferred poles.

**Response:**

- a. The sale of the utility pole interests from Consolidated Communications to Eversource represents 75% of the Consolidated Communication owned poles in New Hampshire.
- b. The factors include the number of poles in the Eversource electric service territory, plus factors related to the age of poles/date of poles being placed in service.

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

**Date Request Received: 06/29/2021**

**Date of Response: 07/14/2021**

**Request No. NECTA 3-001**

**Page 1 of 2**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

With regard to the "cost per pole to replace" figure identified in CONFIDENTIAL Attachment Staff 1-032 WATERMARKED ("pole purchase model"), tab O&M Activity, used to estimate the capital additions associated with the Consolidated acquired poles identified as failing inspection in year 1 of the model:

- (a) Please state whether Eversource has taken into consideration the negative net salvage (salvage less cost of removal) associated with the removal of the identified number of failed Consolidated poles.
- (b) If the answer to 3-01 (a) above is yes, please describe how the negative net salvage was considered, and identify the specific tab and line in the pole purchase model in which it was accounted for.
- (c) Please provide Eversource's estimate of the negative net salvage associated with the failed poles on a per pole basis.
- (d) Please explain how the figure identified as the "gross write-off" associated with the failed poles is taken into consideration in the pole purchase model.
- (e) To the extent there is any additional rationale other than as explained at the June 24, 2021 Technical Session, that it was a negotiated amount, for the shortfall between the estimated capital additions associated with the Consolidated failed poles in year 1 of the model based on the "cost per pole to replace" figure and the reduction to the gross purchase price as identified on page 2 of the Joint Petition to Approve Pole Asset Transfer, please provide that rationale.

**Response:**

- a. Eversource has taken into consideration cost of removal and salvage in the model. See the response to part b. below.
- b. The \$[REDACTED] "cost to replace" per pole used to calculate the year 1 capital additions on the "O&M and capital activity" tab included \$[REDACTED] per pole for cost of removal. A salvage estimate was not included in the "cost to replace" per pole. Based on historical net salvage data provided in the PSNH Distribution Rate Case, Docket No. DE 19-057, gross salvage cost is much smaller than cost of removal.

In addition, both cost of removal and salvage are both included in the last approved regulatory depreciation rate of 3.59% for Account 364 (as provided in Docket No. DE 19-057, Final Revenue Requirement filed 1/22/2021, Bates page 70) so both are included in the return of these components within the depreciation line of the incremental revenue requirement tab of the pole purchase model. The components of the last approved regulatory depreciation rate are:

Life (53 years)	1.89%
Cost of Removal	1.89%
Salvage	<u>(0.19)%</u>
Depreciation Rate	3.59%

- c. The recovery of cost of removal associated with the [REDACTED] failed poles in year 1 is estimated at \$[REDACTED] per pole.
- d. The "gross write off" associated with the failed poles is embedded in the \$[REDACTED] purchase price in the pole purchase model:

2,310 poles x negotiated \$[REDACTED] replacement cost per pole = \$[REDACTED] credit in the purchase price

The \$[REDACTED] purchase price is reflected in rate base in year 0 on the incremental revenue requirement tab and in year 1 of the the gross investment plant on the attachment model data tab.

- e. The \$[REDACTED] replacement cost is a blend of the average Eversource and Consolidated replacement cost per pole, which can vary on a pole by pole basis.

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

**Date Request Received: 04/12/2021**

**Date of Response: 04/28/2021**

**Request No. NECTA 1-006**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

Referencing page 7, lines 6-11 of the Direct Testimony of Horton/Menard, please:

- (a) State the Eversource and Consolidated pole attachment rates currently in effect for attachments on jointly and solely owned poles.
- (b) For a pole jointly owned by Eversource and Consolidated, please confirm that each pole owner currently invoices at its respective jointly owned rate;
- (c) State the rate that Eversource will invoice after the transaction closes for (i) Transferred Poles that were previously jointly owned; (ii) Transferred Poles that were previously solely owned by Consolidated; and (iii) Transferred Poles listed as JU on Consolidated's invoices.
- (d) For the rates identified in response to (c), above, please explain how the rates were computed.

**Response:**

- (a) Eversource's current 2021 pole attachment rates are \$13.50 for a solely owned pole and \$6.75 for a jointly owned pole. Consolidated's current 2021 pole attachment rates are \$11.67 for a solely owned pole and \$6.84 for a jointly owned pole.
- (b) All jointly owned pole attachments are invoiced at each company's respective jointly owned pole attachment rate.
- (c) Please see the response to NECTA 1-026. Attachments on poles that were previously jointly owned with Consolidated will be billed the Eversource jointly owned rate and the Consolidated jointly owned rate. Attachments on poles that were previously solely owned by Consolidated will continue to be billed the Consolidated solely owned pole attachment rate. Attachments on poles listed as JU on Consolidated's invoices will continue to be billed the \$6.84 rate. This is consistent with the method and manner in which rates are charged to attachers today. As described in testimony at the referenced location, the pole attachment agreements currently in effect will transfer to Eversource upon closing of the transaction, including the rates currently authorized under those agreements. Rates would only change under those agreements in the manner in which those agreements prescribe. Any change to rates would occur in the future and follow the terms of the contracts in effect, as is the case today.
- (d) Eversource's rates were calculated using the Unified Pole Rent formula which can be located in docket DT 12-084. Please see the Company's response to STAFF-028 for an explanation of how Consolidated's pole attachment rates were calculated.

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

**Date Request Received: 04/12/2021**

**Date of Response: 05/03/2021**

**Request No. NECTA 1-026**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

Please confirm that once Eversource owns the poles that were jointly owned by Eversource and Consolidated, Eversource will continue to charge the same rates that Eversource and Consolidated charged NECTA's members for their attachments to the jointly owned poles prior to the transfer of ownership.

**Response:**

As it relates to the rates Consolidated charges its attachers, as described at Bates 47, the pole attachment agreements currently in effect between Consolidated and its attachers will transfer to Eversource upon closing of the transaction. The agreements include the rates Consolidated currently charges to its attachers and describe the process for changing them. As a result, assuming the transaction under review in this docket is approved and closed, Eversource will continue to charge Consolidated attachers the same rates they pay to Consolidated today, and will do so until such time as Eversource initiates a change in the rates in the future.

As it relates to the rates Eversource charges its attachers, the Eversource attachment rates adjust annually based on inputs from its annual FERC Form No. 1. Generally speaking, the accounting information recorded in one year is reflected in the attachment rates two years later. For example, accounting records for calendar year 2021, reported on the Company's FERC Form No. 1 report in 2022, will serve as the basis for the attachment rates that will go into effect January 1, 2023.

It is Eversource's plan and expectation that it will consolidate the rate and billing for attachments in the future. Until such time that the rates are consolidated, third party pole attachers will continue to receive two bills for their attachments on previously joint-owned poles – one for attachments on poles previously owned by Consolidated and another for attachments on poles owned by Eversource prior to the transaction.

**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**

**Page 1 of 1**

**Request from: New Hampshire Public Utilities Commission Staff**

**Witness: Douglas P. Horton, Erica L. Menard**

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**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.

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

**Date Request Received: 06/29/2021**

**Date of Response: 07/14/2021**

**Request No. NECTA 3-018**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Michael Shultz, Sarah Davis, Sady Rancourt**

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**Request:**

With reference to 47 C.F.R §1.1409(g), please indicate whether Consolidated is a price cap carrier subject to that section. If Consolidated is a price cap carrier, please indicate which of the following frameworks Consolidated elected: (1) to calculate an Implementation Rate Differential (IRD) between pole attachment rates under the USOA and under GAAP for the last full year preceding the carrier's initial opting out of the Part 32 accounting requirements, or (2) to use GAAP for all accounting purposes while continuing to use Part 32 accounting and procedures necessary to establish and evaluate pole rates. If Consolidated elected the former framework, please provide the calculation of the IRD with supporting documents. If Consolidated elected the latter framework, please provide the Part 32 accounting data pertinent to the pole rate calculation for the period following Consolidated's election through the present.

**Response:**

Consolidated Communications of Northern New England Company, LLC, is not subject to 47 C.F.R. § 1.1409 in New Hampshire because the State of New Hampshire regulates pole attachments, not the Federal Communications Commission.

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

**Date Request Received: 06/29/2021**

**Date of Response: 07/14/2021**

**Request No. NECTA 3-019**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Michael Shultz, Sarah Davis, Sady Rancourt**

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**Request:**

If it is Consolidated's position that it is not a price cap carrier subject to 47 C.F.R. §1.1409(g), please state the basis for Consolidated's position.

**Response:**

Refer to the response provided for data request NECTA 3-018.

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

**Date Request Received: 06/29/2021**

**Date of Response: 07/14/2021**

**Request No. NECTA 3-017**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Michael Shultz, Sarah Davis, Sady Rancourt**

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**Request:**

Regarding the merger between Consolidated Communications Holdings, Inc. and FairPoint Communications, Inc., please indicate whether Consolidated restated the following for New Hampshire: telecommunications plant-in-service; gross investment - poles; accumulated depreciation – total plant-in-service; accumulated depreciation – poles; depreciation rate – poles. If so, please:

- (a) provide the restated values;
- (b) the date those values were restated; and
- (c) how those restated values compare to the last FairPoint reported pole ARMIS data, as identified in FCC Paper Report 43-01 provided in this proceeding in response to STAFF 1-031-RV01.

**Response:**

Please refer to Consolidated Communications' responses to Staff 1-031-RV01(a) and (b), as well as confidential Attachment NECTA 2-002. The restated values are contained therein and the restatement was effective with the Consolidated Communications closing on the acquisition of FairPoint Communications, Inc., on July 3, 2021. Consolidated Communications does not understand what NECTA means by "how those restated values compare to the last FairPoint reported pole ARMIS data". It is Consolidated Communications' belief that FairPoint Communications' prior ARMIS based data bears no relationship to GAAP requirements for purchase accounting.

**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. NECTA 1-045**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness:**

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**Request:**

Please provide copies of Consolidated's ARMIS report for NH for the years 2020, 2019 and 2018.

**Response:**

Consolidated Communications has not filed ARMIS reports for these years. Consolidated is not required to file these reports for its New Hampshire study area.

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

**Date Request Received: 04/12/2021**

**Request No. NECTA 1-048**

**Request from: New England Cable and Telecommunications**

**Date of Response: 04/26/2021**

**Page 1 of 1**

**Witness:**

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**Request:**

Please state whether Consolidated will maintain its historical records regarding the attachment applications for these poles and/ or whether Consolidated will provide such historical records to Eversource.

**Response:**

Consolidated Communications has no present intent to do anything other than maintain its historical records regarding attachment applications. In the event Eversource requires historical information and requests the information, Consolidated Communications is willing to provide historical attachment records to Eversource.

**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. NECTA 1-049**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness:**

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**Request:**

Please state the total annual pole attachment revenues that Consolidated currently receives for the Transferred Poles.

**Response:**

Consolidated Communications objects to this data request on the grounds that the response contains confidential and proprietary information. This information also is protected by RSA 91-A:5(IV), exemptions for confidential, commercial, or financial information. Consolidated Communications asserts NECTA's alleged interest in this information is outweighed by the harm that disclosure would cause to Consolidated.

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

**Date Request Received: 04/12/2021**

**Date of Response: 04/28/2021**

**Request No. STAFF 1-029**

**Page 1 of 1**

**Request from: New Hampshire Public Utilities Commission Staff**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

Reference Horton and Menard Testimony, Bates 47. Please calculate what the pole attachment fees would be for Consolidated if the fees were determined under Eversource's current attachment fee policies, showing any related, inputs, assumptions, and formulae.

**Response:**

As described elsewhere in the responses to these data requests, Consolidated and its predecessor companies did not and do not track the number of its own attachments on poles it jointly or solely owned. As a result, it is not possible to determine an exact level of fees for Consolidated in accordance with Eversource's attachment fee policies, which rely upon accurate counts of attachments.

Having said that, the total annual bill for Consolidated's pole attachments would be \$5,047,374 using the 2020 third party pole attachment rate which was in effect at the time of negotiation (\$12.38) multiplied by the assumed number of attachments (407,704). The payment from CCI to Eversource in years 1 and 2 is a negotiated, fixed amount of \$5.0 million per year.

Please see Attachment STAFF 1-027 for the calculation of the \$12.38 pole attachment rental rate.



Public Service Company of New Hampshire  
P.O. Box 330  
Manchester, NH 03105-0330  
(603) 669-4000

November 3, 2021

Time Warner Entertainment Co., L.P.  
118 Johnson Road  
Portland, ME 04102

Re: PSNH Pole Attachment Agreement – 2022 Attachment Fees and Charges

Dear General Counsel,

In accordance with the Pole Attachment Agreement, enclosed is a copy of the *Public Service Company of New Hampshire Pole Attachment Agreement* fees and charges - Appendix I. The revised fees and charges shall become effective January 1, 2022.

As a reminder and if not already provided, please ensure your organization has an up to date Certificate of Insurance and Surety Bond (or letter of credit) on file, as stipulated in the Agreement.

PSNH is in the process of reviewing a proposed change to the rate calculation that was proposed by the New England Cable Telecommunications Association, Inc. ("NECTA") related to Excess Accumulated Deferred Income Taxes. PSNH expects to issue any updates for 2022 after the review process is complete.

I would also like to inform our licensees that Eversource follows a strict pole inspection program, which helps to identify substandard utility poles. This program has a 10-year cycle in which every pole throughout Eversource maintenance areas will be inspected. If a pole is marked as rejected, the pole will be replaced within a year or sooner depending on the priority level assigned to the pole. To make the transfer of these substandard poles efficient, please ensure that once your attachments are completed in the field that a completed Form 8 Notice of Attachment is returned to Eversource. This form is supplied with each approved license and can also be found in your agreement.

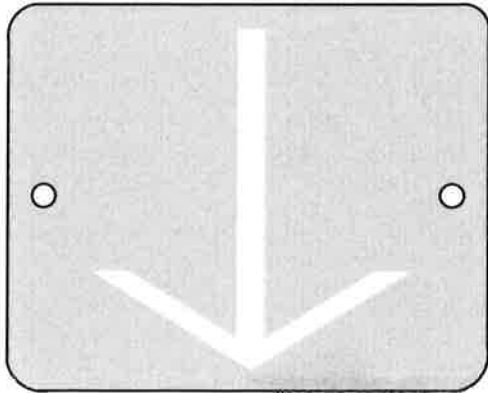
Enclosed with this letter is a handout describing how a pole will be identified as condemned. Please share with any personnel who may perform work in the field.

I may be reached by e-mail or telephone with any questions you may have.

Sincerely,

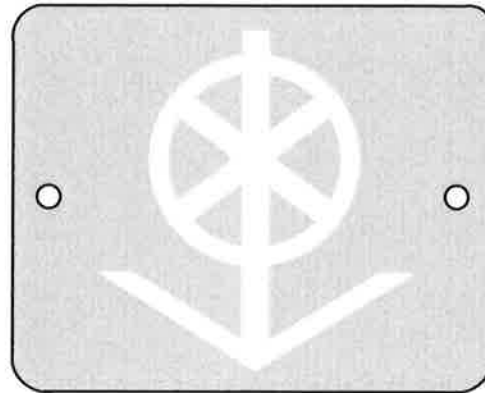
*Samantha L. Brigham*

Samantha L. Brigham  
Supervisor - Operations Support  
PO Box 330  
Manchester, N.H. 03105  
Tel. (603) 634-3525  
E-Mail [Samantha.brigham@eversource.com](mailto:Samantha.brigham@eversource.com)



**"B" Pole Tag**  
**SC 565746**

**Normal Reject Or Reinforceable Poles**



**"C" Pole Tag**  
**SC 565747**

**Danger Reject Poles**

"B" pole tag is a metal tag which measures 2" high X 2-1/2" wide with a clear aluminum arrow on a red background.

The "B" tag is on reject poles that do not require immediate replacement. The tag serves as a warning that the pole is defective and should not be climbed, or supporting conductors removed without additional suitable support.

One tag is to be approximately 6 feet above the groundline on the road side of the pole and another tag attached at approximately the same height on the field side of the pole.

If the pole is defective in the groundline section, the tag shall be placed so the arrow points downward.

If the pole is defective in the upper portion, the tag shall be placed so the arrow points upward.

If, however, the pole is defective in both the groundline section and in the upper portion a double set of tags shall be placed, one set with the arrow pointing downward and the other set with the arrow pointing upward.

The "C" tags are placed on poles which have been determined to be dangerous and require immediate replacement.

**APPENDIX I**

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE,  
dba EVERSOURCE ENERGY  
POLE ATTACHMENT AGREEMENT**

**2022 ATTACHMENT FEES AND PRE-CONSTRUCTION FIELD SURVEY CHARGES**

1. Annual Attachment Fees:

<b>\$14.17</b>	<b>Solely owned poles</b>
<b>\$7.09</b>	<b>Jointly owned poles</b>
<b>\$4.72</b>	<b>Tri owned poles</b>

*Attachment fees provided by Eversource Energy - Rate Department*

Attachment fees are calculated from the first day of the month following the date the license is issued.

Fees shall be payable semi-annually in advance, unless otherwise provided. Payment is due within the later of thirty (30) days from the first day of January and the first day of July or thirty (30) days from the date the bill is issued.

2. Pre-construction Field Survey Charges:

**ROADSIDE FIELD SURVEY CHARGES**

\$350.00 + \$7.00 per pole, for all number of poles

Roadside field survey charges are subject to change based on a periodic review of actual costs to perform pre-construction surveys.

**RIGHT OF WAY FIELD SURVEY CHARGES**

Right-of-way field survey charges will be estimated on a case by case basis after review by Public Service Company of New Hampshire dba Eversource Energy Civil Engineering.

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

**Date Request Received: 04/12/2021**

**Date of Response: 04/27/2021**

**Request No. NECTA 1-004**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Douglas P. Horton, Erica L. Menard**

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**Request:**

Referencing paragraph 6 of the Joint Petition, please describe how Eversource will determine the rate for Consolidated's attachments on solely owned poles after the first two years following the close of the transaction.

**Response:**

After the first two years following the close of the transaction, Consolidated will be billed for its attachments on Eversource's poles using the prevailing solely-owned third party pole attachment rate in effect at that time.

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

**Date Request Received: 06/29/2021**

**Date of Response: 07/14/2021**

**Request No. NECTA 3-011**

**Page 1 of 1**

**Request from: New England Cable and Telecommunications**

**Witness: Sarah Davis, Sady Rancourt**

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**Request:**

Please confirm that Consolidated will stop invoicing attachers for so-called "Joint Use" or "JU" poles that are solely owned by Eversource and will continue to be solely owned by Eversource post transfer. In addition, please state whether Consolidated will continue invoicing JU charges for attachments on poles that are owned by entities other than Eversource post transfer.

**Response:**

Consolidated Communications intends to cease billing for pole attachments related to joint-use poles in Eversource's electric service territory effective with the closing of the transactions contemplated in the Joint Petitioners' Settlement and Pole Asset Purchase Agreement. The remainder of data request NECTA 3-011 bears no relevance to the issues in the present Docket.

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$415.30 \times 33.78\% \times 44.00\% \\ &\quad \begin{array}{cc} \text{Fully} & \text{Jointly} \\ \text{Owned} & \text{Owned} \\ \hline \mathbf{\$11.40} & \mathbf{\$5.70} \end{array} \end{aligned}$$

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Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$415.30	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	33.78%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	243,682,312	-	71,458,375	-	41,892,739
	=	<u>130,331,198</u>				
Net Cost of a Bare Pole	=	$\frac{\text{Net Pole Investment}}{\text{Number of Poles}}$	x	0.85		
	=	$\frac{130,331,198}{266,753}$	x	0.85		
	=	<u>\$415.30</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	3,599,834,380	-	95,348,411 1,104,708,021 618,866,922
	=	95,348,411		
		1,876,259,437		<b>5.082%</b>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Deprecation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	767,494,767	-	32,081,836 225,063,232 131,944,160
	=	32,081,836		
		410,487,374		<b>7.816%</b>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	243,682,312 130,331,198	x	0.0319	=	<b>5.964%</b>

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	3,599,834,380	-	143,660,946 1,104,708,021 618,866,922
	=	143,660,946		
		1,876,259,437		<b>7.657%</b>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<b>7.26%</b>
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F. TOTAL CARRYING CHARGE

Administrative	5.082%
Maintenance	7.816%
Depreciation	5.964%
Taxes	7.657%
Return	7.260%
Carrying Charge	<b>33.779%</b>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2014**

<u>Item</u>	<u>Amount</u>	<u>Reference</u>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 143,660,946	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 3,599,834,380	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 3,599,834,380	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 243,682,312	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 391,880,531	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 131,931,924	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 1,485,149,646	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 435,511,217	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 1,104,708,021	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 160,122,412	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ 32,696,143	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 543,036,458	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 203,256,733	Pg. 277 - Col. K, Row 9
Account 593	\$ 32,081,836	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 95,348,411	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.19	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2014

Capitalization	Cost (\$)	Capitalization Ratios	Embedded Cost	Weighted Average
	[A]	[B]	[C]	[B] * [C]
Long Term Debt	\$ 1,046,130,476	45.90%	4.43%	2.03%
Common Equity	1,232,915,569	54.10%	9.67%	5.23%
	<u>\$ 2,279,046,045</u>	<u>100.00%</u>		<u>7.26%</u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2014 Pole Counts

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	56,079	\$ 17,292,813.08	\$ 308.37	56,079	-	56,079
POLE FO <= 35FT - ROW	5,842	1,040,112.62	178.04	5,842	-	5,842
POLE FO > 35FT	29,144	21,255,669.03	729.33	29,144	-	29,144
POLE FO > 35FT - ROW	3,612	2,238,400.04	619.71	3,612	-	3,612
POLE JO <= 35FT	166,554	20,483,449.58	122.98	-	166,554	83,277
POLE JO > 35FT	177,454	70,475,997.75	397.15	-	177,454	88,727
POLE STEEL <= 65' TRANSMISSION LINE	1	6,405.40	6,405.40	1	-	1
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD <= 65' TRANS LINE	36	30,231.56	839.77	36	-	36
Grand Total	<u>438,757</u>	<u>\$ 133,221,256.12</u>		<u>94,749</u>	<u>344,008</u>	<u>266,753</u>

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$435.53 \times 34.67\% \times 44.00\% \\ &= \frac{\text{Fully Owned}}{\text{Jointly Owned}} \\ &= \frac{\mathbf{\$12.27}}{\mathbf{\$6.14}} \end{aligned}$$

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Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$435.53	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	34.67%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	260,601,634	-	75,861,155	-	47,227,137
	=	<u>137,513,342</u>				
Net Cost of a Bare Pole	=	$\frac{\text{Net Pole Investment}}{\text{Number of Poles}}$	x	0.85		
	=	$\frac{137,513,342}{268,377}$	x	0.85		
	=	<u>\$435.53</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	95,308,584		
	=	3,871,686,703	-	1,175,958,326 - 701,640,560
	=	95,308,584		
	=	1,994,087,817		= <b><u>4.780%</u></b>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Deprecation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	37,997,510		
	=	817,451,261	-	237,960,124 - 148,141,367
	=	37,997,510		
	=	431,349,771		= <b><u>8.809%</u></b>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	260,601,634	x	0.0318	=	<b><u>6.026%</u></b>
	=	137,513,342				

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	155,288,266		
	=	3,871,686,703	-	1,175,958,326 - 701,640,560
	=	155,288,266		
	=	1,994,087,817		= <b><u>7.787%</u></b>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<b><u>7.27%</u></b>
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F. TOTAL CARRYING CHARGE

Administrative	4.780%
Maintenance	8.809%
Depreciation	6.026%
Taxes	7.787%
Return	7.270%
Carrying Charge	<b><u>34.672%</u></b>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2015**

<b><u>Item</u></b>	<b><u>Amount</u></b>	<b><u>Reference</u></b>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 155,288,266	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 3,871,686,703	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 3,871,686,703	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 260,601,634	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 419,717,859	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 137,131,768	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 1,583,938,904	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 461,084,734	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 1,175,958,326	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 130,472,004	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ 42,972,507	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 592,634,080	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 196,505,977	Pg. 277 - Col. K, Row 9
Account 593	\$ 37,997,510	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 95,308,584	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.18	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2015

Capitalization	Cost (\$)	Capitalization Ratios	Embedded Cost	Weighted Average
	[A]	[B]	[C]	[B] * [C]
Long Term Debt	\$ 1,050,475,339	45.79%	4.43%	2.03%
Common Equity	1,243,534,726	54.21%	9.67%	5.24%
	<u>\$ 2,294,010,065</u>	<u>100.00%</u>		<u><b>7.27%</b></u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2015 Pole Counts

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	55,907	\$ 17,541,018.61	\$ 313.75	55,907	-	55,907
POLE FO <= 35FT - ROW	5,843	1,042,489.04	178.42	5,843	-	5,843
POLE FO > 35FT	29,650	22,000,635.36	742.01	29,650	-	29,650
POLE FO > 35FT - ROW	3,621	2,247,725.74	620.75	3,621	-	3,621
POLE JO <= 35FT	164,774	20,571,884.41	124.85	-	164,774	82,387
POLE JO > 35FT	181,795	73,475,415.97	404.17	-	181,795	90,898
POLE STEEL <= 65' TRANSMISSION LINE	1	6,405.40	6,405.40	1	-	1
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD <= 65' TRANS LINE	35	30,231.56	863.76	35	-	35
Grand Total	<u>441,661</u>	<u>\$ 137,313,983.15</u>		<u>95,092</u>	<u>346,569</u>	<u>268,377</u>

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$463.50 \times 32.87\% \times 44.00\% \\ &\quad \begin{array}{cc} \text{Fully} & \text{Jointly} \\ \text{Owned} & \text{Owned} \\ \hline \mathbf{\$12.38} & \mathbf{\$6.19} \end{array} \end{aligned}$$

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Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$463.50	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	32.87%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	274,938,958	-	77,653,522	-	51,708,380
	=	<u>145,577,056</u>				
Net Cost of a Bare Pole	=	$\frac{\text{Net Pole Investment}}{\text{Number of Poles}}$	x	0.85		
	=	$\frac{145,577,056}{266,971}$	x	0.85		
	=	<u>\$463.50</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	4,184,663,266	-	89,541,842 1,253,415,865
	=	89,541,842		787,018,906
	=	2,144,228,495		<b>4.176%</b>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Deprecation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	893,341,217	-	35,559,402 252,314,523
	=	35,559,402		168,012,665
	=	473,014,029		<b>7.518%</b>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	274,938,958 145,577,056	x	0.0320	=	<b>6.044%</b>

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	4,184,663,266	-	165,400,439 1,253,415,865
	=	165,400,439		787,018,906
	=	2,144,228,495		<b>7.714%</b>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<b>7.42%</b>
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F. TOTAL CARRYING CHARGE

Administrative	4.176%
Maintenance	7.518%
Depreciation	6.044%
Taxes	7.714%
Return	7.420%
Carrying Charge	<b>32.872%</b>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2016**

<u>Item</u>	<u>Amount</u>	<u>Reference</u>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 165,400,439	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 4,184,663,266	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 4,184,663,266	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 274,938,958	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 474,530,382	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 143,871,877	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 1,712,608,222	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 483,707,590	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 1,253,415,865	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 128,568,626	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ 50,046,294	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 662,592,750	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 202,948,488	Pg. 277 - Col. K, Row 9
Account 593	\$ 35,559,402	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 89,541,842	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.20	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2016

Capitalization	Cost (\$) [A]	Capitalization Ratios [B]	Embedded Cost [C]	Weighted Average [B] * [C]
Long Term Debt	\$ 1,054,854,428	43.10%	4.45%	1.92%
Common Equity	1,392,419,632	56.90%	9.67%	5.50%
	<u>\$ 2,447,274,060</u>	<u>100.00%</u>		<u><b>7.42%</b></u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2016 Pole Counts

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	55,374	\$ 17,691,033.36	\$ 319.48	55,374	-	55,374
POLE FO <= 35FT - ROW	5,843	1,042,476.51	178.41	5,843	-	5,843
POLE FO > 35FT	30,033	22,605,831.74	752.70	30,033	-	30,033
POLE FO > 35FT - ROW	4,012	5,681,318.28	1,416.08	4,012	-	4,012
POLE, WOOD 40 FOOT FO	5	37,610.98	7,522.20	5	-	5
POLE JO <= 35FT	162,538	20,853,963.08	128.30	-	162,538	81,269
POLE JO > 35FT	180,726	77,045,213.83	426.31	-	180,726	90,363
POLE STEEL <= 65' TRANSMISSION LINE	1	6,405.40	6,405.40	1	-	1
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD < = 65' TRANS LINE	36	30,231.56	839.77	36	-	36
Grand Total	<u>438,603</u>	<u>\$ 145,392,261.80</u>		<u>95,339</u>	<u>343,264</u>	<u>266,971</u>

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$510.45 \times 31.59\% \times 44.00\% \\ &= \frac{\text{Fully Owned}}{\text{Jointly Owned}} \\ &= \frac{\mathbf{\$13.10}}{\mathbf{\$6.55}} \end{aligned}$$

Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$510.45	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	31.59%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	287,457,280	-	80,482,871	-	46,272,546
	=	<u>160,701,863</u>				
Net Cost of a Bare Pole	=	<u>Net Pole Investment</u> Number of Poles	x	0.85		
	=	<u>160,701,863</u> 267,602	x	0.85		
	=	<u>\$510.45</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	4,403,448,409	-	1,314,770,908 - 708,831,479
	=	87,033,383		
	=	2,379,846,022		<u>3.657%</u>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Deprecation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	980,016,977	-	39,685,349 - 157,755,200
	=	39,685,349		
	=	547,874,641		<u>7.244%</u>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) / Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	287,457,280 / 160,701,863	x	0.0320	=	<u>5.724%</u>

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	4,403,448,409	-	178,554,427 - 708,831,479
	=	178,554,427		
	=	2,379,846,022		<u>7.503%</u>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<u>7.46%</u>
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F. TOTAL CARRYING CHARGE

Administrative	3.657%
Maintenance	7.244%
Depreciation	5.724%
Taxes	7.503%
Return	7.460%
Carrying Charge	<u>31.588%</u>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2017**

<b><u>Item</u></b>	<b><u>Amount</u></b>	<b><u>Reference</u></b>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 178,554,427	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 4,403,448,409	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 4,403,448,409	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 287,457,280	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 540,750,136	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 151,809,561	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 1,835,128,502	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 513,802,991	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 1,314,770,908	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 215,012,569	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ 47,512,306	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 711,980,662	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 164,351,080	Pg. 277 - Col. K, Row 9
Account 593	\$ 39,685,349	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 87,033,383	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.20	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2017

Capitalization	Cost (\$)	Capitalization Ratios	Embedded Cost	Weighted Average
	[A]	[B]	[C]	[B] * [C]
Long Term Debt	\$ 990,038,158	42.23%	4.42%	1.87%
Common Equity	1,354,515,716	57.77%	9.67%	5.59%
	<u>\$ 2,344,553,874</u>	<u>100.00%</u>		<u>7.46%</u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2017 Pole Counts

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	55,255	\$ 17,937,978.06	\$ 324.64	55,255	-	55,255
POLE FO <= 35FT - ROW	5,843	1,042,476.51	178.41	5,843	-	5,843
POLE FO > 35FT	30,492	23,607,306.85	774.21	30,492	-	30,492
POLE FO > 35FT - ROW	4,732	13,098,471.90	2,768.06	4,732	-	4,732
POLE JO <= 35FT	160,998	21,134,087.47	131.27	-	160,998	80,499
POLE JO > 35FT	181,142	81,012,610.65	447.23	-	181,142	90,571
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD 35 FOOT FO	29	95,006.48	3,276.09	29	-	29
POLE, WOOD 40 FOOT FO	146	566,761.36	3,881.93	146	-	146
Grand Total	<u>438,672</u>	<u>\$ 158,892,876.34</u>		<u>96,532</u>	<u>342,140</u>	<u>267,602</u>

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$470.15 \times 32.42\% \times 44.00\% \\ &= \frac{\text{Fully Owned}}{\text{Jointly Owned}} \\ &= \frac{\mathbf{\$12.38}}{\mathbf{\$6.19}} \end{aligned}$$

Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$470.15	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	32.42%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	303,587,829	-	79,417,697	-	76,813,648
	=	<u>147,356,485</u>				
Net Cost of a Bare Pole	=	<u>Net Pole Investment</u> Number of Poles	x	0.85		
	=	<u>147,356,485</u> 266,408	x	0.85		
	=	<u>\$470.15</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	3,503,972,154	-	72,270,824 740,353,953
	=	72,270,824		886,573,362
		1,877,044,839		<u>3.850%</u>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Depreciation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	1,044,035,899	-	38,832,062 273,116,767
	=	38,832,062		264,161,465
		506,757,667		<u>7.663%</u>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	303,587,829 147,356,485	x	0.0320	=	<u>6.593%</u>

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	3,503,972,154	-	125,394,937 740,353,953
	=	125,394,937		886,573,362
		1,877,044,839		<u>6.680%</u>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<u>7.63%</u>
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F. TOTAL CARRYING CHARGE

Administrative	3.850%
Maintenance	7.663%
Depreciation	6.593%
Taxes	6.680%
Return	7.630%
Carrying Charge	<u>32.416%</u>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2018**

<u>Item</u>	<u>Amount</u>	<u>Reference</u>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 125,394,937	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 3,503,972,154	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 3,503,972,154	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 303,587,829	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 582,095,624	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 158,352,446	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 1,924,901,936	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 503,548,771	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 740,353,953	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 189,053,874	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ -	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 810,962,848	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 264,664,388	Pg. 277 - Col. K, Row 9
Account 593	\$ 38,832,062	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 72,270,824	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.20	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2018

Capitalization	Cost (\$)	Capitalization Ratios	Embedded Cost	Weighted Average
	[A]	[B]	[C]	[B] * [C]
Long Term Debt	\$ 797,046,162	37.91%	4.30%	1.63%
Common Equity	1,305,391,505	62.09%	9.67%	6.00%
	<u>\$ 2,102,437,667</u>	<u>100.00%</u>		<u>7.63%</u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2018 Pole Counts

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	54,843	\$ 18,391,823.64	\$ 335.35	54,843	-	54,843
POLE FO <= 35FT - ROW	5,832	1,040,504.46	178.41	5,832	-	5,832
POLE FO > 35FT	30,998	25,030,996.64	807.50	30,998	-	30,998
POLE FO > 35FT - ROW	4,961	18,035,751.97	3,635.51	4,961	-	4,961
POLE JO <= 35FT	156,749	21,962,538.25	140.11	-	156,749	78,375
POLE JO > 35FT	182,379	90,481,937.38	496.12	-	182,379	91,190
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD 35 FOOT FO	29	95,006.48	3,276.09	29	-	29
POLE, WOOD 40 FOOT FO	146	566,761.36	3,881.93	146	-	146
Grand Total	<u>435,972</u>	<u>\$ 176,003,497.24</u>		<u>96,844</u>	<u>339,128</u>	<u>266,408</u>

Public Service Company of New Hampshire dba Eversource Energy  
Unified Pole Rent Formula

$$\text{Maximum Rate} = \text{Space Factor} \times \text{Net Cost of a Bare Pole} \times \text{Carrying Charge Rate} \times \text{Conversion Factor}$$

$$\begin{aligned} \text{Where} \quad \text{Space Factor} &= \frac{\text{Space Occupied} + \left[ \frac{2/3 \times \text{Unusable Space}}{\text{No. of Attaching Entities}} \right]}{\text{Pole Height}} \\ &= \frac{1 + \left[ \frac{2/3 \times 24.00}{2.7} \right]}{37.5} \\ &= \mathbf{18.47\%} \end{aligned}$$

$$\begin{aligned} \text{Maximum Rate} &= 18.47\% \times \$521.73 \times 31.85\% \times 44.00\% \\ &\quad \text{Fully Owned} \quad \text{Jointly Owned} \\ &\quad \underline{\underline{\$13.50}} \quad \underline{\underline{\$6.75}} \end{aligned}$$

Space Occupied (Feet)	=	1	
Unusable Space (Feet)	=	24.00	
No. of Attaching Entities	=	2.7	
Pole Height (Feet)	=	37.5	
Net Cost of a Bare Pole	=	\$521.73	see Page 3 - <i>Net Cost of a Bare Pole</i>
Carrying Charge Rate	=	31.85%	see Page 4 - <i>Carrying Charge Rate</i>
Conversion Factor	=	44.00%	

Note: Jointly Owned Rate = Fully Owned Rate / 2

Public Service Company of New Hampshire dba Eversource Energy  
Pole Cost Calculation

Net Pole Investment	=	Gross Pole Investment (Account 364)	-	Accumulated Depreciation (Account 108) (Poles)	-	Accumulated Deferred Income Taxes (Account 190, 281-283) (Poles)
	=	324,218,610	-	81,052,936	-	78,684,444
	=	<u>164,481,230</u>				
Net Cost of a Bare Pole	=	$\frac{\text{Net Pole Investment}}{\text{Number of Poles}}$	x	0.85		
	=	$\frac{164,481,230}{267,973}$	x	0.85		
	=	<u>\$521.73</u>				

Public Service Company of New Hampshire dba Eversource Energy  
Carrying Charge Calculation

A. ADMINISTRATIVE ELEMENT

Total Administrative & General Expenses				
Administrative Element	=	Gross Plant Investment (Electric)	-	Accumulated Depreciation (Account 108 - Electric) - Accumulated Deferred Taxes (Electric Plant) (Accounts 190, 281-283)
	=	3,754,330,700	-	76,522,401 758,501,614
	=	76,522,401		911,136,541
	=	2,084,692,545		<u>3.671%</u>

B. MAINTENANCE ELEMENT

Account 593				
Maintenance Element	=	Pole Investment in Accounts 364, 365 & 369	-	Deprecation (Poles) Related to Accounts 364, 365 & 369 - Accumulated Deferred Income Taxes related to Accounts 364, 365 & 369
	=	1,115,229,795	-	54,827,512 278,801,546
	=	54,827,512		270,654,532
	=	565,773,717		<u>9.691%</u>

C. DEPRECIATION ELEMENT

Depreciation Element	=	Gross Pole Investment (Account 364) Net Pole Investment	x	Depreciation Rate for Gross Pole Investment	=	
	=	324,218,610 164,481,230	x	0.0318	=	<u>6.268%</u>

D. TAXES ELEMENT

Accounts 408.1 + 409.1 + 410.1 + 411.4 - 411.1				
Taxes Element	=	Gross Plant Investment (Total Plant)	-	Accumulated Depreciation (Account 108) - Accumulated Deferred Taxes (Plant) (Account 190, 281-283)
	=	3,754,330,700	-	100,605,621 758,501,614
	=	100,605,621		911,136,541
	=	2,084,692,545		<u>4.826%</u>

E. RETURN ELEMENT

Return Element	=	Applicable Rate of Return (See Pg. 6 - Cost of Capital)	=	<u>7.39%</u>
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F. TOTAL CARRYING CHARGE

Administrative	3.671%
Maintenance	9.691%
Depreciation	6.268%
Taxes	4.826%
Return	7.390%
Carrying Charge	<u>31.846%</u>

**FERC FORM No. 1: Public Service Company of New Hampshire - Q4 2019**

<b><u>Item</u></b>	<b><u>Amount</u></b>	<b><u>Reference</u></b>
Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 100,605,621	Pg. 114 - Col. C, Rows 14 through 19
Gross Plant Investment (Total Plant)	\$ 3,754,330,700	Pg. 200 - Col. B, Row 8
Gross Plant Investment (Total Electric Plant)	\$ 3,754,330,700	Pg. 200 - Col. C, Row 8
Gross Investment Account 364	\$ 324,218,610	Pg. 207 - Col. G, Row 64
Gross Investment Account 365	\$ 626,137,844	Pg. 207 - Col. G, Row 65
Gross Investment Account 369	\$ 164,873,341	Pg. 207 - Col. G, Row 69
Gross Plant Investment Distribution	\$ 2,014,144,019	Pg. 207 - Col. G, Row 75
Accumulated Depreciation Distribution	\$ 503,525,344	Pg. 219 - Col. B, Row 26
Accumulated Depreciation (Account 108 - Electric)	\$ 758,501,614	Pg. 219 - Col. C, Row 29
Account 190 (Electric)	\$ 189,692,531	Pg. 234 - Col. C, Row 8
Account 281 (Electric)	\$ -	Pg. 273 - Col. K, Row 2
Account 282 (Electric)	\$ 829,702,950	Pg. 275 - Col. K, Row 2
Account 283 (Electric)	\$ 271,126,122	Pg. 277 - Col. K, Row 9
Account 593	\$ 54,827,512	Pg. 322 - Col. B, Row 149
Total Administrative & General Expenses	\$ 76,522,401	Pg. 323 - Col. B, Row 197
Depreciation Rate for Gross Pole Investment	3.18	Pg. 337 - Col. E, Row 16

Public Service Company of New Hampshire dba Eversource Energy  
Capitalization at 12/31/2019

Capitalization	Cost (\$)	Capitalization Ratios	Embedded Cost	Weighted Average
	[A]	[B]	[C]	[B] * [C]
Long Term Debt	\$ 946,023,193	40.44%	4.03%	1.63%
Common Equity	1,393,439,494	59.56%	9.67%	5.76%
	<u>\$ 2,339,462,687</u>	<u>100.00%</u>		<u>7.39%</u>

Public Service Company of New Hampshire dba Eversource Energy  
ACCOUNT 364 - DECEMBER 31, 2019 BALANCES

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	54,846	\$ 18,825,502.93	\$ 343.24	54,846	-	54,846
POLE FO <= 35FT - ROW	5,844	1,298,793.84	222.24	5,844	-	5,844
POLE FO > 35FT	31,966	26,611,567.32	832.50	31,966	-	31,966
POLE FO > 35FT - ROW	5,229	22,634,408.96	4,328.56	5,229	-	5,229
POLE JO <= 35FT	154,561	22,765,138.88	147.29	-	154,561	77,281
POLE JO > 35FT	185,194	99,348,728.10	536.46	-	185,194	92,597
POLE, LAMINATED COLUMN 51- 55' FO	2	144,912.94	72,456.47	2	-	2
POLE, LAMINATED COLUMN 56- 60' FO	22	148,266.87	6,739.40	22	-	22
POLE, LAMINATED COLUMN 61- 65' FO	6	52,405.57	8,734.26	6	-	6
POLE, LAMINATED COLUMN 66- 70' FO	5	52,591.68	10,518.34	5	-	5
POLE, WOOD 35 FOOT FO	29	95,006.48	3,276.09	29	-	29
POLE, WOOD 40 FOOT FO	146	566,761.36	3,881.93	146	-	146
Grand Total	<u>437,850</u>	<u>\$ 192,544,084.93</u>		<u>98,095</u>	<u>339,755</u>	<u>267,973</u>

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

**Date Request Received: 08/03/2021**

**Date of Response: 08/13/2021**

**Request No. NECTA TS 3-004**

**Page 1 of 2**

**Request from: New England Cable and Telecommunications**

**Witness: Russel D. Johnson**

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**Request:**

In reference to the Response to Staff 3-005, Attachments Staff 3-005.b2016.xlsx, Staff 3-005.b2017.xlsx, Staff 3-005.b2018.xlsx, Staff 3-005.b2019.xlsx and Staff 3-005.b2020.xlsx containing data from pole inspection reports:

- (a) For each of the five years of data provided:
  - (i.) Please provide an explanation of the entries appearing in the columns labeled HEIGHT, STANDARD, and CLASS and indicate the source of the entries;
  - (ii) Please confirm that the entries appearing in the column labeled HEIGHT represent the actual measured height of the inspected pole. If those entries represent something else, please explain.
  - (iii.) Please indicate whether the pole HEIGHT data was collected and is displayed on all the spreadsheets for the population of poles subject to the ground line inspections, the visual inspections, or both.
- (b) For the 2019 report, please indicate if the pole length identified in the column labeled STANDARD is equal to the height of the pole, notwithstanding the entry of 0 in the HEIGHT column. If these entries represent something else, please describe.
- (c) Please confirm the statements made by Eversource at the July 30, 2021 Technical Session that the 5 years of inspection report data provided would cover approximately 50% of Eversource's total pole population given "the Company's policy is to inspect poles on a ten-year rotating basis."
- (d) In responding to Staff's observation in request Staff 3-005 (c) "that Eversource appears to have been inspecting between approximately 32,000 and 74,000 poles a year," the response to Staff 3-005 (c) indicates "the inspections reports include both ground line inspections and visual inspections, hence the larger number of total inspections" [than under a ten-year rotating basis standard]. Please state whether Eversource agrees the acknowledged "larger number of total inspections" means the 5 years of inspection report data would encompass poles in excess of 50% of Eversource's total pole population (albeit at different standards of inspection)? If not, please explain why that would not be the case.

**Response:**

- a. (i.) The column labeled HEIGHT is intended to represent the length of the pole from butt to top in feet. A review of the information provided in the referenced attachments indicates that in some cases the value is incorrect or missing. This appears to have occurred during the export of the data, however, the correct height information is consistently provided in the "STANDARD\_1" column which is the "Standard Item Description" in the case where the Standard\_1 column was provided. The column labeled STANDARD\_I is the Standard Item Number which is associated with the Standard Item Description. The Standard\_2 column is the Standard Item Type which indicates

whether the Standard Item Number is from the original conversion to GIS or from a job designed in the STORMS or Maximo work management systems after the initial conversion. The column labeled CLASS is an industry standard that simply speaking is associated with the diameter of the pole.

(ii.) As noted in the response to part (i.), HEIGHT is the total length of the pole. The measured height would be equal to the designated HEIGHT minus the depth at which the pole was set. For example, a 40 foot pole is generally set at a depth of 6 feet resulting in 34 feet of the pole above ground level.

(iii.) The pole height data is available for all poles from asset systems the Company maintains. It is not gathered from the inspection.

- b. The information provided under the STANDARD\_1 column heading is the total length of the pole.
- c. This statement is correct in that the number of inspections of poles in Eversource's maintenance area over a 5 year period would cover approximately 50% of the total poles within Eversource's maintenance area.
- d. The total number of inspections includes visual inspections of poles outside of the Eversource maintenance areas and therefore the total number of inspections would exceed 50% of the total poles in Eversource's maintenance area.