

STATE OF NORTH CAROLINA

COUNTY OF ROWAN

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION

10 CVS 1172

TIME WARNER ENTERTAINMENT-
ADVANCE/NEWHOUSE PARTNERSHIP,

Plaintiff,

v.

TOWN OF LANDIS, NORTH CAROLINA,

Defendant.

**EXPERT REPORT OF
PATRICIA D. KRAVTIN**

October 20, 2010

Table of Contents

I. Qualifications 1
II. Assignment and Summary of Opinion 2
III. FCC Pole Rate Formula Methodology 6
IV. Economically Appropriate Approach to Calculating Just and Reasonable Rates 13
 Net Bare Cost of a Pole. 14
 Carrying Charge Factor 19
 Space Allocation Factor..... 22
V. Calculations of Landis’s Maximum Just and Reasonable Pole Attachment Rental Rates Under FCC Cable and Telecom Formula Methodology 23
VI. Pole Rates Calculated by Landis’s Consultant Exceed Maximum Just and Reasonable Rates..... 24

List of Tables

1: Maximum Just and Reasonable Landis Pole Rental Rates under FCC Cable and Telecom Formula Methodology.....23
2: Comparison of Maximum Just and Reasonable Pole Attachment Rates with Rates Calculated by Landis’s Consultant.....25

Attachments

- 1: Detailed Resume
- 2: List of Data and Information Considered in Forming Opinion
- 3: Description of the Carrying Charge Factor (CCF) Component of the FCC Rate Formula
- 4: Calculation of Just and Reasonable Pole Attachment Rates Using Data for FY Ending 6/30/09
- 5: Ratio of Pole Plant to Electric Distribution Plant for FCC FNPRM Benchmark Utilities

I. QUALIFICATIONS

1. My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue, Swampscott, Massachusetts. I am an economist in private practice specializing in the analysis of telecommunications regulation and markets.

2. I have testified or served as an expert in proceedings before over thirty state regulatory commissions. I have also provided expert testimony and reports in proceedings before the Federal Communications Commission (“FCC”), the Federal Energy Regulatory Commission (“FERC”), and before international agencies including the Canadian Radio-television and Telecommunications Commission, the Ontario Energy Board, and the Guam Public Utilities Commission. In addition, I have testified as an expert witness in antitrust litigation in federal district courts, and also before a number of state legislative committees. A detailed resume summarizing my educational background and previous experience, including a listing of the proceedings I have testified in and the reports I have authored, is provided in Attachment 1 to this report.

3. Over the course of my career, I have been actively involved in a number of state and federal regulatory commission proceedings involving cost methodologies and the allocation of costs of incumbent local exchange carriers (“ILECs”) and electric utilities. One local network component, essential for the provision of competitive communications services, with which I am also very familiar, is access to poles, ducts, conduits, and rights-of-way. I have testified extensively on matters pertaining to these essential facilities before state and federal regulatory agencies and district courts, including those in Florida, New York, California, and Washington. I have submitted reports in pole proceedings before the FCC, including both rounds of its most recent pole rulemaking proceeding, *In the Matter of Implementation of Section 224 of the Act; A National Broadband Plan for our Future, Opinion and Further Notice of Proposed Rulemaking*, WC Docket No. 07-245, GN Docket No. 09-51, rel. May 20, 2010 (FCC 2010 FNRPM) and *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, re. Nov. 20, 2007 (FCC 2007 NPRM Proceeding). In 2006, I submitted testimony and was subject to live cross-examination before the FCC’s Chief Administrative Law Judge, on issues pertaining to utility compensation for pole attachments in *In the Matter of Florida Cable Telecommunications Association, Inc., et. al. v. Gulf Power Company*, Initial Decision, FCC 07D-01, 22 FCC Rcd 1997 (2007) (appeal pending)(“FCTA”).

4. I have served as an expert or advisor on pole attachment matters in proceedings involving investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned utilities, and before the following state regulatory commissions: the Kentucky Public Service Commission, the Arkansas Public Service Commission, the Public Utilities Commission of Ohio, the Public Utilities Commission of Texas, the Georgia Public Service Commission, the South Carolina Public Service Commission, the Public Service Commission of the District of Columbia, the New Jersey Board of Public Utilities, and the New York Public Service Commission. I have also been actively involved in related issues pertaining to broadband deployment. I have authored a number of reports dealing with this subject and participated as a grant reviewer for the Broadband Technology Opportunities Program (“BTOP”) administered by National Telecommunications and Information Administration (“NTIA”).

5. I am being compensated for the time I spend on this matter at my standard rate of \$385 per hour. I will also be reimbursed for any travel and miscellaneous out-of-pocket expenses incurred in connection with this litigation. My compensation is not contingent on the outcome of this litigation or my analysis.

II. ASSIGNMENT AND SUMMARY OF OPINION

6. I was asked by counsel for Time Warner Entertainment – Advance/Newhouse Partnership (“TWEAN”) to address matters raised in this litigation relating to the pole attachment rental rates that the Town of Landis (“Landis”) charges TWEAN. In particular, my report provides calculations of maximum just and reasonable pole attachment rental rates applicable to TWEAN under N.C.G.S. §62.55. Pursuant to N.C.G.S §62.55, the rate calculations I have performed rely heavily on the rules and regulations applicable to pole attachments under §224 of the Communications Act of 1934, in a manner fully consistent with the well-established methodology used by the FCC and the majority of states self-certified to regulate pole attachments, and the underlying economic principle of cost causation upon which the regulation of pole attachments under §224 fundamentally relies.

7. Pursuant to §224(d) and (e), under existing FCC rules a different rate could apply to pole attachments depending on their classification as either a cable or telecom attachment. While my report determines different maximum just and reasonable rates for cable and telecom attachments consistent with existing FCC rules and methodology, it is my opinion that the most economically appropriate pole attachment rate for *both* cable and telecom attachments is the rate determined by the cable rate formula. My opinion is based on the economic principle of cost causation (which holds that the entity causally responsible - i.e., the entity but for whose existence or action a cost would not have been incurred - is attributed those costs), and in consideration of the strong public interest benefit associated with lower

prices for new or advanced internet or other broadband services. My opinion is also consistent with FCC recommendations in its March 2010 National Broadband Plan (“NBP”), and reaffirmed in its current pole rulemaking proceeding. As the FCC recommended, broadband deployment is best served by a pole attachment rate “set as low and as close to uniform (in the vicinity of the current cable rate) as possible,” particularly in rural areas such as served by Landis where the “impact of these rates can be particularly acute.”¹ Indeed, many of the states that have opted to regulate pole attachments (versus rely on the federal regulation) also apply the cable rate to attachments classified as telecom pursuant to federal statute.

8. Applying the §224(d) FCC cable rate methodology to Landis’s summary data,² along with data available from other public sources, I have calculated the maximum just and reasonable pole attachment rates that Landis should be permitted to charge TWEAN as a third-party attacher on its poles. These rates are presented in the table on the following page in a side-by-side comparison with the rates calculated by Landis’s consultant Mr. Ted McGavran that he identified as a basis of the \$18 pole rate (for 2009) in the draft contract Landis submitted to TWEAN on August 3, 2009.³ As shown in the following table, the pole rental rates calculated by Mr. McGavran exceed the maximum just and reasonable rates by as much as 373% to 499% in comparison to a FCC §224(d) cable rate, and 107% to 163% in comparison to a FCC §224(e) telecom rate.⁴

¹ See FCC, *Connecting America: The National Broadband Plan*, rel. March 16, 2010, at 110. <http://www.broadband.gov/plan/#read-the-plan>; and *In the Matter of Implementation of Section 224 of the Act, A National Broadband Plan for our Future*, WC Dkt. No. 07-245, GN Dkt. No. 09-51, *Opinion and Further Notice of Proposed Rulemaking (FNPRM)*, rel. May 20, 2010, at ¶¶ 6-7, 110-118.

² Pole-owning municipalities such as Landis typically are not required to file publicly detailed FERC-account based data. Landis has produced some data in discovery in this proceeding, which I have used in my calculations.

³ See Deposition of Ted McGavran, dated 8/30/2010, at 252.

⁴ The amount by which Mr. McGavran’s calculated rates exceeds just and reasonable rates depends on which of Mr. McGavran’s numerous rate calculations are used, as well as the type of attachment, i.e., cable or telecom (an issue my Report does not address). According to Mr. McGavran, the only difference between the two rates he identified as a basis for the \$18 draft contract rate is the input he chose for the cost of capital. See id.

Comparison of Maximum Just and Reasonable Pole Attachment Rates with Rates Calculated by Landis's Consultant (\$ per pole/year)		
Based on data for FY Ending 6/30/09	§224(d) Rate	§224(e) Rate
Maximum Just and Reasonable Rates	\$3.30	\$7.52
Landis Consultant Rate #1	\$15.60	\$15.60
Landis Consultant Rate #2	\$19.77	\$19.77
% Diff. Consultant Rate #1 w/Just & Reasonable	373%	107%
% Diff. Consultant Rate # 2 w/Just & Reasonable	499%	163%

9. The approach I have taken in determining the maximum just and reasonable rates shown in the table above adheres to the following key principles:

- the basic economic principle of cost causation;
- an objective, straightforward application of the well-established §224(d) and (e) rate formula methodology;
- the use of economically appropriate and reasonable data inputs;
- reliance on data that are publically available, readily verifiable and/or based on audited data;
- administratively easy and efficient to implement and update on an annual basis; and
- designed to minimize disputes among parties.

10. By contrast, the rate calculations of Landis's consultant Mr. McGavran rely on a methodology that has not been vetted by a regulatory authority, data that are not readily verifiable or tracked to the Town's audited statements, assumptions that are inconsistent with the basic principle of cost causation, and a number of subjective judgments and discretion as to data inputs. Both the number and manner of "sensitivity" runs that Mr. McGavran ran as part of his rate calculation process, as identified in the materials provided by Landis in response to discovery, give testament to the lack of an underlying economic underpinning to some key data inputs to Mr. McGavran's calculations, including the net bare cost of a pole, and the cost of capital element of the carrying charge.

11. In my opinion, rates set any higher than the maximum just and reasonable rates I have calculated (and presented in the table above) would fail to serve the ultimate purposes of effective pole rate regulation embodied in N.C.G.S. §62.55. That the just and reasonable rates produced by an economically appropriate application of the §224 (d) and (e) formula methodology and calculated using reasonable data

inputs are lower than the rate levels previously “negotiated” between other pole-owning municipalities or utilities and the cable company, and/or “market benchmark” rates set by other monopoly pole owners, is not a valid economic or public policy concern. As found by the FCC and the courts on various occasions, rates calculated using the §224 (d) cable formula are subsidy-free, and much more than fully compensatory to the pole owner.

12. The §224 (e) telecom rate may satisfy the just and reasonable standard in the case of telecom attachments. However, as found by the FCC and the many state commissions who apply the 224(d) cable rate to telecom attachments as well, the §224 (e) rate is less economically efficient and conducive to promoting competition and deployment of new and advanced services than the §224 (d) rate. Accordingly, as proposed by the FCC in its current pole rulemaking proceeding, the §224 (e) rate should be regarded as the very upper most bound of a just and reasonable rate. As noted above, it is my opinion that the maximum just and reasonable rate that Landis be permitted to charge third party attachers should be based on the §224 (d) cable rate formula methodology for both cable and telecom attachments.

13. In reaching my opinions, I have relied on my education, training, research, and experience in economic analysis, and my prior experience in the areas of telecommunications and utility regulation outlined above and further detailed in Attachment 1 to this report. I have considered various data and information in forming my opinions, including materials provided by Landis in response to discovery and in the deposition questioning of Landis witnesses, along with data from other publically available sources, including the Federal Energy Regulatory Commission (“FERC”) Form 1 and various orders of the Federal Communications Commission. A listing of the data and information I considered in forming my opinions is provided in Attachment 2 to this Report.

III. FCC POLE RATE FORMULA METHODOLOGY

14. The foundation underlying the FCC's regulation of pole rates pursuant to Section 224 of the Communications Act is the fact that pole-owning utilities, by virtue of historical incumbency, own and control existing pole plant to which cable operators and other third-parties have no practical alternative but to attach. Where a utility has absolute control over essential bottleneck facilities, in the absence of effective pole regulation, pole-owning utilities are in a position to limit access to these essential bottleneck facilities and/or to extract excessive monopoly rents.⁵ In addition, this control of the essential bottleneck pole facility effectively affords the utility a key gatekeeper role with respect to the roll-out and availability of new or advanced internet and broadband services in its service area.

15. Preventing a pole-owning utility from charging excessive rates to the detriment of competition and the consuming public, is precisely what pole rate regulation nationally pursuant to Section 224 as well as here in North Carolina for municipalities such as Landis pursuant to N.C.G.S. §62.55, was designed to address. In this context, the FCC formula methodology (and any other effective system of pole rate regulation at the state or local level) is designed to limit the rents that utilities are permitted to charge third-party attachers to levels more in line with what a competitive market (if one existed, which it does not) would produce, while at the same time ensuring the rates utilities are permitted to charge attachers are fully compensatory.

16. Pursuant to the directives set forth in Section 224, the FCC pole rate methodology, applicable to both cable and telecom rate attachments, calculates a maximum annual pole attachment rent by taking the sum of the actual capital costs and operating expenses of the utility attributable to the entire pole, expressed on an annual basis, and apportioning those costs to the attacher based on an allocation of space on the pole. The FCC methodology, by design, produces a rate that recovers the "fully allocated" cost of pole attachment and is at the high end of the range of maximum just and reasonable rates permitted under Section 224. Fully allocated costs are those that would exist for the utility independent of the attachment. (By way of comparison, the low end of the range of just and reasonable rates permitted under Section 224 is a rate based on the "incremental" or additional costs of pole attachments, i.e., costs that "but for" the attachment would not exist).

⁵ See *NCTA v. Gulf Power*, 534 U.S. 327, 330 (2002) ("Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.").

17. Operationally, the FCC formula for both cable and telecom attachments consists of the following three major components: (1) the net investment per bare pole, (2) a carrying charge factor (CCF), and (3) a space allocation factor (i.e., the percent of pole capacity attributable to the attacher. Expressed as an equation, the FCC formula methodology is as follows:

FCC Pole Rate Formula (for both cable and telecom) = Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor

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, differing only with respect to the third component, i.e., the space allocation factor.

18. The net bare pole cost is calculated in the following straightforward, albeit four step process: First, the utility's *gross* investment in pole cost is determined based on amounts reported in the utility's books of account. Second, this gross investment amount is converted to a *net* investment figure by subtracting accumulated depreciation for pole plant and any accumulated deferred taxes applicable to poles. Third, the net investment in *bare* pole plant is determined by making a further reduction (presumed to be 15% in the case of electric utilities) to remove amounts for "appurtenances," such as cross-arms whose investment is included in the pole account but 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 a maximum per pole rental rate.

19. The carrying charge factor (CCF) component is used to convert the net bare pole cost into an annual rental amount which recovers the cost of owning and maintaining utility poles from a fully allocated cost perspective. The carrying charge factor is comprised of the sum of utility expense factors related to poles including maintenance, depreciation, administrative, taxes, and overall rate of return, each expressed as a percentage of expense to net plant in service. The appropriate net plant in service figure used to calculate the various elements of the CCF will depend 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.

20. The important principle to follow using the FCC methodology is one of consistency between the level of aggregation of the expense data and the level of aggregation of the net plant investment figure. The FCC methodology uses the lowest, i.e., most detailed, level of accounting for which reliable, publicly reported data is available. Once calculated, the five expense elements are simply summed together prior to being multiplied against the net cost per bare pole component of the formula. For example, if the carrying charge calculations yield 5% for each of the five elements, the overall carrying charge factor would be 25%. The derivation of the five elements of the carrying charge factor under the FCC methodology is described in more detail in Attachment 3 to this report.

21. As mentioned above, the one place where the FCC cable and telecom formulas differ is in the calculation of the space allocation factor. In particular, the two formulas differ in the manner in which the telecom formula allocates the costs associated with the *unusable* space on the pole. The FCC cable formula allocates the costs of the *entire* pole (i.e. costs associated with *both* usable and unusable space) in proportion to an attacher's direct use or occupancy of total usable space on the pole. Expressed as an equation, the FCC cable formula is as follows:

$$\text{FCC Cable Rate Formula} = \text{Net Bare Pole Cost} \times \text{Carrying Charge Factor} \times \left[\frac{\text{Space Occupied by Attacher}}{\text{Usable Space on Pole}} \right]$$

Using the FCC's presumptions of an average 37.5 foot joint-use pole, 1 foot of space per communications attachment, and the availability of 13.5 feet of usable space on the pole, the appropriate space allocator factor for the cable rate formula is 1/13.5 or 7.41%.⁶

22. Whereas the FCC cable formula assigns costs relating to the entire pole -- including both usable and unusable space -- on the basis of a proportionate-use allocator, the FCC telecom formula assigns the cost of usable space on the pole based on the proportionate share of usable space occupied by the attacher (the exact same as the cable formula) but assigns costs relating to the unusable space on the pole using a per-capita allocator. Specifically, as statutorily prescribed in §224(e), the FCC telecom formula takes 2/3 of the unusable space on the pole (in appropriate recognition of the control that the pole owner has with

⁶ See *In the Matter of Amendment of Rules and Policies Governing Pole Attachments*, Report and Order, 15 FCC Rcd 6453 at ¶ 16 (Apr. 3, 2000) (“*FCC Fee Order*”). (Based on National Electrical Safety Code guidelines and data received during rulemaking proceedings, and “[t]o avoid a pole by pole rate calculation, the Commission adopted rebuttable presumptions of (1) an average 37.5 foot pole height; (2) 13.5 feet of usable space; and (3) one foot as the amount of space a cable television attachment occupies.”)

regard to the entire pole, including unusable space) and divides that equally by the number of attaching entities. Expressed as an equation, the FCC telecom formula is as follows:

$$\text{FCC Telecom Rate Formula} = \text{Net Bare Pole Cost} \times \text{Carrying Charge Factor} \times$$
$$[\text{Usable Space Percentage} + \text{Unusable Space Percentage}] \text{ where:}$$
$$\text{Usable Space Percentage} =$$
$$(\text{Space occupied by attacher} / \text{Usable Space}) \times (\text{Usable Space} / \text{Pole Height}); \text{ and}$$
$$\text{Unusable Space Percentage} = 2/3 \times (\text{Unusable Space} / \text{Pole Height}) \times (1/\text{Number of Attachers})$$

23. Using the same FCC's presumptions presented above for the cable formula (i.e., a 37.5 foot joint-use pole, 1 foot of space per communications attachment, and 13.5 feet of usable space on the pole), the usable space percentage of the telecom space allocation factor equals $(1/13.5) \times (13.5/37.5)$ or 2.67%. Given these same presumptions, there are 24 feet of unusable space to apportion, since unusable space under FCC rules is defined as the space on the pole other than the usable space $(37.5 - 13.5 = 24)$, consisting of the 6 feet of the pole that is below ground and the 18 feet of the pole above grade required to clear possible interference and obstacles and on which attachments cannot be made. Further assuming the FCC presumptive number of 3 attaching entities in rural areas⁷ as is appropriate for Landis) the unusable space percentage equals $(2/3) \times (24/37.5) \times (1/3)$ or 14.22%. Adding the usable and unusable space percentages together $(2.67\% + 14.22\%)$ produces a total space allocation factor for the telecom formula of 16.89%.

24. The overarching concept underlying the two FCC formulas is that they can be applied in a straightforward manner, using publicly available information as reported in the FERC uniform reporting system (i.e., FERC Form 1) where available, such that it can be updated annually with a minimum of private, administrative effort, and little if any regulatory involvement. As with any formulaic approach, however, the accuracy and integrity of the formula depends on the accuracy and integrity of the underlying data inputs. For this reason, it is very important that the data used in the formula, and this is particularly true of data provided by the utility that are not otherwise publicly reported, be subject to

⁷ See *FCC Consolidated Partial Order on Reconsideration ("FCC Recon Order")*, CS Docket 97-98, 97-151, FCC 01-170 (May 25, 2001) at ¶67 ("we provide utilities the option of using our presumptive averages [3 for rural and 5 for urban].... or developing averages for two areas: (1) urbanized (50,000 or higher population), and (2) non-urbanized (less than 50,000 population)").

careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be verified and replicated.

25. While the telecom formula has been found to produce a just and reasonable rate for telecom attachments, the cable formula offers a number of distinct and significant advantages over the telecom formula. These advantages derive from the cable formula's reliance on a cost allocation methodology which assigns direct as well as indirect costs in proportion to the attacher's relative use or occupancy on the pole. First, by assigning pole costs to attachers in accordance with their actual use of the pole, the FCC cable formula adheres more closely to cost allocation principles well established in the economics and regulatory literature. In the FCC cable formula, the cost of the pole is recoverable from the cost causer, i.e., the entity causally responsible for the costs. By contrast, the FCC telecom formula, by relying on the number of attaching entities (multiplied by a factor of two-thirds), introduces an artificial construct into the pricing formula – one that has no direct connection to the consumption of space on the pole or to any actual increase in cost burden placed on the utility or its ratepayers.

26. For example, a telephone company occupying two feet of space could make two attachments on the pole, but under the telecom formula, it would be counted as a single entity and assigned the same portion of common costs as an entity occupying just one foot of space providing room for only one attachment. In the context of familiar commercial or residential leasing applications, this would be analogous to charging a tenant occupying only one floor of a ten-story office or apartment building the same amount (i.e., 50%) of the common costs such as elevators, lobby space, and parking lot, as a tenant occupying all of the other nine floors of space, as opposed to a more reasonable (smaller) proportionate share (i.e., 10%) such as would be assigned under the cable formula. The cost allocation approach embodied in the cable rate formula (i.e., the allocation of costs based on proportionate use or direct occupancy of space) follows cost causation principles in a manner directly analogous to the common and widely-accepted practice in the leasing of property and other facilities throughout the private and public sectors of the economy, such as the apartment house/office building example above.⁸

27. Second, by relying strictly on the relative amount of usable space occupied by an attachment to allocate the cost of the pole to an attacher and other publicly, readily verifiable information, the cable formula is more straightforward to implement than the telecom formula and provides for a more

⁸This concept was recognized by Congress in the 1978 pole legislation. *See* 123 Cong. Rec. 5080 (1977) (Statement of Rep. Wirth) ("The renter of one of the ten units pays the cost of that unit plus one-tenth of the cost of all common

consistent and predictable application of the pole attachment formula across service areas. Because the number of attaching entities varies from pole to pole and service area to service area, the need to track the number of attaching entities in the telecom formula adds a level of complexity and arbitrariness to the formula. In addition, any such information is in the complete control of the utility, which also defeats the purpose of basing a formula on publicly verifiable information and adds an issue likely to be of contention.

28. Third, the FCC cable rate, by more closely tracking the lower rate that a competitive market if one existed would produce⁹ (compared with either the excessively high rates proposed by Landis or even the FCC telecom rate), can provide important benefits to consumers -- including both utility and cable subscribers alike. Most notably, the cable rate creates a market environment that encourages infrastructure investment and the provision of a greater array of new and advanced services, and at lower rates, than would occur if the pole attachment rate was set at higher monopoly rate levels.

29. Utilities commonly assert that the cable rate is a “subsidized” rate. However, such an assertion is totally unfounded. It is a central tenet of economics that rates that recover the marginal costs (also referred to as the incremental costs) of production are economically efficient and subsidy-free.¹⁰ For a subsidy to occur, the utility must have unrecovered costs that *but for* the attacher would otherwise not exist. This is *not* the case with the cable rate where rental rates, especially in combination with make-ready charges (i.e. charges by utility designed to recover any actual out of pocket costs incurred by the utility in connection making space on a pole to accommodate a third-party attachment) *much more* than cover the incremental cost of attachment. From an economics standpoint, where rates cover the incremental cost of attachment, neither the utility nor any of the other parties sharing the pole will bear a higher cost as a result of the attachment (than they would absent the attachment).¹¹ Under these conditions, *there can be no valid claim*

areas. He does not pay one-half the cost of the common areas just because only one other person occupies the other nine units, but rather he pays his one-tenth share of all the costs attributable to the building.”)

⁹ In a truly competitive market, there would be multiple pole owners with their own infrastructure, each vying for buyers to rent space on their poles. Under these circumstances, prices would tend to be bid down to levels approximating marginal cost, which is essentially the cost of make-ready, i.e., the costs of rearranging and adding space on an owner’s poles. In the absence of competitive market conditions, the FCC method of charging cable companies for pole attachments (i.e., make-ready fees designed to cover the marginal or out of pocket costs of the pole attachment and a rental fee based on a cost-causative (relative use) allocation of the utility’s ongoing costs, plus a return) most closely approximates a competitive market rate.

¹⁰ See, e.g., Paul A. Samuelson, *Economics*, Tenth Edition, McGraw-Hill Book Company, 1976 at 462-3.

¹¹ See, e.g., Bridger M. Mitchell, “COSTS AND CROSS-SUBSIDIES IN TELECOMMUNICATIONS,” *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC, 1995. (“A group of customers is being subsidized if their price is so low that the service supplier and its other customers would be better off if the service were discontinued. This circumstance occurs only when the increase in revenues to the [telephone] company from offering the service is less than the increased costs of providing it.”)

of subsidy or specific cost burden borne by the utility company, its ratepayers, or any other attacher as a result of the attachment, provided the rental rate exceeds the marginal cost of attachment as is indisputably the case with the existing cable formula rate. The economist's notion of cross-subsidy avoidance is consistent with the legal principle in takings law for just compensation.¹²

30. The cable formula was implemented by the FCC and state regulators over thirty years ago to promote the development of what was at that time a relatively new industry. However, given the increased opportunities for utilities to compete with third-party attachers and the increased economic and social benefits associated with the deployment of new or advanced internet and broadband services, the need for effective pole regulation and specifically the benefits of adopting of a uniform, administratively simple, predictable, and economically efficient cost-based formula methodology for setting pole attachment rates – such as the FCC cable formula – is of even greater importance in recent years than it was decades ago.

31. In my opinion, this is one of the key reasons behind the widespread adoption of the FCC cable formula (or a close variation of that formula) among states that have self-certified to regulate pole attachments.¹³ The widespread acceptance of the FCC cable rate formula methodology for determining just and reasonable rates for pole attachments is reflected in the large number of states that rely on that formula. The FCC cable formula is applied directly by the FCC in 30 states and in most of the 21 states (including the District of Columbia), that have certified to self-regulate pole attachment rates.¹⁴ Indeed, the majority of those self-certified states use a formula that tracks the FCC cable formula for both cable and telecom attachments.

32. One of the certified states that adopted the FCC cable rate formula for all third party pole attachments is particularly instructive. The state of Vermont, notwithstanding regional differences, is characterized by similarly low population densities as in Landis and thus faces similar issues relating to broadband deployment associated with low population density. It is noteworthy that Vermont not only

¹² “This takings principle is a specific application of the general principle of the law of remedies: an aggrieved party should be put in as good a position as he was in before the wrong, but not better.” *Alabama Power*, 311 F.3d at 1369.

¹³Section 224 (c) permits states to assert their own regulatory authority over the rates, terms and conditions of pole attachments, overriding the federal preemption and regulatory jurisdiction of the FCC, by certifying with the FCC that they have “issued and made effective rules and regulations implementing the States’ regulatory authority over pole attachments.”

¹⁴For a listing of certified states, see FCC *Corrected List of States that Have Certified That They Regulate Pole Attachments*, WC Docket No. 07-245 (rel. March 21, 2008). Since the date of that notice, Arkansas has also certified to self-regulate pole rates.

adopted the FCC cable formula for all pole attachments, it adopted a version of the FCC cable formula that results in an even lower space allocation factor, and which all else being equal, results in a *lower* pole attachment rate.¹⁵ Moreover, in doing so, the Vermont commission specifically recognized the linkage between a lower pole attachment rate and the prospect of increasing availability of high-speed internet and other broadband services.¹⁶

IV. ECONOMICALLY APPROPRIATE APPROACH TO CALCULATING JUST AND REASONABLE RATES

33. For purposes of this assignment, I have calculated two sets of rates - one using the FCC cable formula and another using the FCC telecom formula. For the reasons discussed above however, in my opinion, the maximum just and reasonable pole rental rate for Landis pursuant to N.C.G.S §62.55 should be based on the cable rate formula which employs a more economically appropriate proportionate-use cost allocation method. To reiterate, both the FCC cable and telecom formulas are identical with respect to the first two components of the formula, differing only with respect to the third, i.e., the space allocation factor. Under either formula, once the appropriate pieces of input data are properly identified, the calculation of the maximum just and reasonable rate using the FCC methodology is a straightforward multiplication of the three major formula components: net bare pole cost times carrying charge factor times space allocation factor. Attachment 4 to this Report provides the rate calculations I have performed using data for 2009 (which are applicable to pole rates for 2010).

34. To properly apply the FCC formula methodology to a municipal utility such as Landis, a few pieces of input data needed for calculation of the first two formula components require adaptation. These modifications are straightforward in nature and adhere to the principles underlying the FCC methodology. As described below, the adaptations I have made reflect Landis's municipal structure and the lack of uniform FERC accounting data which Landis as a municipal utility is not required to follow.¹⁷ In all

¹⁵ The Vermont formula substitutes an updated presumption of 40 feet (as opposed to the FCC presumption of a 37.5 foot pole) to recognize increased usable space on the now standard, taller joint use poles. VT. Pub. Serv. Bd. R. §3.706(D)(2)(c).

¹⁶ See Policy Paper and Comment Summary on PSB Rule 3.700, at 6 (indicating the belief that application of the formula would...“lead to cable services becoming available in some additional low-density rural areas... [creating] even more value for Vermonters as cable TV companies are increasingly offering high-speed Internet services to new customers.”); see also Summary of Economic Impact of this Rule, Proposed Rule Cover Sheet (proposed-cover-sheet.pdf) at 1, (noting “...little effect upon the pole owners [vis-à-vis the] large benefit to the public of easing broadband and wireless communications facilities”), available at <http://www.state.vt.us/psb/rules/proposed/3700>.

¹⁷ Investor owned utilities (IOUs) subject to FCC jurisdiction are required to file annual Form 1 reports with the Federal Energy Regulatory Commission (“FERC”) which follow that commission’s uniform system of accounting rules. See 18 CFR Ch 1. While not required to do so, many municipal and cooperative-owned utilities elect to keep records that closely track the FERC uniform system of accounts. As revealed in deposition testimony, Landis does not follow the FERC uniform system of accounts. See McGavran deposition, dated 8/30/2010, at 222, 239.

substantive respects, my calculations adhere to the methodology and presumptive averages for poles contained in FCC rules and guidelines. The FCC rules were designed to be consistent with the fundamental economic principles of cost causation, have been well vetted over the past several decades, and have repeatedly been found to produce rates that are just and reasonable and fully compensatory to the utility.

Net Bare Cost of a Pole.

35. Under the FCC methodology, the net bare cost of a pole is calculated using the following pieces of input data: gross investment in pole plant, accumulated depreciation for pole plant, any accumulated deferred taxes applicable to pole plant, an appurtenance adjustment factor (or the amount of investment in appurtenances), and the number of utility poles in service.¹⁸ In applying the FCC formula to Landis, I have made two straightforward adaptations in calculating the net bare cost of a pole. The first is to recognize there are no accumulated deferred taxes to deduct from Landis's gross pole plant, since Landis, as a municipality, is not subject to income taxes as would be an investor-owned utility (IOU).¹⁹ The second involves the calculation of gross (i.e., un-depreciated) pole plant.

36. Under the FCC methodology, the utility's gross investment in pole cost is determined based on historical (original cost) amounts recorded in the utility's books of account in FERC Account 364 ("Poles, Towers and Fixtures").²⁰ In this case, an appropriate data input for gross pole plant and the associated input for accumulated depreciation must be derived, since Landis, as a municipal utility, is not required to follow the FERC uniform system of accounts and has not elected to do so.²¹ Landis does not track the

Subsequent information provided by Landis confirms Landis does not follow the FERC system of accounts, but rather a chart of accounts system developed by the Department of State Treasurer that permits the local governmental unit to make adaptations according to its own requirements, and appears more oriented toward the tracking of accounts at the fund level versus individual account level relative to the FERC system. See LAND0004962-LAND0005026.

¹⁸As described in the preceding section of this report, accumulated depreciation and accumulated taxes are deducted from gross pole plant investment to arrive at a net pole plant investment figure. Investment in appurtenances are deducted from this net figure to arrive at a net bare pole investment figure, which is then divided by the number of utility poles in service to arrive at a net bare investment per pole figure.

¹⁹ Accordingly, net investment for Landis pole plant is calculated simply by deducting accumulated depreciation from gross plant investment.

²⁰ Account 364 for poles is one of the detailed plant accounts that comprise the utility's primary general ledger Account 101 (Electric Plant in Service). See 18 CFR Ch 1, Pt. 101, p. 348, which defines Account 101 as to "include the original cost of electric plant, included in accounts 301 to 399, prescribed herein, owned and used by the utility in its electric utility operations, and having an expectation of life in service of more than one year from date of installation, including such property owned by the utility but held by nominees."

²¹ According to deposition testimony, Landis does not record gross plant investment at the detailed or individual account level. Rather, Landis records gross capital investment on its books at the level of the work order or project. See Deposition of Eddie Carrick, dated 9/1/2010, at 15-16.

cost of poles separate from other distribution plant and the same holds true for the related accumulated depreciation amounts.²²

37. In cases just such as this, where the accounting records of the utility are not recorded at the individual account level, the FCC methodology applies what is referred to as a “proration” method. The FCC’s application of the proration method, which the FCC uses to derive both accumulated depreciation and accumulated deferred taxes applicable to pole plant, is described in more detail in Attachment 3 to this Report. Generally speaking, under the proration approach, the amount of investment or expense assigned to the individual plant account is based on the ratio of gross plant in service for the individual plant account (e.g., pole plant) to the “lowest” level of gross plant in service for which the utility tracks the particular investment or expense (e.g., aggregate electric plant). The FCC’s proration approach offers many advantages. It is an objective, straightforward approach that is easy to administer and that adheres to basic and well accepted cost allocation principles. Moreover, it relies on publicly available or audited data that can be tracked to the utility’s books of accounts. Accordingly, it is easy to replicate and validate, therefore serving to minimize areas of contention between the pole owner and attacher.

38. An illustrative example of the proration method as applied to the determination of accumulated depreciation for pole plant is provided below. In this example, assume gross pole plant in service of \$150,000, gross electric plant in service of \$1,000,000, and accumulated depreciation recorded on the books of the utility for aggregate electric plant in service of \$500,000. As illustrated below, the FCC methodology takes the ratio of gross pole plant in service (\$150,000) to gross electric plant in service (\$1,000,000) and then multiplies that ratio (\$150,000/\$1,000,000 or .15) by the aggregate amount of accumulated depreciation for gross electric plant (\$500,000) to derive an economically appropriate data input for accumulated depreciation applicable to the individual pole account (.15 times \$500,000 equals \$75,000). The proration approach as applied to accumulated depreciation in this illustrative example is expressed formulaically as follows:

<i>Accumulated Depreciation Prorated to Pole Plant =</i>			
[\$Gross Pole Plant / \$Gross Electric Plant]	x	[Accumulated Depreciation for Electric Plant]	=
(\$150,000 / \$1,000,000)	x	\$500,000	=
15%	x	\$500,000	= \$75,000

²² See id. at 15-16, 25, 27; McGavran deposition, dated 8/30/2010, at 222, and Landis Response to TWEAN Interrogatory No. 8b.

39. In applying the FCC formula methodology to Landis, I have applied the same proration approach used by the FCC to calculate accumulated depreciation (as illustrated in the preceding example) to develop economically appropriate data inputs for both gross pole plant and the accumulated depreciation amounts associated with that pole plant. As mentioned above, Landis does not separately track gross pole plant, and it tracks accumulated depreciation at the level of aggregate electric distribution plant. Accordingly, I have relied on publically available data for other “benchmark” utilities to provide the ratio of gross pole plant to gross electric distribution plant needed to apply the proration approach to Landis. Specifically, I have relied on the same benchmark set of utilities which the FCC relied on in its current pole rulemaking proceeding as the basis of comparison for various proposed changes to the telecom formula.²³ As shown in Attachment 5 to this Report, based on this benchmark set of utilities, I have derived an average ratio of gross pole plant to gross electric distribution plant of 16.1%.²⁴

40. Using this benchmark ratio, the derivation of both gross pole plant and the associated accumulated depreciation for Landis is a straightforward two-step application of the proration approach described above. Specifically, as expressed formulaically below, I simply take the benchmark ratio of gross pole plant to gross electric distribution plant (16.1%) and multiply that by the amount of gross electric system plant recorded on Landis’ books of account (\$3,206,975) to derive an economically appropriate amount of gross pole plant (\$516,191) for Landis. Having derived that gross pole plant figure for Landis, I then apply the FCC’s proration method to arrive at an economically appropriate (i.e., proportional) amount of accumulated depreciation associated with the pole plant, as shown below:

<i>Landis Gross Pole Plant =</i>			
[Benchmark Ratio Gross Pole Plant / Gross Distribution Plant]	x	[\$Landis Gross Electric System Plant]	=
16.1%		\$3,206,975	
	x		=
		\$516,191	
 <i>Accumulated Depreciation Prorated to Landis Pole Plant =</i>			
[Gross Pole Plant/ Gross Electric System Plant]	x	[Accumulated Depreciation for Landis Electric Plant]	=
(\$516,191 / \$3,206,975)		\$1,556,831	
	x		=
16.1%		\$1,556,831	= \$250,586

²³ See FCC *FNPRM*, Appendix A. This benchmark group of utilities includes Alabama Power, Georgia Power, Gulf Power, Jersey Central, Metro Edison, NSTAR, Penn Electric, and Tampa Electric.

²⁴ In calculating the average for the benchmark set, I have excluded one outlier utility that had a ratio of pole plant to gross distribution plant significantly lower than the others. Excluding this statistical outlier favors Landis, because it increases the average ratio for the group, from 15% to 16%, and accordingly, increases the amount of pole plant for Landis. This in turn increases the pole attachment rate for Landis.

Having derived appropriate inputs for gross pole plant and accumulated depreciation in the manner described above, the calculation of the net bare pole cost component directly follows the steps outlined in the previous section. First, accumulated depreciation is deducted from gross pole plant to derive a net investment figure. Next, the FCC's 15% appurtenance factor is applied to that net pole plant figure to remove the costs associated with such items as cross-arms or other hardware that relate strictly to the provision of electricity (and for which attachers derive no benefit). Finally, that net bare pole cost amount is divided by the number of poles. As shown in the rate calculations provided in Attachment 4 of my Report, the result is a net bare cost per pole for Landis of \$85.61.

41. The FCC methodology I have followed is in stark contrast to the approach taken by Landis's consultant, Mr. McGavran, which uses a net pole plant figure of \$250 that cannot be tracked to Landis's books of account and that appears to rely instead on Mr. McGavran's personal subjective assessment of "generic industry assumptions" regarding replacement or reproduction cost for newly installed poles.²⁵ The use of replacement or reproduction cost in place of historical data has been repeatedly rejected by the FCC based on sound economic reasoning.²⁶

42. First, most poles enjoy long economic lives and are not replaced in any given year.²⁷ Thus, for the majority of poles, replacement costs are not economically relevant. Of the relatively small percentage of poles that are replaced, the cost of those poles being replaced by the electric company in order to serve their core electric utility service are properly recoverable through electric rates for those customers. For the poles that would not be replaced but for the need for additional space to accommodate third party attachments, the costs of those poles are solely the responsibility of the third-party attacher. Indeed, those costs are 100% recoverable through "make-ready" charges which are set unilaterally by the utility. When the attacher pays the utility make-ready charges, the utility is decidedly better off, since its recovers the full cost of the replacement pole from the attacher, yet maintains ownership of the replacement pole. In addition, the utility receives annual rental payments from the attacher for use of the pole the attacher paid to replace. On the other hand, if the third party attacher refuses to pay the make-ready charges to the utility, the pole is not replaced and the third party cannot attach to the utility pole.²⁸ In effect, make-ready charges are replacement costs applied at the individual pole level, so there is no efficiency gain in

²⁵See McGavran deposition, dated 8/30/2010, at 205-208.

²⁶ See, e.g., *FCC Recon Order*, at ¶¶ 15-17.

²⁷ For Landis, distribution plant including poles is recognized as having 40 years lives, as evidenced by a depreciation rate of 2.5%. See Landis Response to TWEAN Interrogatory No. 8p, see also Carrick deposition at 17.

²⁸There are a variety of reasons why a potential attacher might refuse to pay makeready, including, an excessively high cost set by the pole owner, or a change in the attacher's business plan. In any case, if the attacher declines to pay make-ready, the attacher cannot attach to the utility's pole, and the utility does not incur any cost.

building in replacement costs in the rental formula. There is only duplication of cost recovery and the extraction of monopoly rents to the sole benefit of the pole owner.

43. Second, and related to the fact that poles are extremely long-lived assets, there is relatively little obsolescence or ongoing investment in technology that would dictate the use of a replacement or “forward” looking cost to provide economic “cues” to guide optimal pole investment. Moreover, pole investment and placement decisions are driven by the needs of the pole owner, not those leasing space on the pole. As is appropriate, the costs of those investment and placement decisions driven by the needs of the utility’s core electric services are recoverable through the rates for those core electric services. Electric utilities have not been deterred from investing in the optimal amount of pole plant of the height, type and class they deem optimal for their own operational needs. Similarly, cable operators have not over-consumed pole space, as they would be required to pay for any over-consumption of pole space in the form of make-ready costs.

44. Third, from a practical perspective, pole systems cannot be reproduced due to zoning, environmental, financial, and other constraints.²⁹ It therefore makes little economic sense to use replacement costs as a proxy for an attacher’s hypothetical stand-alone network since such a network practically cannot get built. Similarly, there is no need to use replacement costs as a proxy for the hypothetical avoided cost of an attacher going underground, which is typically much more expensive than the cost of pole attachment. Because there is no competitive market for poles, there is no market process in action to drive down the costs of pole construction or any potential alternatives such as going underground to competitive levels. As mentioned earlier, allowing the utility to base its rental charge on its own higher, hypothetical pole replacement cost or on the hypothetical avoided cost to the attacher of stand-alone pole construction or underground installation, serves no beneficial purpose. Rather, it permits the utility to exploit its monopoly ownership of the poles and to extract additional “value” from the attacher well in excess of the efficient or actual cost of the pole attachment, and in direct contravention of effective pole regulation.

²⁹ See *Alabama Cable Television Ass’n v. Alabama Power Co.*, 16 FCC Rcd 12209 (2001), at ¶57 (“[C]able attachers frequently do not have a realistic option of installing their own poles or conduits both because, in many cases, attachers are foreclosed by local zoning or other right of way restrictions from constructing a second set of poles of their own and because it would be prohibitively expensive for each attacher to install duplicative poles.”).

45. The over-recovery of pole costs from third party attachers resulting from the use of a reproduction or replacement cost method for calculating gross pole plant is further compounded in the case of Landis, due to the fact that Landis expenses a portion of its pole-related capital expenses to maintenance accounts. Accordingly, Landis will have higher booked maintenance expenses applicable to poles (since they include a portion of capital costs), and this in turn will produce a higher carrying charge factor that will be applied in the formula to the overstated reproduction cost pole plant figure. The relatively lower net bare pole figure and the correspondingly relatively higher carrying charge factor that I have calculated is economically appropriate and totally consistent with the manner in which Landis books pole-related capital expenses.

Carrying Charge Factor

46. As described above, the carrying charge factor (CCF) is comprised of the sum of expense factors covering maintenance, depreciation, administrative, taxes, and overall rate of return, each expressed as a percentage of expense to net plant in service. As in the case of the net bare cost per pole, a few adjustments to the CCF are required to apply the FCC methodology to a municipality such as Landis.

47. The first adjustment I have made is to combine the maintenance and administrative elements of the carrying charge factor into one combined “operating expense” factor. This is due to the fact that Landis’s accounting system does not track to the FERC reporting system. The FCC methodology for these two CCF elements is very specific as to which individual FERC expense sub-accounts are to be included as detailed in Attachment 3 to this Report. As a consequence, the division of Landis’s electric system expenses as between these two categories of expenses is somewhat arbitrary in nature in relation to the specific FERC expense accounts included as inputs in the FCC methodology. As noted above, a key underlying principle of the FCC methodology is to use data at the most disaggregated level for which reliable data is available. Another key principle embodied in the FCC methodology, however, is ease and cost of administration and implementation. As an integral part of its deliberations on the pole rate formula methodology, the FCC weighs the benefit of extra precision of the data inputs used in the formula against the cost and complexity of achieving that extra precision.³⁰

³⁰ See, e.g., *FCC Recon Order*, 119, citing *2000 Fee Order* at ¶¶ 57-61 (“In the *Fee Order*, we rejected our tentative conclusion to include a portion of FERC Account 590 in the maintenance element of the carrying charge rate. We concluded that any indefinite and uncertain attempt to identify a possibly minute percentage of pole related expenses that may be included in Account 590, is outweighed by the complexity of arriving at an appropriate and equitable percentage of the account.”).

48. In my opinion, given the nature of Landis’s accounting system, the division of operating expenses as between maintenance expenses and administrative/general expenses is neither reliable nor readily validated, and serves no clarifying purpose. Accordingly, in my application of the FCC formula to Landis, I have calculated one aggregate operating expense category based on the *totality* of operating expenses identified for the Landis Light Fund³¹ as a percentage of total net Light Fund investment (i.e., capital assets). If anything, the adaptation I have made is generous to Landis.³²

49. The second adjustment I have made to the CCF is to the tax element. Under the FCC methodology, this element includes a number of FERC accounts primarily related to income taxes (see Attachment 3 to this Report), which do not apply in the case of a municipality such as Landis.³³

50. The third adjustment I have made to the CCF involves the rate of return element. The rate of return element of the CCF is designed to allow the utility to earn a normal or fair return on capital from third-party attachers that is over and above actual cost recovery.³⁴ As a municipality, Landis is not subject to rate of return regulation and has no authorized “rate of return.” Landis faces a totally different set of capital costs than an investor-owned utility. It is therefore necessary and economically reasonable to substitute an effective or imputed “rate of return” based on the municipality’s cost of money equivalent in lieu of an allowed rate of return set by a regulatory commission.

³¹ According to deposition testimony, the only expense excluded from the line item for Light Fund Operating Expenses that I use in the formula is the cost of electric current that the Town purchases. See Deposition of Douglas Linn, dated August 31, 2010, at 95.

³² First, unlike the FCC methodology which *excludes* a number of maintenance and administrative expenses that have no cost causative linkage to pole (and relate solely to the provision of the utility’s core electric service), I have made no corresponding exclusion from Landis’s total booked amount of operating expenses for the Light Fund, with the exception for utility taxes. As confirmed in deposition testimony, these are gross receipt taxes that are levied on the sale of retail electricity and are recovered directly on the customer’s electric bill (and accordingly for which there are corresponding revenues collected by the utility). See Linn deposition at 105, also Carrick deposition at 36-37, 51. Second, it would appear that some pole-related capital costs (i.e., those relating to the replacement of existing poles) are recorded as maintenance expenses, and I have made no effort to adjust for that capitalization of expenses. See Carrick deposition at 16-17, 25.

³³ Mr. McGavran’s rate calculations include tax expenses referred to as “ad valorem” taxes. However, Landis’s deposition witnesses could not identify what these taxes were for, including the Town’s auditor. However, even if the Town was subject to some kind of ad valorem or property tax, it is unlikely for there to be a significant cost causative linkage to poles. In those instances where new or replacement poles are required to accommodate a third party attachment, attachers are assessed make ready fees which fully reimburse the utility for any out of pocket capital expenses incurred in connection with the attachment. If properly accounted for as a reimbursed expense to the Town, make ready payments should serve to reduce the value of pole property on which such a tax would apply.

³⁴ Under existing FCC rules for an investor-owned utility (IOU), the capital cost element of the carrying charge factor is the most current authorized rate of return set by a state regulatory commission, or in the absence of one, an FCC default rate of return based on the last FCC return proceeding may be used. See *FCC Fee Order* at ¶76. Interestingly, and because it provides for additional cost recovery over and above actual economic costs, in its recent FNPRM, the FCC has proposed the elimination of this component from the telecom formula going forward. See *FNPRM* at ¶¶133-136.

51. Since Landis faces no actual equity risk, an economically appropriate approach would be to use a “rate of return” that reflects its cost of debt, as measured by its booked interest expenses. Such debt costs reflect the true opportunity cost of money as it would represent the actual financing costs that a municipal-owned utility incurs in the construction of the fixed assets underlying the net investment carried on its books. For this reason, in my opinion, the cost of debt is the most reasonable proxy for the rate of return component of the rate formula. However, based on deposition testimony, it is my understanding that Landis currently has no outstanding debt, and that its electrical system is totally paid off.³⁵ In lieu of an actual computed cost of debt for Landis, I have therefore utilized a benchmark or proxy cost of debt based on a published index of general obligation bonds for municipalities, which is 4.37% for the relevant time period.³⁶ Once again, the adjustment I have applied to this element of the CCF is generous to Landis.³⁷ By contrast, in his calculations supporting the proposed contract rate, Mr. McGavran uses a rate of return figure of 10%,³⁸ a figure that is totally unsupported and excessively high from any reasonable analysis of a true economic cost of money for Landis.

52. For the fifth and final element of the carrying charge factor, the depreciation element, I have used the 2.5% depreciation rate identified by Landis as applicable to all of its electric plant, including pole plant.³⁹

53. In combination, the CCF elements I have calculated as described above total to 51.98%. While this carrying charge factor is significantly higher than the 33.20% CCF calculated by Landis’s consultant, as described above, my higher figure follows logically from Landis’s accounting practices which book capital-related expenses in maintenance accounts and is consistent with the lower net bare pole cost I have calculated in keeping with the FCC methodology based on the historic booked costs of Landis’s electric system plant.

³⁵ See Linn deposition at 105.

³⁶ See Bond Buyer Go 20-Bond Municipal Bond Index, average index value for Year Ending June 2009, http://www.federalreserve.gov/releases/h15/data/Monthly/H15_SL_Y20.txt

³⁷ Based on the fact that Landis has no current outstanding debt, it makes regular zero-cost transfers to the Town’s general fund, and remaining liquid assets are being invested in very low yielding risk-free type investments such as CDs, an economic case could be made that the opportunity cost of money for Landis is between zero and two percent. See Linn deposition at 97-98, also Carrick deposition at 12-13, 48. This is less than half the value of the municipal bond index I have used as the benchmark cost of debt for Landis (i.e., 4.97% for the relevant time period).

³⁸ See LAND000164-LAND000165.

³⁹ See Carrick deposition at 51.

Space Allocation Factor

54. In calculating the last component of the FCC formula, i.e., the space allocation factor, I have utilized all the FCC presumptions as described in the preceding section of my Report. Specifically, for the cable formula, my calculations utilize a space allocation factor of 7.41% based on the presumptions of an average 37.5 foot joint-use pole, 1 foot of space per communications attachment, and the availability of 13.5 feet of usable space on the pole (i.e., 1/13.5 or 7.41%). For the telecom formula, using these same FCC presumptive values, and based on a number of attaching entities of 3 as applies to a rural service area such as Landis,⁴⁰ my calculations utilize a usable space factor of 2.67%⁴¹ and an unusable space factor of 14.22%,⁴² producing a total space allocation factor of 16.89%.

55. A key advantage of using the well-vetted FCC presumptions is that no expensive, time consuming, or potentially contested studies are required to implement the rate formula. The FCC presumptive value of 3 for rural areas is an appropriate and widely-accepted default number to use for purposes of Landis's formula calculation. Once again, my use of FCC presumptive values is generous to Landis.⁴³

56. The space allocation factors utilized by Landis's consultant incorporate a number of unsupported assumptions that together produce an excessively high and economically unjustified allocation of space to

⁴⁰ See *FCC Recon Order* at ¶¶70-72 (footnote omitted). ("We are now persuaded that utilities and attaching entities would benefit from our providing presumptive averages for their use. Our establishment of presumptive averages will expedite the process and allow utilities to avert the expense of developing location specific averages. As with all our presumptions, either party may rebut this presumption with a statistically valid survey or actual data.

Based on the expanded record, we establish presumptive average numbers of attaching entities in a non-urbanized (less than 50,000 population) area to be three (3) attaching entities, based on information presented in the record and the expectation that on a pole or in a conduit, for instance, there would be electric, telephone and cable attachers. It is estimated that cable systems now provide access to cable television services to over 97% of all households with a television. Electric power and telephone service is even more universal. The record supports a presumptive average of three attaching entities in non-urbanized areas.

In an urbanized area that is more densely populated (50,000 or higher population), more developed commercially than a non-urbanized area, and in which we expect both residential and business commercial competition to flourish, we set a presumptive average number of attaching entities at five (5) to reflect the inclusion of, but not limited to, the following possible attaching entities: electric, telephone, cable, competitive telecommunications service providers and governmental agencies. Advanced telecommunications capability is being deployed throughout the country. As noted above, competitive services are increasing. The record supports a presumptive average number of five attachers in urbanized areas."

⁴¹ $(1/13.5) \times (13.5/37.5) = 2.67\%$.

⁴² $(2/3) \times (24/37.5) \times (1/3) = 14.22\%$.

⁴³ The FCC presumptions I have used are based off of a 37.5 foot pole, which is a derived blend of 35' and 40' poles. Consistent with Landis's own rate calculations, joint use poles today are typically 40' or higher. Using a 40' pole height produces *lower* space allocation factors of 6.25% and 15.83% for cable and telecom, respectively, reflecting the economic reality the third-party attachment (which is fixed at 1 foot including attendant clearances) occupies a smaller proportionate share of a taller pole. While McGavran's space allocation factors assume a 40' pole, they incorporate other unsupported assumptions that together produce an excessively high and economically unjustified allocation of space to the attacher (24.58%). See LAND000165 or LAND0002649.

the attacher (i.e., 24.58%).⁴⁴ The numerical calculations of the space allocation factor which I have performed in accordance with the methodology described above are provided in Attachment 4 of my Report.

V. CALCULATIONS OF LANDIS'S MAXIMUM JUST AND REASONBLE POLE ATTACHMENT RENTAL RATES UNDER FCC CABLE AND TELECOM FORMULA METHODOLOGY

57. As described above, once the key formula inputs are properly identified, the calculation of the maximum rate under the FCC formula methodology is a straightforward multiplication of the three principal components: *net bare pole cost* times *carrying charge factor* times *space allocation factor*. The three components along with the resulting maximum just and reasonable rental rates they produce are presented in Table 1 below. All supporting calculations are presented in Attachment 4 to this Report.

Table 1 Maximum Just and Reasonable Landis Pole Rental Rates Under FCC Cable and Telecom Formula Methodology		
Data Yr Ending 6/30/09	§224 (d) Cable Rate	§224 (e) Telecom Rate
Net Inv Per Bare Pole	\$85.61	\$85.61
x Carrying Charges	51.98%	51.98%
x Space Factor	7.41%	16.89%
= Rental Rate	\$3.30	\$7.52

58. In my opinion, rates set higher than the maximum just and reasonable rates identified in Table 1 above for the fiscal year ending June 30, 2009 (such as those calculated by Mr. McGavran for Landis) are inconsistent with the just and reasonable standard set forth in N.C.G.S. §62.55 and Section 224 of the

⁴⁴ In particular, Mr. McGavran's rate calculations assume 26.5 feet of unusable space on a 40 foot pole, as compared with 24 feet under FCC rules. The FCC rules are based on 6 feet of below-ground support (same as McGavran), and 18 feet of above-ground clearance space (as compared to 20.6 feet by McGavran). The 18 feet required for above-ground clearance (e.g., to clear railroad, street crossings, or other obstacles) according to the well-established FCC presumptive average, is based on NESC standards⁴⁴ and is generally independent of pole height. Mr. McGavran provides no explanation of the assumption of the 2.6' of additional above-ground clearance built into his space allocation factor.

Communications Act to which it refers. In addition, rates higher than these would fail to serve the public interest purposes of effective pole rate regulation, which include the protection of cable operators and other third-party attachers against monopoly abuses of pole-owning utilities. In my opinion, and one shared by the FCC in its recent pole proceeding, while the §224 (e) rate may satisfy a just and reasonable standard for attachments classified as telecom pursuant to federal statute, that rate is less economically efficient and conducive to promoting competition and the deployment of new or advanced internet or other broadband services than the §224 (d) rate, and accordingly, should be regarded as the very upper most bound of a just and reasonable rate for telecom attachments. For the reasons set forth in this Report, in my opinion, the maximum just and reasonable rate that Landis should be permitted to charge third party attachers should be based on the §224 (d) cable rate formula methodology for both cable and telecom attachments.

59. That the maximum just and reasonable rates produced by a proper application of §224(d) and calculated using economically appropriate data inputs are lower than the rate levels previously “negotiated” between other pole-owning municipalities or utilities and the cable company, and/or “market benchmark” rates set by other monopoly pole owners, is not a valid economic or public policy concern. The latter rates do not reflect “free market” rates at all. Rather, they reflect prices set in a grossly unbalanced market environment where the pole owner, regardless of its size or organizational structure, has an inordinate amount of leverage over third-party attachers, and where, if unchecked by effective pole regulation, can impose excessive monopoly-level rates. Absent price constraints imposed by regulation, the pole-owning utility has the upper hand in any “negotiation” or rate-setting process between the pole owner and the attacher. As such, rates set during such a process (including the original contract rate for TWEAN) do not represent appropriate benchmarks for comparison of just and reasonable pole attachment rates. As found by the FCC and the courts on various occasions, rates calculated using the §224 (d) cable formula are subsidy-free and much more than fully compensatory to the pole owner.

VI. POLE RATES CALCULATED BY LANDIS’S CONSULTANT EXCEED MAXIMUM JUST AND REASONABLE RATES

60. As with any formulaic approach, the accuracy and reasonableness of Landis’s rate calculations depends on the accuracy and reasonableness of the underlying data inputs. For this reason, it is very important that the data inputs are subjected to careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be independently verified. In my opinion, as an economist with experience in determining just and reasonable rates for pole attachment rentals, numerous aspects of Mr. McGavran’s pole rate calculations for Landis are flawed or otherwise unsupported, and

collectively, produce excessive rates that fail to satisfy the standard of just reasonableness set forth in N.C.G.S § 62.55. While Landis’s consultant apparently ran multiple “sensitivity” runs of the formula, using various figures for net bare pole cost and cost of capital inputs (the earlier versions producing rates much closer to the just and reasonable rates I have calculated),⁴⁵ the rate calculations Mr. McGavran appears to be endorsing as a basis for the pole rates set forth in the Draft Contract Landis submitted to TWEAN on August 3, 2009 are those that produce excessively high rates of either \$15.60 or \$19.77.

61. As shown in Table 2 below, these rates exceed the maximum just and reasonable rates by at least 100% and by as much as 500%, depending on which set of the Landis’s consultant rates are used, and whether they are compared with the 224(d) cable rate or the 224(e) telecom rate.

Table 2

Comparison of Maximum Just and Reasonable Pole Attachment Rates With Rates Calculated by Landis’s Consultant (\$ per pole/year)		
Based on data for FY Ending 6/30/09	§224(d) Rate	§224(e) Rate
Just and Reasonable Rates	\$3.30	\$7.52
Landis Consultant Calculated Rate #1*	\$15.60	\$15.60
Landis Consultant Calculated Rate # 2**	\$19.77	\$19.77
% Diff. Consultant Rate # 1 w/Just & Reasonable	373%	107%
% Diff. Consultant Rate # 2 w/Just & Reasonable	499%	163%
* Rate per Landis Resp to TW 1 st Set Interrog. No.1 as basis for 8/3/09 TW Draft Contract rate		
** Rate per McGavran Deposition at 252 as basis for 8/30/09 TW Draft Contract rate		

62. Many of the specific erroneous or otherwise unsupported assumptions underlying the pole rate calculations of Landis’s consultant were described in the preceding section. More generally, the flaws in Mr. McGavran’s analysis can be categorized as follows:

- His analysis builds in subjective increases and yearly escalation factors into the contract rate *over and above* the calculated formula rates, notwithstanding the fact that the Section 224 formulas

⁴⁵ See, e.g., LAND000164-165, LAND0002019-20, LAND0002024-25, LAND0002028, LAND0002030, LAND0002620, LAND0002642-44, among others produced in response to discovery.

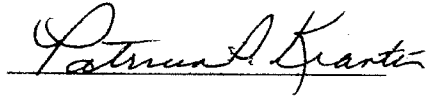
were designed to produce *maximum* just and reasonable rates, that are more than compensatory to the utility;

- His analysis uses inputs (e.g., net bare cost per pole) that are not based on historic booked costs or other data readily verifiable from the utility's audited books of account;
- His analysis uses inputs that do not conform to current utility accounting practices (e.g., depreciation rate);
- His analysis uses inputs that are based on subjective judgment as opposed to sound economic analysis or reasoning (e.g., cost of capital applicable to Landis); and
- His analysis uses inputs that are inconsistent with industry standards (e.g., number of feet of unusable space on a standard joint use pole).

The collective effect of the erroneous or otherwise unsupported inputs in Mr. McGavran's analysis are calculated pole rates that are excessively high and that fail to meet the just and reasonable standard mandated pursuant to N.C.G.S. §62.55.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: October 20 2010

A handwritten signature in cursive script, reading "Patricia D. Kravtin", written over a horizontal line.

Patricia D. Kravtin

Kravtin Attachment 1

Patricia D. Kravtin

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Swampscott, MA 01907
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Summary

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

Experience

CONSULTING ECONOMIST

2000–Present Independent Consulting Swampscott, MA

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

SENIOR VICE PRESIDENT/SENIOR ECONOMIST

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

- Active participant in regulatory proceedings in over thirty state jurisdiction before the Federal Communications Commission, Federal Energy Regulatory Commission, 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 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; and access to pole attachments 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 numerous industry reports and papers on topics including market structure and competition, alternative forms of regulation, patterns of investment, telecommunications modernization, and broadband deployment (see listing of Reports and Studies).
- Invited speaker before various national organizations, state legislative committees and participant in industry symposiums.
- Grant Reviewer for 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 related to allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis of 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. Awarded Phi Beta Kappa, Omicron Delta Epsilon (for high scholastic achievement in Economics). Recipient of four-year honor scholarship.

Prof. Affiliation

American Economic Association

Reports and Studies (authored and co-authored)

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 the California Association of Competitive Telecommunications Companies (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-Term 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, evidence 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

2010

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, 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, 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 submitted September 18, 2009, Reply Report submitted October 16, 2009, Deposition December 21, 2009, 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 filed March 31, 2006, Dep. March 15, 2006, Cross-Examination 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, Dep. 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 (jointly with 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 December 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; Dep. May 7, 2002, May 14, 2002; Reply Testimony filed 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 filed January 23, 2002; Rebuttal Testimony filed 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; Dep. December 7, 2001, Rebuttal Expert Report filed December 20, 2001, Dep. January 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 September 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 October 9, 1998, cross-examination 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. ¶ 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 ¶ 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.93-04-002AT&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 February 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 February 10, 1994.

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

1992

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

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

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

1991

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

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

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

1990

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

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

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

1989

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

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

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

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

1988

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

1987

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.

1986-1982

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

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).

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

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.

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.

**LIST OF DATA AND INFORMATION CONSIDERED
IN FORMING OPINION**

Defendant's Response to Plaintiff's First Set of Interrogatories

Bates Numbered Documents provided by Town of Landis, LAND0000163-0003370,
LAND0004962-LAND00005026.

Deposition Transcripts and Exhibits for the following witnesses for the Defendant:
Carrick, Linn, McGavran, and Talbert.

Federal Energy Regulatory Commission, FERC Form No. 1: Annual Report of Major Electric
Utilities, Licensees and Others, for identified benchmark utilities for 2007.

Federal Communications Commission Orders, Rules, and Reports as cited in footnotes.

Section 224 of the Communications Act.

North Carolina Session Law 2009-278, Senate Bill 357, §62.55.

Bond Buyer General Obligation 20-Bond Municipal Bond Index as cited.

Economic literature as cited in footnotes.

**DESCRIPTION OF THE CARRYING CHARGE FACTOR (CCF)
COMPONENT OF THE FCC RATE FORMULA**

Administrative Element: Expenses relating to this element of the CCF are tracked in the FERC Form 1 at the aggregate level of electric plant in service. Accordingly, for this element, under the FCC formula, the CCF is calculated by taking the relevant expense account figures per FERC Form 1 (Accounts 920-931, 935)⁴⁶ and dividing them by net plant in service for total electric plant (i.e., gross electric plant less accumulated depreciation less accumulated deferred taxes for total electric plant).

Taxes Element: Expenses relating to this element of the CCF are tracked in the FERC Form 1 at the aggregate level of total plant in service. Accordingly, for this element, under the FCC formula, the CCF is calculated by taking the relevant expense account figures per FERC Form 1 (Accounts 408-411⁴⁷) and dividing them by net utility plant in service (i.e., total gross utility plant less accumulated depreciation less accumulated deferred taxes for total plant). These FERC tax expense accounts relate primarily to income-related taxes. Accordingly, they do not apply to Landis, which as a municipality, is not subject to income taxes. Taxes identified as utility sales taxes are a gross receipts type tax that applies only to the sale of electricity and which the utility recovers directly on retail customer bills, so they are not relevant to the pole attachment formula.

Maintenance Element: Expenses relating to this element of the CCF are tracked at a more granular level in Account 593 (“Maintenance of Overhead Lines”), associated with the following three distribution plant in service accounts: Account 364 (“Poles, Towers, and Fixtures”), 365 (“Overhead conductors and devices”) and 369 (“Services”).⁴⁸ Accordingly, the CCF for this

⁴⁶ In reality, there are many costs contained within the identified accounts that are not related to pole attachment, and that the utility should not be allowed to recover from attachers based on fundamental economic principles of cost causation, but are nevertheless included in the FCC formula to minimize the costs of regulation, i.e., so that the FCC does not have to monitor whether the proper costs are “backed out” of a particular FERC or ARMIS account (in the case of a telephone company). These expenses booked to Accounts 920 (administrative and general salaries, including officer salaries), 921 (office supplies and expenses) including telephone and court-related expenses, 923 (outside services employed) including attorney fees and audit expenses, 926 (employee pensions and benefits) including health insurance related expenses, and 930 (miscellaneous general expenses) including general advertising, bank service fees, and association dues.

⁴⁷ Account 411.1 is a credit income account relating to deferred income taxes, which offsets the current year’s tax expense. Under accounting rules, the amount in this account must be subtracted when summing the various tax debit accounts.

⁴⁸ Unlike the comparable FCC ARMIS reporting system for telephone utilities, the FERC Account 593 does not separately track pole and line-related maintenance expenses. As a result, Account 593 includes a number of non-pole related expenses that from a cost-based or economic efficiency perspective would be removed if data readily existed to do so.

element is calculated by dividing the amount of maintenance expense recorded in Account 593 by the net plant in service associated with each of these three individual accounts.

In the FERC Form 1, accumulated depreciation is not tracked at the level of detailed plant accounts such as Accounts 364, 365, and 369. Accordingly, under the FCC methodology, accumulated depreciation is assigned using a “proration” approach. Under the proration approach, an amount of the aggregate electric plant category expense is assigned to the individual plant account by multiplying the aggregate accumulated depreciation figure for electric plant by the ratio of gross plant in service for each of the respective individual accounts to gross electric plant.

Depreciation Element: The CCF for depreciation is based on the prescribed depreciation rate for pole plant. Because that rate applies to *gross* investment, and the other elements of the CCF are expressed on a *net* plant basis, it is necessary to multiply the depreciation rate for pole plant by the ratio of gross pole investment (Account 364) to the calculated net pole investment for Account 364, to determine the depreciation expense.

Return Element: This component allows the utility to recover a normal or fair (economic) return on overall capital from third-party attachers over and above the recovery of actual pole related costs. The FCC methodology uses the most current state authorized overall rate of return for an investor-owned utility. Where none is available, an FCC default rate of return may be used. As discussed in my report, because Landis as a municipality is not subject to rate of return regulation, it is necessary and appropriate to substitute a proxy for Landis’s “opportunity” cost of money (based on the cost of debt applicable to a municipality such as Landis) in lieu of an allowed rate of return set by a regulatory commission or the FCC default in applying the FCC cable formula to calculate a maximum pole rate applicable to Landis.

**CALCULATION OF MAXIMUM POLE
ATTACHMENT RATES
DATA FOR YR ENDING
Town of Landis**

**6/30/2009 Kravtin
Attachment 4**

Page 1/3

Net Investment Per Bare Pole

Pro-rated Investment in Pole Plant	\$516,190.58
- Pro-rated Depreciation Reserve for Poles	\$250,585.52
- Accumulated Deferred Taxes	n/a
Net Investment in Pole Plant	\$265,605.06
- Investment in Appurtenances	\$39,840.76
Investment in Bare Pole Plant	\$225,764.30
/ Number of Poles - Equivalent	2,637
Net Investment per Bare Pole	\$85.61

Carrying Charges

Total Operating Expenses

Total Electrical (Light Fund) Operating Expenses	\$889,563.00
/ Net Light Fund Capital Assets	\$2,110,425.00
= Maintenance Carrying Charge	42.15%

Maintenance

Maintenance Expenses	
/ Net Investment in 364,365,369	
= Maintenance Carrying Charge	Incl. in Oper. Exp.

Administrative

Administrative Expenses	
Total Plant--Electric	
- Depreciation Reserve--Total	
- Accumulated Deferred Taxes--Total	
/Net Plant in Service	
=Administrative Carrying Charge	Incl. in Oper. Exp.

Taxes

Normalized Tax Expense	
Total Plant	
- Depreciation Reserve	
- Accumulated Deferred Taxes	
/Net Plant in Service	
=Tax Carrying Charge	n/a

Depreciation

Annual Depreciation Rate for Poles	2.5%
Gross Investment in Pole Plant	\$516,190.58
/Net Investment in Pole Plant	\$265,605.06
=Gross Net Adjustment	1.94
Deprec Rate Applied to Net Pole Plant	4.86%

Return 4.97%

Total Carrying Charges 51.98%

Space Allocation Factor - Cable

Space Occupied by Cable 1
/ Total Usable Space 13.5
= Space Allocation Factor 7.41%

Maximum Rate - Cable

Investment Per Bare Pole \$85.61
*Carrying Charges 51.98%
*Charge Factor 7.41%

= MAXIMUM CABLE RATE **\$3.30**

Space Allocation Factor - Telecom

Space Allocated to Telecom 6.33
/Total Pole Space 37.50
=Space Allocator Factor 16.89%

Maximum Rate - Telecom

Investment Per Bare Pole \$85.61
*Carrying Charges 51.98%
*Charge Factor 16.89%

=MAXIMUM TELECOM RATE **\$7.52**

Derivation of Space Allocated to Telecom Sec. 224(e)

Amount of Unusable Space 24.00
*Statutory Apportionment Factor (2/3) 0.67
=Space To Be Allocated 16.00
/ Entities (Rural) 3.00
= Feet of Unusable Space To Be Allocated 5.33
+ Usable Space 1.00
= Total Space To Be Allocated 6.33
/ Total Pole Space 37.50
= Telecom Rate Space Allocation Factor 16.89%

DATA ENTRY AND SOURCE

Gross Investment Electric System as of 6/30/09	\$3,206,975	LAND0002933 (Carrick Dep at 14)
Accum Depr Electric System as of 6/30/09	\$1,556,831	LAND0002933 (Carrick Dep at 17)
Net Investment Electric System as of 6/30/09	\$1,650,144	calc
Gross Light Fund Capital Assets as of 6/30/09	\$4,715,558	LAND0002933
Accum Depr Light Fund Capital Assets as of 6/30/09	\$2,605,133	LAND0002933
Net Investment Electric System as of 6/30/09	\$2,110,425	calc
Ratio Pole Plant to Elec Distrib Plant	0.160958715	Utility Benchmark
Pro-rated Investment in Pole Plant	\$516,190.58	calc
Pro-rated Accum Deprec in Pole Plant	\$250,585.52	calc
Total Operating Expenses Electric System	\$987,936	LAND0002947 (Carrick Dep at 33)
Utility Sales Tax	\$98,373	LAND0002947
Operating Expenses Net of Utility Sales Tax	\$889,563	calc
Depreciation Rate Electric System	2.50%	Carrick Dep. at 51
Cost of Borrowing	4.97%	Bond Buyer GO 20 Muni Bd Index -Avg Yr Ending 6/09
Number of Poles	2,637	LAND0004048 (McGavran Dep at 45)
Avg Joint Use Pole Height	37.5	FCC Presumption
Usable Space	13.5	FCC Presumption
Unusable Space	24	FCC Presumption
Percentage Reduction Appurtenances	0.15	FCC Presumption
Number of Attaching Entities	3	FCC Presumption

Kravtin Attachment 5

RATIO OF POLE PLANT TO ELECTRIC DISTRIBUTION PLANT FOR FCC FNPRM BENCHMARK UTILITIES

Utility	(Col 1) Gross Pole Plant	(Col 2) Gross Distribution Plant	Ratio Col (1)/(2)	Ratio Col (1)/(2)
Ala. Power	\$888,438,841	\$4,586,035,132	19%	19%
Ga. Power	\$806,135,800	\$6,972,136,720	12%	12%
Gulf Power	\$110,201,017	\$ 873,642,376	13%	13%
Jersey Central	\$431,725,630	\$2,897,691,563	15%	15%
Metro Edison	\$271,300,031	\$1,387,375,967	20%	20%
NSTAR	\$233,292,198	\$3,441,383,125	7%	* Outlier removed
Penn Electric	\$384,537,020	\$1,679,233,013	23%	23%
Tampa Electric	\$191,722,520	\$1,629,079,838	12%	12%
AVERAGE			0.149	0.161

COMMONWEALTH OF KENTUCKY
BEFORE THE 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**

DIRECT TESTIMONY
OF
PATRICIA D. KRAVTIN

Submitted on

Behalf of

The Kentucky Cable Telecommunications Association

April 22, 2010

Q: PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

A: My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue, Swampscott, Massachusetts. I am an economist in private practice specializing in the analysis of telecommunications regulation and markets.

Q: PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A: I received a B.A. with Distinction in Economics from the George Washington University. I studied in the Ph.D. program in Economics under a National Science Foundation Fellowship at the Massachusetts Institute of Technology (“M.I.T.”). My fields of concentration at M.I.T. were government regulation of industry, industrial organization, and urban and regional economics. My professional background includes a wide range of consulting experiences in regulated industries. Prior to starting my own consulting practice, I was a consultant at the national economic research and consulting firm of Economics and Technology, Inc. (“ETI”) in that firm’s regulatory consulting group, where I held positions of increasing responsibility, including Senior Vice President/Senior Economist.

Q: WHAT IS YOUR EXPERIENCE SERVING AS AN EXPERT IN PROCEEDINGS RELATED TO TELECOMMUNICATIONS MATTERS?

A: I have testified or served as an expert on telecommunications matters in proceedings before over thirty state regulatory commissions. I have also provided expert testimony and reports in proceedings before the Federal Communications Commission (“FCC”) and before international agencies including the Canadian Radio-television and

Telecommunications Commission, the Ontario Energy Board, and the Guam Public Utilities Commission. In addition, I have testified as an expert witness in antitrust litigation in federal district court, and also before a number of state legislative committees. A detailed resume summarizing my educational background and previous experience is provided in Attachment 1 to my testimony.

Over the course of my career, I have been actively involved in a number of state and federal regulatory commission proceedings involving cost methodologies and the allocation of costs of incumbent local exchange carriers (“ILECs”) and electric utilities. One local network component, essential for the provision of competitive communications services, with which I am also very familiar, is access to poles, ducts, conduits, and rights-of-way. I have testified extensively on matters pertaining to these essential facilities before state and federal regulatory agencies and district courts. I have also been actively involved in related issues pertaining to broadband deployment. I have authored a number of reports dealing with this subject and participated as a grant reviewer for the Broadband Technology Opportunities Program (“BTOP”) administered by National Telecommunications and Information Administration (“NTIA”).

Q: CAN YOU DESCRIBE YOUR EXPERIENCE IN POLE ATTACHMENTS PROCEEDINGS?

A: Yes. I have submitted reports in pole proceedings before the FCC, including its most recent rulemaking proceeding, *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 (FCC 2008 NPRM Proceeding). I have

served as an expert or advisor on pole attachment matters in proceedings involving investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned utilities, and before the following state regulatory commissions: the Arkansas Public Service Commission, the Public Utilities Commission of Ohio, the Public Utilities Commission of Texas, the Georgia Public Service Commission, the South Carolina Public Service Commission, the Public Service Commission of the District of Columbia, the New Jersey Board of Public Utilities, and the New York Public Service Commission.

Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A: Yes, I testified before the Kentucky Public Service Commission (KPSC or Commission) in connection with two South Central Bell Telephone Company rate cases, Case No. 8847 (1984) and Case No. 8467 (1982), on behalf of the KPSC staff and the Commonwealth of Kentucky, respectively.

Q: WHY HAS THE KENTUCKY CABLE TELECOMMUNICATIONS ASSOCIATION ASKED YOU TO PRESENT TESTIMONY IN THIS PROCEEDING?

A: I was asked by the Kentucky Cable Telecommunications Association (KCTA) to address matters raised in this proceeding relating to the pole attachment rental rates that Louisville Gas and Electric Company (LG&E) charges cable operators. In particular, my testimony provides calculations of fair, just and reasonable pole attachment rental rates applicable to LG&E. I have based my testimony on the uniform formula methodology for calculating cable attachment charges established by the KPSC in Administrative Case

No. 251,¹ and in subsequent KPSC rulings addressing the application of its pole rate formula.

Q: PLEASE SUMMARIZE YOUR TESTIMONY.

A: The need for effective pole regulation arose, because cable operators and other third-parties had no practical alternative but to attach to existing pole lines – a condition as relevant today as it was decades ago. In the absence of effective pole regulation, pole-owning utilities, because of their historical incumbency, would be in a position to limit access to these essential bottleneck facilities and/or to extract excessive monopoly rents. Moreover, without effective regulation, a utility’s monopoly control over poles makes it a gatekeeper controlling the availability of new advanced broadband services and applications in its service area. This scenario is precisely the type of behavior that pole regulation, nationally, and here in Kentucky following the state’s certification to self-regulate pursuant to Administrative Case No. 251, was designed to address.

In Administrative Case No. 251, the KPSC established a uniform pole rate formula designed to “produce a fair, just and reasonable rate, based on the fully allocated costs of the utility in furnishing pole attachment services.”² The KPSC formula consists of three basic components: “(1) embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of a CATV attachment (2) multiplied

¹ *In the Matter of the Adoption of a Standard Methodology for Establishing Rates for CATV Pole Attachments*, Administrative Case No. 251, Amended Order (Admin. 251), Kentucky Public Service Commission, September 17, 1982.

² *Id.* at 8.

by an annual carrying charge, and (3) this product multiplied by the percentage of usable space used for CATV pole attachments.”³

Applying the KPSC formula methodology to LG&E’s data, I have calculated the maximum pole attachment rates that LG&E should be permitted to charge third-party cable operators to attach to its poles. My calculations are consistent with the fair, just and reasonable standard set forth in Administrative Case No. 251 and in subsequent KPSC rulings. The rate results are summarized below, with supporting calculations provided in Attachment 2 to this testimony.

Maximum LG&E Cable Pole Attachment Rates For Test Year Ending October 31, 2009		
Two-User	Three-User	Weighted Average
\$4.44	\$3.74	\$3.88

Rates calculated using the KPSC formula methodology are cost-based, subsidy-free, and fully compensatory to the utility. In the case of LG&E, the pole attachment rate of \$4.92 that the utility is currently charging cable operators is in excess of the rate produced by a proper application of the KPSC formula as shown in the table above. In light of this fact, permitting rates to increase to even higher levels such as proposed by LG&E would run counter to the ultimate purposes of effective pole rate regulation. In my opinion, LG&E’s current pole attachment rate of \$4.92 should stay in effect until such time that LG&E, in a subsequent rate case, and based upon a proper application of the KPSC formula as described in this testimony, can justify charging a higher rate.

³ Id.

As with any formulaic approach, the accuracy and integrity of the KPSC formula depends on the accuracy and integrity of the underlying data inputs. For this reason, it is very important that the data inputs are subjected to careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be verified.

In this case, LG&E's calculations of its proposed pole attachment rates contain a number of errors with regard to key data inputs, including the adjustment for minor appurtenances applied to bare pole costs, and the rate of return, income tax, depreciation sinking fund, and operation and maintenance elements of the carrying charge factor. Based on these erroneous data inputs, LG&E calculates a pole attachment rate for cable of \$8.52. This rate represents a 73% increase over the current pole rate, and exceeds the fair, just and reasonable rate pursuant to the KPSC formula methodology by 120%.

Q: WHAT IS THE PURPOSE OF POLE RATE REGULATION?

A: The primary purpose of pole rate regulation has historically been, and continues to be, about protecting cable operators and other third-party attachers against monopoly abuses of pole-owning utilities. In this important context, the purpose of pole rate regulation has *not* been about maximizing third-party contribution to the revenue requirement for the utility's core electric services (which is properly recoverable from the utility's ratepayers for whom the pole network was built and maintained), but rather to *limit* the rents that utilities are permitted to charge third-party attachers to levels more in line with what a competitive market (if one existed, which it does not) would produce.

Fundamental to pole rate regulation is recognition of the fact that pole-owning utilities, by virtue of historical incumbency, own and control existing pole plant to which cable

operators and other third-parties have no practical alternative but to attach. Where a utility has absolute control over essential bottleneck facilities, in the absence of effective pole regulation, pole-owning utilities are in a position to limit access to these essential bottleneck facilities and/or to extract excessive monopoly rents.⁴ This control of the essential bottleneck pole facility effectively affords the utility a key gatekeeper role with respect to the roll-out and availability of new advanced broadband services and applications in its service area. Preventing a pole-owning utility from charging excessive rates to the detriment of competition and the consuming public, is precisely what pole regulation nationally, and here in Kentucky following the state's certification to self-regulate pursuant to Administrative Case No. 251, was designed to address.

Q: ARE THERE PUBLIC POLICY REASONS FOR PREVENTING UTILITIES FROM CHARGING EXCESSIVE RATES?

A: Yes. Excessive rates serve no valid economic or public policy purpose. To the contrary, such excessive rates work at cross purposes to important public policy goals - namely, to promote effective competition and widespread broadband deployment. This is particularly the case in rural areas, where the economic conditions for broadband deployment (e.g., lower population densities resulting in higher construction costs per capita) are the most unfavorable.⁵

⁴ See *NCTA v. Gulf Power*, 534 U.S. 327, 330 (2002) (“Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.”).

⁵ These are all points emphasized in the FCC's just-released National Broadband Plan, which recommends rates for pole attachments be set as low and as close to uniform (in the vicinity of the current cable rate) as possible to support the goal of broadband deployment, particularly in rural areas where the “impact of these rates can be

Q: HOW IMPORTANT IS THE PROPER APPLICATION OF THE KPSC POLE RATE FORMULA TO LG&E?

A: Given the increased opportunities for utilities to compete with third-party attachers and the economic and social benefits of accelerated and enhanced broadband deployment, effective pole rate regulation is more important than ever. For that regulation to be effective, it is essential that the utility's implementation of the KPSC formula be carefully scrutinized.

As with any formulaic approach, the accuracy and integrity of the formula depends on the accuracy and integrity of the underlying data inputs. For this reason, it is very important that the data inputs to the formula are subjected to careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be verified. This is also consistent with the KPSC's directive that the "various cost factors needed to apply the formula should be readily available public information, such as disclosed in the utility's required reports to the Commission or other public agencies."⁶

Q: PLEASE DESCRIBE THE KPSC FORMULA METHODOLOGY.

A: The KPSC formula methodology for calculating pole attachment rates applicable to third-party cable operators consists of three basic components as follows: "(1) embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of a CATV attachment (2) multiplied by an annual carrying charge, and (3) this

particularly acute." See *Connecting America: The National Broadband Plan*, March 16, 2010, at 110. <http://www.broadband.gov/plan/#read-the-plan>

⁶ Admin. 251 at 8.

product multiplied by the percentage of usable space used for CATV pole attachments.”⁷

Expressed as an equation, the basic KPSC formula methodology is as follows:

$$\text{Cable Pole Attachment Rate} = \frac{[\text{Average Bare Pole Cost} \times \text{Investment Percentage}] \times \text{Carrying Charge Factor} \times \text{Usable Space Factor}}{\text{Usable Space Factor}}$$

In Administrative Case No. 251, and in subsequent rulings addressing the application of its pole rate formula, the KPSC identified with specificity the manner in which these basic components are to be calculated.

Q: PLEASE DESCRIBE HOW THE FIRST TWO COMPONENTS OF THE FORMULA, THE EMBEDDED COST OF AN AVERAGE BARE POLE AND THE INVESTMENT PERCENTAGE, ARE CALCULATED FOR ELECTRIC UTILITIES UNDER THE KPSC FORMULA METHODOLOGY.

A: Under the KPSC methodology, the average bare pole cost is based on the “weighted average cost of two-user and three-user poles...For electric utilities, the average cost of a two-user pole will be assumed to be the weighted average cost of 35-foot and 40-foot poles, and for a three-user pole, the weighted average cost of 40-foot and 45-foot poles.”⁸

The KPSC’s methodology specifically excludes from the calculation the costs for poles with heights lower or higher than this range because the KPSC found them to be used so infrequently for cable attachments.⁹

⁷ Id.

⁸ Id. at 10-11.

⁹ Id. at 9.

In addition, the KPSC's methodology specifically excludes costs associated with appurtenances not installed for CATV purposes.¹⁰ The KPSC methodology distinguishes between two types of appurtenances – major and minor – as follows: Costs associated with major appurtenances, such as cross arms, and which “can be specifically identified in sub-accounts of the Federal Energy Regulatory Commission (“FERC”) Form 1, Account 364” are to be directly excluded from the bare pole cost calculation.¹¹ Costs associated with minor appurtenances, consisting of miscellaneous hardware not segregated in the basic pole accounts (e.g., aerial cable clamps and pole top pins) are to be excluded by application of a 15% investment percentage factor to the bare pole cost (net of major appurtenances).¹²

Q: PLEASE DESCRIBE THE SECOND COMPONENT OF THE KPSC FORMULA, THE ANNUAL CARRYING CHARGE FACTOR, AND HOW IT IS APPLIED.

A: The annual carrying charge factor (CCF) is used to convert the bare pole cost figure into an annual rental amount. The CCF was “designed to recover the utility’s cost in providing service,” including items “represent[ing] an equitable share of all operating and maintenance expenses, taxes, and depreciation, and a cost of money component,” and a “contribution by CATV toward the common costs of the utility.”¹³ The Commission specified that the cost of money factor “should be equal to the return on investment (or

¹⁰ Id.

¹¹ Id. at 9, Appendix A at 5.

¹² See id. at 9-10, Appendix A at 4-5. See also *In the Matter of Application of Jackson Purchase Energy Corporation for Adjustments in Existing Cable Television Attachment Tariff*, Case No. 2004-00319, September 14, 2005, at 2-3 (“ULS&P should reconstruct separate cost records for major appurtenances, such as anchors, cross-arms and braces, and estimate bare pole costs by deducting the cost of the major appurtenances plus 15 percent for minor appurtenances, such as aerial cable clamps and pole top pins...”).

¹³ Admin. 251 at 11-12.

margin) allowed in the utility's last rate case.”¹⁴ The Commission further specified that “[t]he costs included in the annual carrying charge calculation should be identifiable by specific account number as established in the Uniform System of Accounts prescribed by this Commission and utilized by each utility.”¹⁵

Q: PLEASE DESCRIBE HOW THE THIRD COMPONENT, THE USABLE SPACE FACTOR, IS APPLIED TO ELECTRIC UTILITIES UNDER THE KPSC METHODOLOGY.

A: The usable space factor is the percentage of pole capacity attributable to the attacher, as determined by the ratio of space occupied by attacher (agreed to be one foot) to total usable space on the pole. The KPSC methodology applies a different usage space factor to two-user and three-user poles, consistent with its differing height presumptions for the two categories of poles. Specifically, the KPSC methodology establishes a usage space factor of .1224 (1/8.17) for the typical two-user pole and .0759 (1/13.17) for the typical three-user pole.

Q: HAVE YOU CALCULATED FAIR, JUST AND REASONABLE POLE ATTACHMENT RENTAL RATES APPLICABLE TO LG&E BASED ON THE KPSC RATE FORMULA METHODOLOGY AS DESCRIBED ABOVE?

A: Yes. Once the various pieces of input data are properly identified, the calculation of the maximum fair, just and reasonable rate pursuant to the KPSC formula methodology is a straightforward multiplication of the three major components: *weighted average bare pole cost (net of major and minor appurtenances)* multiplied by the *carrying charge*

¹⁴ Id. at 12.

factor multiplied by the *usable space factor*. As allowed by the Commission, I have calculated a single “composite billing rate based on relative pole populations” of two-user and three-user poles, in addition to the required two and three-user pole rates.¹⁶ My calculations (provided in Attachment 2 to this testimony) fully adhere to the KPSC rate formula methodology as prescribed in Administrative Case No. 251, and as clarified in subsequent orders addressing the pole rate formula.

Q: WHAT DATA HAVE YOU USED TO CALCULATE POLE ATTACHMENT RATES FOR LG&E?

A: I have relied upon data provided by LG&E in its filing and in response to discovery requests from KCTA. These include Seelye Exhibit 11, as revised in response to KCTA’s Supplemental Data Request dated April 2, 2010, and the underlying accounting records for the relevant accounts and sub-accounts of the Federal Energy Regulatory Commission (“FERC”) Uniform System of Accounts, i.e., FERC Form 1, that LG&E provided in response to KCTA’s Initial Data Request dated March 1, 2010.

Q: BASED ON YOUR CALCULATIONS, WHAT RATES WOULD BE FAIR, JUST AND REASONABLE FOR CABLE ATTACHMENTS TO LG&E’S POLES?

A: Table 1 on the following page presents the results of my rate calculations using data for the test year ending October 31, 2009.

¹⁵ Id. at 11.

¹⁶ Id. at 16. (“Although we require that a two-user and three-user rate be developed and filed by each affected utility, the Commission will allow a composite billing rate based on relative pole populations when a complete inventory of CATV pole attachments is not presently available.”)

Table 1 Maximum LG&E Pole Rental Rates For Test Year Ending October 31, 2009		
	Two-User Pole	Three-User Pole
Avg. Bare Pole Cost	\$366.90	\$498.25
x Carrying Charges	9.89%	9.89%
x Space Factor	12.24%	7.59%
=Maximum Rate	\$4.44	\$3.74
No. Att. Entities	17,699	68,646
Weight	20.5%	79.5%
= Weighted Max Rate	\$3.88	

In the case of LG&E, the pole attachment rate of \$4.92 that the utility is currently charging cable operators is in excess of the rate produced by a proper application of the KPSC formula as shown in the table above. In light of this fact, permitting rates to increase to even higher levels such as proposed by LG&E would run counter to the ultimate purposes of effective pole rate regulation. In my opinion, LG&E's current pole attachment rate of \$4.92 should stay in effect until such time that LG&E, in a subsequent rate case, and based upon a proper application of the KPSC formula as described in this testimony, can justify charging a higher rate.

Q: DO YOUR CALCULATIONS AND RESULTING RATE RESULTS DIFFER FROM THOSE PROVIDED BY LG&E IN THIS CASE?

A: Yes, they differ as to a number of data inputs to the formula. The calculations underlying LG&E's proposed pole attachment rates contain a number of errors with regard to inputs to the formula, including the adjustment for minor appurtenances applied to bare pole

costs, and the rate of return, income tax, depreciation sinking fund, and operation and maintenance elements of the carrying charge factor. My calculations correct for these errors in a manner fully consistent with the Commission's decision in Administrative Case No. 251 and in subsequent rulings of the Commission that address the pole rate formula. Relying on a number of erroneous data inputs, LG&E calculates a pole attachment rate for cable of \$8.52. This rate represents a 73% increase over the current pole rate, and exceeds a fair, just and reasonable rate by 120%.

Q: PLEASE DESCRIBE THE ERROR IN LG&E'S CALCULATIONS RELATING TO BARE POLE COSTS, AND HOW IT IS CORRECTED IN YOUR RATE CALCULATIONS.

A: As discussed earlier in this testimony, the KPSC methodology specifically excludes costs associated with *both* major and minor appurtenances from the calculation of the bare pole cost. Under the KPSC methodology, the utility is expected to separately track the costs of major appurtenances in various sub-accounts of Account 364 such that those costs can be excluded on a direct basis using the accounting records of the utility.¹⁷ By contrast, the costs associated with minor appurtenances, consisting of miscellaneous hardware, are neither required nor expected by the Commission to be separately tracked in the pole accounting records of the utility. Under the KPSC methodology, these costs are to be excluded by application of a 15% investment percentage factor to the bare pole cost amount (net of major appurtenances).

¹⁷ See *In the Matter of: The CATV Pole Attachment Tariffs of the Union Light, Heat and Power Company*, Administrative Case No. 251-27, July 14, 1983, at 2-3. ("Therefore, to conform to the Commission's Amended Order of September 17, 1982, ULH&P should reconstruct separate cost records for major appurtenances, such as anchors, cross-arms, and braces, and estimate bare pole costs by deducting the cost of the major appurtenances plus 15 percent for minor appurtenances, such as aerial cable clamps and pole top pins....").

LG&E's rate calculations do not apply the required 15% reduction to remove the costs of minor appurtenances. Accordingly, LG&E's bare pole cost formula inputs are overstated by 15%. My calculations correct for this error by applying the Commission's mandated 15% reduction to LG&E's recorded investment in the relevant pole plant categories. This correction reduces the average bare pole cost from \$431.64 to \$366.90 for two-user poles, and from \$586.18 to \$498.25 for three-user poles.

LG&E asserted in response to a KCTA discovery request that the costs of minor appurtenances have been directly excluded in the same manner as major appurtenances, claiming these costs have been separately recorded in its continuing property records.¹⁸ The continuing property records provided by LG&E in discovery, however, do not reveal any separate recording of the costs of minor appurtenances.¹⁹ Absent accounting records that can specifically confirm the separate identification and removal of minor appurtenances from the pole plant investment recorded in Account 364, a proper application of the KPSC methodology dictates that the 15% percentage reduction be applied consistent with the Commission's ruling in Administrative Case No. 251 and in subsequent rulings.²⁰

¹⁸ LG&E Response to KCTA Supplemental Data Request, dated April 2, 2010, Question No. 31.

¹⁹ See Attachment to LG&E Response to KCTA 1-2. According to LG&E's response, this attachment (provided in CD format) contains LG&E's complete continuing property records for Account 364. The following is a complete list of the types of property separately recorded in the account: brackets, cross-arms, fences, guys, platforms, poles of varying sizes and materials, and towers.

²⁰ See *In the Matter of: The CATV Pole Attachment Tariff of Kentucky Power Company*, Administrative Case No. 251-24, July 6, 1983, at 3 (Holding that the utility "should either show" data supporting its actual bare pole costs "or deduct 15 percent for minor appurtenances according to the Commission's uniform method of estimating bare pole costs.")

Q: PLEASE DESCRIBE THE ERROR IN LG&E'S CALCULATIONS RELATING TO THE RATE OF RETURN ELEMENT OF THE CARRYING CHARGE FACTOR, AND HOW IT IS CORRECTED IN YOUR RATE CALCULATIONS.

A: For the rate of return component of the carrying charge factor, LG&E uses its proposed rate of return of 8.32%. As an initial matter, any rate of return input at this time is only a placeholder for the authorized rate of return ultimately allowed by the Commission in its decision regarding this case.²¹ Accordingly, the pole attachment rates I have calculated will need to be adjusted to reflect the final rate of return authorized by the Commission.

More importantly, LG&E's rate of return element contains a fundamental error by applying to gross pole costs a rate of return that is intended to apply to net plant investment.²² The effect of LG&E's application of a "net" rate of return number to a gross investment number is to significantly overstate the carrying costs associated with the cost of money element.

My calculations correct for this error by adjusting LG&E's proposed rate of return so that the calculation is performed on an "apples-to-apples" basis. I do this by simply applying a net-to-gross percentage based on the ratio of net pole plant (i.e. gross plant less accumulated depreciation) in Account 364 to gross pole plant in Account 364 in order to

²¹ See Admin. 251 at 12 ("For convenience and certainty of computation, the Commission finds that this return should be equal to the return on investment (or margin) allowed in the utility's last rate case.")

²² See *In the Matter of: Application of Blue Grass Energy Cooperative Corporation to Adjust Its Rates*, Case No. 2000-414, May 30, 2001, at 4. ("It is today, and has for decades been, a basic rate-making principle in Kentucky that a utility's rate of return is determined based on net rather than gross investment.")

restate the rate of return element as a number that can be properly applied to gross investment. This net-to-gross ratio of .441, multiplied by LG&E's "net" rate of return of 8.32%, yields an adjusted rate of return of 3.67%.

The adjustment I have applied is fully consistent with prior rulings of the KPSC. In 2001, the Commission issued two rulings to "definitively resolve this issue."²³ As stated by the Commission in one of those decisions:

Regardless of any uncertainty as to the intent in Admin. 251, basic rate-making involves establishing, directly or indirectly, an overall rate of return based on net investment rate base. That is how the overall rate of return of 9.20 percent proposed by Blue Grass was developed in Fox Creek RECC's last general rate case, as well as how the 10.73 percent overall rate of return was developed in Blue Grass RECC's last general rate case. We can find no authoritative support for applying a utility's investment in gross plant to a return derived from net plant.²⁴

The Commission specifically endorsed the methodology proposed by KCTA in both the aforementioned cases – the same methodology I have applied in my calculations. That methodology requires the utility to "adjust the rate of return to reflect the ratio of [the utility's] net plant investment recorded in Account 364, Poles, Towers, and Fixtures, to its gross plant investment in Account 364 and then apply the resulting 'net-to-gross ratio' to the 'gross' average pole cost amounts."²⁵

²³ See *In the Matter of Application of Cumberland Valley Electric, Inc. to Adjust Its Rates*, Case No. 2000-359, February 26, 2001, at 4.

²⁴ See *In the Matter of Application of Blue Grass Energy Cooperative Corporation to Adjust Its Rates*, Case No. 2000-414, April 4, 2001, at 4-5.

²⁵ *Id.* at 4.

Because the rate of return input is also used in the calculation of the income tax and depreciation sinking fund elements of the carrying charge factor, LG&E's error in applying a net rate of return figure to gross pole investment also affects these two components of the carrying charge factor, as explained below.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE INCOME TAX ELEMENT OF THE CARRYING CHARGE FACTOR AS IT PERTAINS TO THE RATE OF RETURN DATA INPUT.

A: The income tax element of the carrying charge factor is intended to recover the income tax liability theoretically imposed on the equity component of the utility's allowed return.²⁶ In other words, this factor ensures that the utility has the opportunity to earn the allowed rate of return after accounting for taxes. For the same reason the Commission found it improper to apply a "net" overall rate of return figure to gross pole investment, it is similarly improper to apply a "net" return on equity figure (as LG&E has done) in the calculation of the income tax factor.²⁷ And similarly, the effect of LG&E's application of a "net" return on equity to gross pole investment is to significantly overstate the carrying costs associated with the income tax element.

To correct for this problem, I simply apply to the income tax element the same net-to-gross ratio I used to correct the rate of return element of the carrying charge. This generates a return on equity for the income tax element that can be properly applied to gross pole investment. Specifically, I multiply a net-to-gross ratio of .441 times LG&E's

²⁶The debt component of the return does not generate a tax liability.

²⁷ The income tax factor is calculated using the following formula: $\text{Income Tax} = [\text{Composite Federal and State Income Tax Rate} / (1 - \text{Composite Federal and State Income Tax Rate})] \times \text{Return on Equity}$. See Seelye, Exhibit 11, page 2.

“net” return on equity of 6.19% to yield an adjusted return on equity of 2.73%. Making this correction reduces the income tax element of the carrying charge factor from 3.63% to 1.60%. While I have used LG&E’s proposed return on equity (adjusted to apply to gross pole investment) in my calculations, as with the overall rate of return, this figure is only a placeholder for the allowed return on equity ultimately authorized by the Commission in this case.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE DEPRECIATION SINKING FUND ELEMENT OF THE CARRYING CHARGE FACTOR AS IT PERTAINS TO THE RATE OF RETURN DATA INPUT.

A: The depreciation sinking fund is a method of calculating depreciation that determines the payment required annually to generate a future dollar amount (e.g., the amount needed to replace the plant being depreciated), when accumulated at a given rate of interest for a period corresponding to the service life of the plant. In its calculation, LG&E uses its proposed rate of return (8.32%) in the sinking fund formula as the interest rate with which annual payments accumulate over the life of the plant. As in the case of both the rate of return and income tax elements, LG&E incorrectly applies a “net” return figure in its calculations. In the case of the depreciation sinking fund, however, the effect of LG&E’s error is to understate the carrying costs associated with this element. This is because the accumulation of annual payments at the higher “net” return, all else being equal, would require smaller annual payments over the life of the plant to generate the desired future amount.

Consistent with my corrections to the other rate of return inputs to the pole formula, I have corrected the sinking fund element of the carrying charge by substituting an adjusted rate of return of 3.67% (calculated by multiplying the same net-to-gross ratio of .441 to LG&E's proposed rate of return of 8.32%) in place of LG&E's proposed rate of return of 8.32% in the formula used to calculate this element.²⁸ This produces a sinking fund factor that is properly applied to gross investment. As noted above, substituting a lower "gross" rate of return in the calculation of the sinking fund factor actually increases this factor (from 0.54% to 1.45%). Again, while I have used LG&E's proposed rate of return (adjusted to apply to gross pole investment) in my calculations, this figure is only a placeholder for the allowed rate of return ultimately authorized by the Commission in this case.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE OPERATIONS AND MAINTENANCE ELEMENT OF THE CARRYING CHARGE FACTOR.

A: LG&E calculates the Operations and Maintenance (O&M) element of the carrying charge factor by taking the sum of the following three types of expenses: (1) Maintenance of Poles, Towers, and Fixtures as recorded in subaccount 593001; (2) Tree Trimming of Electric Distribution Routes as recorded in subaccount 593004; and (3) an assignment of total utility Administrative and General expenses to poles (based on the ratio of labor

²⁸ The sinking fund factor is calculated using the following formula: $\text{Sinking Fund Factor} = \text{Proposed Rate of Return} / [(1 + \text{Proposed Rate of Return})^{\text{Number of Years in Service}} - 1]$.

charged to subaccounts 593001 and 593004 to total utility labor expenses), and then dividing that sum by the gross plant in service in Account 364.²⁹

LG&E's data input for gross pole plant in Account 364 (\$119,084,747) reconciles with the accounting records provided by LG&E in response to KCTA discovery.³⁰ Similarly, LG&E's data inputs for the amounts of pole-related labor in 593001 (\$289,969) and 593004 (\$225,900) used to assign total Administrative and General expenses to poles reconcile with the accounting records provided by LG&E in response to KCTA discovery.³¹ However, that is not the case for LG&E's data inputs for Maintenance of Poles, Towers, and Fixtures in subaccount 593001 and Tree Trimming of Electric Distribution Routes in subaccount 593004. The expense figures used by LG&E (as identified in Seelye Exhibit 11), \$1,366,766 for maintenance and \$4,775,583 for tree trimming, differ from amounts reported in the accounting records of the Company.

It is essential to the integrity of the KPSC formula methodology that the utility not be allowed to make adjustments at will to its booked and audited accounting records, as LG&E appears to have done in this case. Accordingly, I have corrected LG&E's data inputs for maintenance and tree trimming expenses to conform to the amounts actually reported in LG&E's underlying accounting records for the test year. As shown in Attachments 3 and 4, respectively, to this testimony (containing the relevant pages from

²⁹ See Seelye Exhibit 11, page 3.

³⁰ See Attachment to LG&E's Response to KCTA 1-2, "LG&E KCTA 1-2 364 Oct 09" Worksheet, Row 855, which identifies the "Total" of Account 364.00 Poles, Towers and Fixtures plant investment as \$119,084,747, the same dollar amount identified by LG&E in Seelye Exhibit 11, page 3 for "Plant in Service – Account 364." This attachment was provided in an excel format that verifies the number appearing in Row 855 is the numerical sum of all entries recorded in this subaccount.

LG&E's accounting records provided to KCTA in discovery), the corrected expense amounts are \$452,820 for Maintenance of Poles, Towers, and Fixtures, and \$2,377,067 for Tree Trimming of Electric Distribution Routes.³² Using these corrected data inputs has the effect of reducing the O&M element of the carrying charge factor from 5.73% to 2.94%.

Q: WHAT IS THE EXPLANATION FOR LG&E'S USE OF DATA INPUTS THAT DO NOT RECONCILE TO ITS ACCOUNTING RECORDS?

A: In the case of its maintenance and tree trimming expense figures, LG&E has apparently adjusted its booked 593001 and 593004 accounting records to remove credits associated with certain storm related regulatory assets.³³ In neither instance do LG&E's explanations have merit or justify LG&E's deviations from its booked accounting records.

Q: PLEASE EXPLAIN WHY LG&E'S ADJUSTMENT TO RECORDED TREE TRIMMING EXPENSES IS ERRONEOUS?

A: In allowing LG&E to create regulatory assets for accounting purposes pertaining to the cost recovery of storm-related expenses, the KPSC has recognized these expenses are extraordinary in nature, and are more appropriately amortized over a number of years in

³¹ See Attachment to LG&E's Response to KCTA 2-35, "LG&E Detail" Worksheet, Row 1208, and Attachment to LG&E's Response to KCTA 2-37, "LG&E Detail" Worksheet, Row 455.

³² See Attachment to LG&E's Response to KCTA 1-20, "Test Year" Worksheet, Rows 6827 and 12919 (relevant pages reproduced in Attachment 3 to this testimony), which identifies the "Total: Account 593001" (maintenance expense) as \$452,820.45, and the "Total: Account 593004" (tree trimming expense) as \$2,377,066.82. This attachment was provided in an excel format that verifies the numbers appearing in Rows 6827 and 12919, are the numerical sum of all entries recorded in subaccounts 593001 and 593004, respectively.

³³ See Attachment to LG&E's Response to KCTA 1-20, "Test Year" Worksheet; see also LGE Response to KCTA Supplemental Data Request, April 2, 2010, Question No. 38.

order to minimize the severity of the impact in any given year on the utility's financial records.³⁴ That is why the KPSC has allowed LG&E to remove storm-related expenses from its FERC accounts and place them in a regulatory asset, for amortization over time. In adjusting its tree trimming expenses, LG&E has in effect undone that accounting adjustment. In other words, LG&E has taken the expenses it had moved into its regulatory asset and effectively reinserted them into Account 593 for purposes of its pole rate calculations. This results in what amounts to a double counting of these storm-related expenses.

As customers of the utility, there is no reason why cable attachers should be singled out for disparate treatment with respect to the amortization and rate recovery of storm-related tree trimming expenses. It would be unjust and unreasonable for cable attachers to be charged rates that include recovery of expenses deemed extraordinary, and accordingly, in excess of those appropriately recognized in the test year. Moreover, because the Commission has allowed cost recovery of these expenses to be amortized over multiple years, there would be double recovery of these expenses if on an annualized basis, cable attachment rates were based on the unadjusted total amount of particular storm-related expenses.

Q: DOES THIS CONCLUDE YOUR TESTIMONY?

A: Yes, it does.

³⁴ See *Re: Louisville Gas & Electric Company*, Case No. 2009-00175 (Ky. PSC Sep. 30, 2009); see also *Application of Louisville Gas & Electric Company for an Order Approving the Establishment of a Regulatory Asset*, Case No. 2008-00456 (Ky. PSC Dec. 22, 2008).

Attachment 1

Patricia D. Kravtin

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Summary

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

Experience

CONSULTING ECONOMIST

2000–Present Independent Consulting Swampscott, MA

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

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, 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; and access to pole attachments 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 numerous industry reports and papers on topics including market structure and competition, alternative forms of regulation, patterns of investment, telecommunications modernization, and broadband deployment (see listing of Reports and Studies).
- Invited speaker before various national organizations, state legislative committees and participant in industry symposiums.
- Grant Reviewer for 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 related to allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis of 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)

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 the California Association of Competitive Telecommunications Companies (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.

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1999

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1997

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1993

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1992

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1991

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1990

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1989

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1988

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1987

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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.

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1986-1982

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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.

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Attachment 2

Rate Calculations

CATV Attachment Charges

(LG&E - Test Year Ending October 31, 2009)

**CALCULATION OF MAXIMUM POLE
ATTACHMENT RATES UNDER FCC
FORMULA
DATA FOR YR ENDING
Louisville Gas & Electric**

31-Oct-09

**Kravtin
Attachment 2
Page 1/3**

Weighted Average Bare Pole Cost	Two- User	Three-User
Installed Costs		
35' Poles	\$9,882,811.00	n/a
40' Poles	\$25,990,673.00	\$25,990,673.00
45" Poles	n/a	<u>\$22,752,748.00</u>
Sum Installed Costs	\$35,873,484.00	\$48,743,421.00
- Investment in Minor Appurtenances	<u>\$5,381,022.60</u>	<u>\$7,311,513.15</u>
= Investment in Bare Pole Plant	\$30,492,461.40	\$41,431,907.85
Quantity of Poles		
35' Poles	22,008	n/a
40' Poles	61,101	61,101
45" Poles	n/a	<u>22,054</u>
/ Sum Quantity	83,109	83,155
=Weighted Average Cost per Bare Pole	\$366.90	\$498.25

Carrying Charges

Rate of Return	8.32%	8.32%
Net Investment Acct 364 Pole Plant/	\$52,553,493.00	\$52,553,493.00
Gross Investment Acct 364 Pole Plant	\$119,084,747.00	\$119,084,747.00
Ratio Net to Gross Plant	0.441	0.441
Rate of Return Applied to Gross Pole Plant	3.67%	3.67%

Depreciation		
Rate of Return Applied to Gross Pole Plant	3.67%	3.67%
Number of Years Plant in Service	35	35
Sinking Fund Factor (formula per Resp KCTA Q-15)	1.45%	1.45%

Income Tax		
Return on Equity Component of ROR	11.50%	11.50%
x Percentage Equity	53.86%	53.86%
= Return on Equity Component	6.19%	6.19%
Net Investment Acct 364 Pole Plant/	\$52,553,493.00	\$52,553,493.00
Gross Investment Acct 364 Pole Plant	\$119,084,747.00	\$119,084,747.00
= Ratio Net to Gross Plant	0.441	0.441
Return on Equity Applied to Gross Pole Plant	2.73%	2.73%
Composite Fed. And State Income Tax Rate	36.93%	36.93%
Income Tax Factor (formula per Seelye Exh. 8)	1.60%	1.60%

Property Tax and Insurance

Percentage Applicable to Poles (per Resp KCTA Q-18)

0.22%

0.22%

Operation and Maintenance

Labor Charged to Maintenance Accts

593001+593004

\$515,869.00

\$515,869.00

Total Labor

\$56,166,593.00

\$56,166,593.00

Ratio Designated 593 Labor to Total Labor

0.92%

0.92%

Total A&G Expenses

\$73,557,685.00

\$73,557,685.00

A&G Expenses Assigned to Poles

\$675,599.63

\$675,599.63

Maintenance of Poles, Towers & Fixtures Acct

593001

\$452,820.45

\$452,820.45

Tree Trimming Elec. Distribution Routes Acct 593004

\$2,377,066.82

\$2,377,066.82

Sum Expenses Assigned to Poles

\$3,505,486.90

\$3,505,486.90

Gross Investment Acct 364 Pole Plant

\$119,084,747.00

\$119,084,747.00

O&M Expense Factor

2.94%

2.94%

Total Carrying Charges

9.89%

9.89%

Usage Space Factor**KPSC Usage Space Factor**

0.1224

0.0759

Maximum Pole Attachment Rates

Investment Per Bare Pole

\$366.90

\$498.25

*Carrying Charges

9.89%

9.89%

*Charge Factor

12.24%

7.59%

Maximum Pole Attachment Rate**\$4.44****\$3.74**

Estimated Number of Attachments

17,699

68,646

Percentage of Total Attachments

20.50%

79.50%

Maximum Weighted Pole Attachment Rate**\$3.88**

DATA ENTRY AND SOURCE

Gross Investment in 364	\$119,084,747.00	Attach. to LGE Resp. to KCTA 1-2
Depreciation Reserve for 364	\$66,531,254.00	Resp. to KCTA Q-8
Overall Rate of Return	8.32%	Placeholder KPSC No.
Return on Equity Component of ROR	11.50%	Placeholder KPSC No.
Percentage Equity Component	53.86%	Placeholder KPSC No.
Composite Fed. And State Income Tax Rate	36.93%	Resp. to KCTA Q-16
Percentage Reduction Appurtenances	0.15	KPSC Formula
Maintenance of Poles, Towers & Fixtures Acct 593001	452,820.45	Attach. to LGE Resp. to KCTA 1-20
Tree Trimming Elec. Distribution Routes Acct 593004	2,377,066.82	Attach. to LGE Resp. to KCTA 1-20
Total A& G Expenses	73,557,685.00	Seelye Ex. 11
Labor Charged to 593001	289,969.00	Seelye Ex. 11
Labor Charged to 593004	225,900.00	Seelye Ex. 11
Sum Labor 593001,593004	515,869.00	
Total Labor	56,166,593.00	Seelye Ex. 11
Ratio 593 Labor / Total Labor	0.00918	
A&G Expenses Assigned to Poles		
Estimated Number of Attachments (2-user)	17,699	Seelye Ex. 11
Estimated Number of Attachments (3-user)	68,646	Seelye Ex. 11
Installed Costs		
35' Poles	\$9,882,811.00	Attach. to LGE Resp. to KCTA 1-2
40' Poles	\$25,990,673.00	Attach. to LGE Resp. to KCTA 1-2
45" Poles	\$22,752,748.00	Attach. to LGE Resp. to KCTA 1-2
Quantity of Poles		
35' Poles	22,008	Attach. to LGE Resp. to KCTA 1-2
40' Poles	61,101	Attach. to LGE Resp. to KCTA 1-2
45" Poles	22,054	Attach. to LGE Resp. to KCTA 1-2

Attachment 3

Attachment to LG&E Response to KCTA 1-20

LG&E Activity in Accounts 592 and 593

Page 101 (of 376)

Louisville Gas and Electric Company
 Activity in Accounts 592 and 593
 For Twelve Months Ending October 31, 2009

Account	Account Name	Ref Amount	GL Journal Name	Description	AP Vendor Name	AP Invoice Number
593001	MTCE-POL/EFIXT-DISTR	19,227.89	Purchase Invoices USD 24-JUN-09	Inv# 1109-01589 - C/and Maint - 09/10/09 - 09/16/09	FISHEL CO	110901589
593001	MTCE-POL/EFIXT-DISTR	15,522.66	Purchase Invoices USD 21-JUL-09	INVOICE ACGT NO.20024121 - ICE STORM RESTORATION WORK	CONNECTICUT LIGHT AND POWER CO	200204121090609
593001	MTCE-POL/EFIXT-DISTR	19,834.74	Purchase Invoices USD 03-JUN-09	Inv# 1109-01460 - C/and Maint - 05/03/09 - 05/09/09	FISHEL CO	110901460
593001	MTCE-POL/EFIXT-DISTR	20,998.41	Purchase Invoices USD 18-DEC-08	INVOICE 4301-90013969 - IKE STORM INVOICE	ALLEGHENY POWER	400190013969
593001	MTCE-POL/EFIXT-DISTR	21,931.26	Purchase Invoices USD 30-APR-09	Inv# 1109-01404 - C/and Maint - 04/28/09 - 05/02/09	FISHEL CO	110901404
593001	MTCE-POL/EFIXT-DISTR	23,473.90	Purchase Invoices USD 26-MAY-09	SUMMARY INVOICE NO.5 - ICE STORM RESTORATION WORK	PIKE ELECTRIC INC	5
593001	MTCE-POL/EFIXT-DISTR	23,694.28	Purchase Invoices USD 06-JUL-09	Invoice no. 10273735 - storm restoration work	BALTIMORE GAS AND ELECTRIC CO	10273735
593001	MTCE-POL/EFIXT-DISTR	24,000.00	Purchase Invoices USD 01-DEC-08	Inv# 1109-01683 - C/and Maint - 05/24/09 - 05/30/09	FISHEL CO	110901683
593001	MTCE-POL/EFIXT-DISTR	27,994.40	Purchase Invoices USD 27-FEB-09	Pike - ED	SPE UTILITY CONTRACTORS, LLC	130092
593001	MTCE-POL/EFIXT-DISTR	50,025.28	Purchase Invoices USD 23-JUN-09	INVOICE 13009-2 - ICE STORM RESTORATION WORK	GEORGIA POWER COMPANY	J080367
593001	MTCE-POL/EFIXT-DISTR	(63,000.00)	Adjustment USD 01-DEC-08	INVOICE NO. 4080297 - STORM RESTORATION WORK		
593001	MTCE-POL/EFIXT-DISTR	112,960.00	Adjustment USD 01-DEC-08	ICE Reg Asset Rev Normal Ops		
593001	MTCE-POL/EFIXT-DISTR	(112,960.00)	Adjustment USD 01-DEC-08	Contract Services Linemen - Ike Storm		
593001	MTCE-POL/EFIXT-DISTR	(112,991.15)	Adjustment USD 01-DEC-08	ICE Storm Reg Asset Credit		
593001	MTCE-POL/EFIXT-DISTR	(180,708.43)	Adjustment USD 01-DEC-08	SUMMARY INVOICE NO. 0131L - STORM RESTORATION	CW WRIGHT CONSTRUCTION CO INC	0131L
593001	MTCE-POL/EFIXT-DISTR	345,949.08	Purchase Invoices USD 24-MAR-09	SUMMARY INVOICE NO. 0207L - STORM RESTORATION	CW WRIGHT CONSTRUCTION CO INC	0207L
593001	MTCE-POL/EFIXT-DISTR	(782,326.57)	Adjustment USD 01-DEC-08	IKE Storm Reg Asset Credit		
593001	MTCE-POL/EFIXT-DISTR	(1,093,923.03)	Adjustment USD 01-SEP-09	Winter Ice Storm Reg Asset Credit		
Total: Account 593001		\$ 452,820.45				
593002	MTCE-COND/DEVICE-DIS	\$				
593002	MTCE-COND/DEVICE-DIS	(0.01)	Labor Cost USD 25-JAN-09	Pay Period End Date 02/08/2009		
593002	MTCE-COND/DEVICE-DIS	(0.01)	Burden LUTL=87 JAN-2009 Burden Cost USD 31-JAN-09	Burden LUTL=87 JAN-2009		
593002	MTCE-COND/DEVICE-DIS	0.01	Miscellaneous Transaction USD 28-NOV-08	LUTL 003410 - 16765294		
593002	MTCE-COND/DEVICE-DIS	0.01	Miscellaneous Transaction USD 30-APR-09	LUTL 004600 - 18246632		
593002	MTCE-COND/DEVICE-DIS	0.01	Burden LUTL=87 APR-2009 Burden Cost USD 30-APR-09	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.01	Burden LUTL=87 JUN-2009 Burden Cost USD 30-JUN-09	Burden LUTL=87 JUN-2009		
593002	MTCE-COND/DEVICE-DIS	(0.05)	Burden LUTL=87 APR-2009 Burden Cost USD 30-APR-09	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.05	Miscellaneous Transaction USD 28-NOV-08	LUTL 003410 - 16765294		
593002	MTCE-COND/DEVICE-DIS	0.05	Burden LUTL=87 NOV-2008 Burden Cost USD 30-NOV-08	Burden LUTL=87 NOV-2008		
593002	MTCE-COND/DEVICE-DIS	0.07	Purchase Invoices USD 30-NOV-08	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.07	Labor Cost USD 01-MAR-09	313730061579829		
593002	MTCE-COND/DEVICE-DIS	0.07	Miscellaneous Transaction USD 30-APR-09	LUTL 004600 - 18246632		
593002	MTCE-COND/DEVICE-DIS	0.08	Miscellaneous Transaction USD 30-APR-09	LUTL 003160 - 18246632		
593002	MTCE-COND/DEVICE-DIS	0.09	Burden KUTL=83 DEC-2008 Burden Cost USD 31-DEC-08	LUTL 004190 - 18246636		
593002	MTCE-COND/DEVICE-DIS	0.11	Burden LUTL=87 APR-2009 Burden Cost USD 30-APR-09	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.11	Labor Cost USD 01-NOV-08	Pay Period End Date 11/16/2008		
593002	MTCE-COND/DEVICE-DIS	0.13	Labor Cost USD 01-APR-09	Allocate Exp Org 013040 TRMS Costs		
593002	MTCE-COND/DEVICE-DIS	0.13	Miscellaneous Transaction USD 01-DEC-08	Pay Period End Date 04/05/2009		
593002	MTCE-COND/DEVICE-DIS	0.13	Miscellaneous Transaction USD 30-APR-09	Burden LUTL=87 JUN-2009		
593002	MTCE-COND/DEVICE-DIS	0.13	Burden LUTL=87 APR-2009 Burden Cost USD 30-APR-09	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.19	Purchase Invoices USD 30-NOV-08	313730061579817		
593002	MTCE-COND/DEVICE-DIS	0.24	Burden LUTL=87 APR-2009 Burden Cost USD 30-APR-09	Burden LUTL=87 APR-2009		
593002	MTCE-COND/DEVICE-DIS	0.26	Purchase Invoices USD 30-APR-09	313730063201116		
593002	MTCE-COND/DEVICE-DIS	0.27	Purchase Invoices USD 31-JAN-09	313730061579882		
593002	MTCE-COND/DEVICE-DIS	0.28	Labor Cost USD 01-APR-09	313730062064336		
593002	MTCE-COND/DEVICE-DIS	0.28	Burden LUTL=87 JUN-2009 Burden Cost USD 30-JUN-09	Pay Period End Date 04/05/2009		
593002	MTCE-COND/DEVICE-DIS	0.36	Labor Cost USD 01-APR-09	Pay Period End Date 04/05/2009		
593002	MTCE-COND/DEVICE-DIS	0.36	Labor Cost USD 01-APR-09	Pay Period End Date 04/05/2009		
593002	MTCE-COND/DEVICE-DIS	0.37	Burden LUTL=87 JUN-2009 Burden Cost USD 30-JUN-09	Burden LUTL=87 JUN-2009		
593002	MTCE-COND/DEVICE-DIS	0.38	Labor Cost USD 25-JAN-09	Pay Period End Date 02/08/2009		
593002	MTCE-COND/DEVICE-DIS	(0.40)	Miscellaneous Transaction USD 27-FEB-09	KUTL 021205 - 17647113		

Attachment 4

Attachment to LG&E Response to KCTA 1-20

LG&E Activity in Accounts 592 and 593

Page 190 (of 376)

Louisville Gas and Electric Company
 Activity in Accounts 592 and 593
 For Twelve Months Ending October 31, 2009

Account	Account Name	Net Amount	GL Journal Name	Description	AP Vendor Name	AP Invoice Number
593004	TREE TRIMMING	43,435.60	Purchase Invoices USD 16-FEB-09	LABOR 0301	NELSON TREE SERVICE INC	640261
593004	TREE TRIMMING	43,509.31	Purchase Invoices USD 18-SEP-09	LABOR 0301	NELSON TREE SERVICE INC	649685
593004	TREE TRIMMING	(43,625.25)	J182-0100-0909 Adjustment USD 01-SEP-09	Written Re Storm Reg Asset Credit		
593004	TREE TRIMMING	44,564.11	Purchase Invoices USD 27-APR-09	LABOR 0301	NELSON TREE SERVICE INC	643724
593004	TREE TRIMMING	45,012.33	Purchase Invoices USD 26-MAR-09	LABOR 0301	WRIGHT TREE SERVICE INC	200949268
593004	TREE TRIMMING	45,231.16	Purchase Invoices USD 10-DEC-08	LABOR 0301	NELSON TREE SERVICE INC	637801
593004	TREE TRIMMING	45,258.36	Purchase Invoices USD 30-JUL-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	172187305
593004	TREE TRIMMING	46,070.30	Purchase Invoices USD 19-DEC-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	160638067
593004	TREE TRIMMING	46,138.44	Purchase Invoices USD 31-MAR-09	EQUIP 0303	NELSON TREE SERVICE INC	158178181
593004	TREE TRIMMING	46,323.44	Purchase Invoices USD 29-DEC-08	LABOR 0301	NELSON TREE SERVICE INC	641655
593004	TREE TRIMMING	47,588.28	Purchase Invoices USD 21-DEC-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	160616065
593004	TREE TRIMMING	47,879.73	J207-0100-1208 Adjustment USD 01-DEC-08	LABOR 0301	NELSON TREE SERVICE INC	639130A
593004	TREE TRIMMING	48,522.81	Purchase Invoices USD 01-JUN-09	LABOR 0301	NELSON TREE SERVICE INC	640215
593004	TREE TRIMMING	48,899.13	Purchase Invoices USD 20-NOV-08	LABOR 0301	NELSON TREE SERVICE INC	644016
593004	TREE TRIMMING	49,487.36	Purchase Invoices USD 19-MAY-09	LABOR 0301	NELSON TREE SERVICE INC	636567
593004	TREE TRIMMING	49,795.42	Purchase Invoices USD 20-FEB-09	LABOR 0301	PHILLIPS TREE EXPERTS INC	186376845
593004	TREE TRIMMING	49,956.17	Purchase Invoices USD 26-AUG-09	LABOR 0301	PHILLIPS TREE EXPERTS INC	1G655661
593004	TREE TRIMMING	51,188.99	Purchase Invoices USD 13-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	1739286
593004	TREE TRIMMING	51,225.17	Purchase Invoices USD 29-JUN-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	1572667
593004	TREE TRIMMING	51,421.42	Purchase Invoices USD 17-JUN-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	171407141
593004	TREE TRIMMING	51,636.30	Purchase Invoices USD 12-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	170387039
593004	TREE TRIMMING	(51,961.29)	J182-0100-0909 Adjustment USD 01-SEP-09	Written Wind Storm Reg Asset Credit		100809301B
593004	TREE TRIMMING	53,959.69	Purchase Invoices USD 28-SEP-09	LABOR 0301	NELSON TREE SERVICE INC	642199
593004	TREE TRIMMING	54,177.74	Purchase Invoices USD 15-OCT-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	176817724
593004	TREE TRIMMING	55,699.16	Purchase Invoices USD 05-MAY-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	17766767
593004	TREE TRIMMING	56,453.04	Purchase Invoices USD 17-APR-09	LABOR 0301	NELSON TREE SERVICE INC	641283
593004	TREE TRIMMING	56,555.99	Purchase Invoices USD 25-OCT-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	167706172
593004	TREE TRIMMING	57,258.80	Purchase Invoices USD 26-MAR-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	1642800
593004	TREE TRIMMING	59,771.70	Purchase Invoices USD 21-NOV-08	LABOR 0301	WRIGHT TREE SERVICE INC	178377838
593004	TREE TRIMMING	59,960.24	Purchase Invoices USD 17-APR-09	LABOR 0301	NELSON TREE SERVICE INC	20951484
593004	TREE TRIMMING	63,015.69	Purchase Invoices USD 14-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	637757
593004	TREE TRIMMING	66,814.63	Purchase Invoices USD 16-SEP-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	1655600
593004	TREE TRIMMING	68,177.88	Purchase Invoices USD 11-APR-09	LABOR 0301	NELSON TREE SERVICE INC	636704
593004	TREE TRIMMING	69,706.08	Purchase Invoices USD 31-MAR-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	178047605
593004	TREE TRIMMING	73,122.17	Purchase Invoices USD 16-DEC-08	LABOR 0301	NELSON TREE SERVICE INC	164116418
593004	TREE TRIMMING	73,933.48	Purchase Invoices USD 20-NOV-08	LABOR 0301	WRIGHT TREE SERVICE INC	642141
593004	TREE TRIMMING	83,846.48	Purchase Invoices USD 07-APR-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	20950470
593004	TREE TRIMMING	83,906.96	Purchase Invoices USD 20-FEB-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	159915922
593004	TREE TRIMMING	87,760.75	Purchase Invoices USD 04-NOV-08	LABOR 0301	WOLF TREE INC	156205621
593004	TREE TRIMMING	95,990.49	Purchase Invoices USD 04-NOV-08	LABOR 0301	PHILLIPS TREE EXPERTS INC	3967595
593004	TREE TRIMMING	99,427.77	Purchase Invoices USD 17-APR-09	LABOR 0301	PHILLIPS TREE EXPERTS INC	1G65889
593004	TREE TRIMMING	99,763.16	Purchase Invoices USD 03-DEC-08	LABOR 0301	NELSON TREE SERVICE INC	642363
593004	TREE TRIMMING	134,066.27	Purchase Invoices USD 13-NOV-08	LABOR 0301	PHILLIPS TREE EXPERTS INC	1G65580
593004	TREE TRIMMING	166,671.33	Purchase Invoices USD 13-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	163466347
593004	TREE TRIMMING	187,673.23	Purchase Invoices USD 11-NOV-08	LABOR 0301	NELSON TREE SERVICE INC	156975898
593004	TREE TRIMMING	(189,169.74)	J207-0100-1208 Adjustment USD 01-DEC-08	KE Storm Reg Asset Credit		633667
593004	TREE TRIMMING	200,000.00	J265-0100-1009 Adjustment USD 01-OCT-09	KE Storm Reg Asset Credit		100809301A
593004	TREE TRIMMING	201,609.24	Purchase Invoices USD 13-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	16623633
593004	TREE TRIMMING	218,706.22	Purchase Invoices USD 26-MAR-09	LABOR 0301	WRIGHT TREE SERVICE INC	20949368
593004	TREE TRIMMING	222,052.08	Purchase Invoices USD 04-NOV-08	LABOR 0301	PHILLIPS TREE EXPERTS INC	2G943928
593004	TREE TRIMMING	250,972.55	Purchase Invoices USD 12-NOV-08	LABOR 0301	WRIGHT TREE SERVICE INC	1G65579
593004	TREE TRIMMING	338,466.89	Purchase Invoices USD 13-NOV-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	100809301B
593004	TREE TRIMMING	340,622.65	Purchase Invoices USD 26-MAR-09	LABOR 0301	WRIGHT TREE SERVICE INC	1557500
593004	TREE TRIMMING	(2,252,000.00)	Reverses J255-0100-1008 Adjustment USD 01-OCT-08	Contract Services Tree Trimming - Ike Storm		20950470
593004	TREE TRIMMING	(2,363,207.84)	J182-0100-0909 Adjustment USD 01-SEP-09	Written Re Storm Reg Asset Credit		
593004	TREE TRIMMING	(3,213,096.87)	J207-0100-1209 Adjustment USD 01-DEC-08	KE Storm Reg Asset Credit		
	Total: Account 593004	\$ 2,377,066.82				
593005	MINOR EXEMPT EXPENSE	1.28	Purchase Invoices USD 30-APR-09		KENTUCKY STATE TREASURER	01-MAY-2009 09:23KY U
593005	MINOR EXEMPT EXPENSE	8.17	Purchase Invoices USD 30-NOV-08		KENTUCKY STATE TREASURER	01-DEC-2008 10:14KY U
593005	MINOR EXEMPT EXPENSE	21.57	Purchase Invoices USD 09-APR-09		GEORGE E BOOTH CO INC	00148994
593005	MINOR EXEMPT EXPENSE	23.24	Purchase Invoices USD 28-FEB-09		KENTUCKY STATE TREASURER	01-MAR-2009 11:03KY U

VERIFICATION

The undersigned, **Patricia D. Kravtin**, being duly sworn, deposes and states that she is the Proprietor of Patricia D. Kravtin Economic Consulting, that she has personal knowledge of the matters set forth in the foregoing testimony and exhibits, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

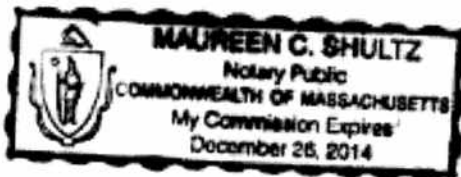
Patricia D. Kravtin

Patricia D. Kravtin

Sworn to before me this
22 day of April, 2010.

Maureen C. Shultz
Notary Public of the
Commonwealth of Massachusetts

My Commission Expires 12/26/2014



**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	WC Docket No. 07-245
Implementation of Section 224 of the Act;)	
Amendment of the Commission's Rules and)	GN Docket No. 09-51
Policies Governing Pole Attachments)	

**COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

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August 16, 2010

TABLE OF CONTENTS

	Page(s)
EXECUTIVE SUMMARY	iii
I. THE COMMISSION’S PROPOSED POLE ATTACHMENT RATE STRUCTURE WILL MEET NATIONAL POLICY PRIORITIES	3
II. THE COMMISSION’S PROPOSED POLE ATTACHMENT RATE STRUCTURE, WITH CERTAIN ADJUSTMENTS, WILL INCENT BROADBAND INVESTMENT AND ESTABLISH REGULATORY PARITY AMONG PROVIDERS, CONSISTENT WITH THE NATIONAL BROADBAND PLAN	9
A. The Commission Is Correct That The Current Telecommunications Rate Formula Is Not Measuring Appropriate Costs.....	11
B. Costs In Section 224(e) Are Not Constrained By Costs In Section 224(d)	14
C. Economically Appropriate Costs Are Costs Caused By Attaching Entities.....	16
D. A Marginal Cost Proxy For The Lower Bound Rate Accurately Accounts For The True Costs Imposed By Attachments	18
1) The Maintenance Charge Carrying Factor Should Be Adjusted To More Accurately Reflect The Expenses Attributable To Maintaining Pole Plant	19
2) The Administrative Charge Carrying Factor Should Be Adjusted To Reflect The Work Force Assigned To Pole Attachments.....	20
3) Other Cost Inputs Should Be Updated.....	21
E. A Fresh Look Also Reveals Necessary Adjustments To The Costs Utilized In The Current Telecom Rate Formula	21
1) The Maintenance Charge Carrying Factor Should Be Adjusted To More Accurately Reflect The Expenses Attributable To Maintaining Pole Plant	23
2) The Administrative Charge Carrying Factor Should Be Adjusted To Reflect Only Those Expenses Relating To Poles	23
3) The Tax Carrying Charge Should Be Adjusted To Reduce The Portion Of Income Taxes Assignable To Pole Attachers	24
4) The Utility Rate Of Return Should Be Based Upon The IRS Refund Rate, Which Is Updated Quarterly And Reflects Current Conditions In Relevant Capital Markets.....	24

5)	Other Cost Allocation Data Inputs Should Be Updated	25
F.	The Commission’s Proposed Rates Fall Within The Range Of Just And Reasonable Rates Required By Section 224.....	29
G.	The Commission’s Approach Ensures That Utilities Receive Just Compensation	30
H.	The Commission May Use Forbearance To Prevent Unreasonable Pole Rents	32
III.	RETAINING SIGN AND SUE IN ITS PRESENT FORM IS CRITICAL TO EFFECTIVE BROADBAND DEPLOYMENT	37
A.	The Proposed Requirement To Memorialize Illegal Terms Will Undermine Commission Authority To Regulate Rates, Terms And Conditions.....	38
B.	The Proposed Modification To Sign And Sue Would Delay Access To Poles And Broadband Deployment	40
C.	Utilities Are Not In Jeopardy Of Losing Bargained For Exchanges	41
IV.	UTILITY REQUESTS FOR UNFETTERED DISCRETION TO IMPOSE ADDITIONAL PENALTIES FOR UNAUTHORIZED ATTACHMENTS MUST BE REJECTED.....	42
A.	Utility Claims Concerning Unauthorized Attachments And Safety Problems Caused By Third Party Attachments Are Unsupported And Misleading	43
B.	No Additional Incentives Are Necessary To Ensure That Permits Are Obtained For Attachments	47
V.	THE COMMISSION SHOULD ADOPT REMEDIES TO INCENT UTILITIES TO COMPLY WITH THE RULES IN ADVANCE OF A COMMISSION ORDER AND TO ENCOURAGE PRE-COMPLAINT RESOLUTION	50
A.	The Commission Should Amend Its Rules To Incent Prompt Compliance By Pole Owners	50
B.	Access Disputes And Refunds Should Not Be Contingent Upon The Date A Complaint Is Filed.....	53
VI.	CONCLUSION.....	54
ATTACHMENT A	REPORT OF PATRICIA D. KRAVTIN	
ATTACHMENT B	EXAMPLES OF STATE, COMMISSION, AND COURT DECISIONS ADDRESSING REASONABLENESS OF CABLE POLE ATTACHMENT RATES	

EXECUTIVE SUMMARY

The Commission’s proposed pole attachment rate structure is critical to achieving the National Broadband Plan’s objective to provide every American with “access to broadband capability.” By establishing rates at levels that are as low and close to uniform as possible, the Commission will eliminate known disincentives to investment and promote timely and robust deployment of broadband facilities. At the same time, the proposed overall structure is fully consistent with the language of section 224 and produces rates that are just, reasonable and fully compensatory. The proposed modifications to the lower bound formula correctly recognize that capital costs associated with attaching entities are already accounted for in make-ready payments. And, in setting the floor for broadband rates at the existing cable rate – a rate that has been upheld by the Supreme Court as fair and more than compensatory for broadband attachments – the Commission ensures that pole owners are more than compensated for the cost of accommodating third party attachments.

In these comments, NCTA offers an economic study of the Commission’s formulas for the upper and lower bound telecom rates, presenting a refined analysis of the range of rates that would most align with cost causation and cost allocation principles. The study confirms that the Commission’s approach is just and reasonable, and produces rates that are near the top end of the range within which the Commission could faithfully implement the Act. Specifically, NCTA proposes modifications to the lower bound of that range based on a “marginal cost proxy,” which accounts not only for overpayments for certain capital costs recognized by the Commission, but also for overpayments for certain operating expenses being made under the existing formula. NCTA also applies a “fresh look” to the upper bound of that range that updates certain capital cost inputs and operating expenses to more accurately measure the actual carrying charges attributable to pole attachments while adhering to a fully allocated approach. Both approaches

adhere to the existing space allocation methods of the statute. The end result is an upper and lower bound to the possible range that remove existing overpayments for costs and expense elements that have nothing to do with pole attachments.

This study confirms that the Commission's approach is correct and is consistent with the Commission's pro-competitive broadband policies, which have triggered billions of dollars in broadband investment. It builds on decades of regulatory policy in which the Commission both recognized the connection between regulated pole attachment rates and investment by attachers and vigorously protected the right to attach at reasonable rates. It also adheres to the cost causation principles promoted by the *FNPRM* approach and confirms it with even more refined measures of the true cost of attachments.

While NCTA supports the Commission's proposed revisions to the rate formula, it cautions the Commission against modifying other long standing rules and policies addressed in the *FNPRM*. For example, utilities have offered no evidence to support changes to Commission rules permitting an attacher to sign an agreement and subsequently petition the Commission for relief from terms unfairly forced upon it during "negotiations." Indeed, the *FNPRM* recognizes that utilities continue to have monopoly control of poles and that the same "coercive pressure in pole attachment agreement negotiations" that utilities held at the time the sign and sue rule was adopted continue to exist today. Without retaining the authority to review the terms and conditions in executed agreements, the Commission will not have the ability to enforce its responsibility to ensure that terms and conditions are just and reasonable. Moreover, requiring an attacher, at the time of execution, to memorialize every potentially problematic term in complex, often lengthy agreements will necessarily delay the attachment process in direct contravention of the Commission's goal to expedite broadband deployment.

Similarly the Commission should not depart from long-standing precedent governing unpermitted attachments to give utilities unfettered discretion to impose even greater penalties. Utility claims alleging the existence of vast numbers of unauthorized attachments are both grossly overstated and contradicted by the utilities' own submissions made to state regulatory bodies in safety compliance dockets. To the extent there are discrepancies in the number of billed versus actual attachments, most are caused by utility billing and record keeping processes, not by attachers seeking to avoid the permitting process. Indeed, attachers have an equally strong interest in ensuring that billing records are accurate and that attachments are vetted through the permitting process. Moreover, the Oregon experience, rather than providing a model for emulation, provides a clear example of why additional penalties should not be allowed.

Finally, the Commission should amend its rules to create enforcement mechanisms that incent compliance by utilities and encourage prompt, pre-complaint resolution of disputes. The Commission's proposals to expressly provide for compensatory damages and to extend the date for refunds to state statutory limits will send a strong signal to utilities that game playing will not be tolerated. Additionally, adopting timetables and best practices for prompt dispute resolution and eliminating the requirement that access complaints be filed within 30 days of a denial will help to avoid complaints being filed unnecessarily.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	WC Docket No. 07-245
Implementation of Section 224 of the Act;)	
Amendment of the Commission's Rules and)	GN Docket No. 09-51
Policies Governing Pole Attachments)	

**COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

The National Cable & Telecommunications Association (NCTA) hereby submits its comments in response to the *FNPRM* released in the above-captioned proceeding.¹ NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 90 percent of the nation's cable television households and more than 200 cable program networks. The cable industry is the nation's largest broadband provider of high-speed Internet access after investing over \$160 billion since 1996 to build two-way interactive networks with fiber optic technology. Cable companies also provide voice service to millions of American homes and are rapidly making these services available nationwide.

The *FNPRM* gives thoughtful consideration to numerous aspects of the Commission's regulations governing pole attachments, and how they can be amended to improve access to poles and expedite the deployment of affordable broadband services. Following the directives of the National Broadband Plan,² the *FNPRM* proposes to establish pole rental rates that are lower and more uniform than the current structure, to expedite the build- out of affordable broadband

¹ 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, Order and Further Notice of Proposed Rulemaking, FCC 10-84 (rel. May 20, 2010) (*FNPRM*).

² *Connecting America: The National Broadband Plan*, GN Docket No. 09-51, at 109-118, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf (Omnibus Broadband Initiative, Mar. 16, 2010) (National Broadband Plan).

infrastructure, and to reform the course of action for resolving pole attachment disputes. Specifically, the Commission proposes to revise its approach to the telecommunications formula to better align with principles of cost causation and the policies of the National Broadband Plan.³ As the Commission explains, there is the zone of reasonableness within which the Commission may establish “just and reasonable” pole rents for telecommunications providers, ranging from a lower bound closer to recovery of actual incremental costs to an upper bound based on fully distributed operating and capital costs.⁴ The approach initially taken by the Commission, while “not inherently unreasonable” at the time, has resulted in rate disparities and disputes which undermine the purposes of the Pole Act and goals of the National Broadband Plan.⁵ Thus, the Commission proposes to adopt a new approach, setting the “just and reasonable” rate for purposes of section 224(e) at the higher of the lower bound rate or the rate derived using the existing formula for cable operator attachments.⁶

The Commission’s proposal to lower the telecommunications pole formula to yield an attachment rate as close to the cable rate as possible pursues exactly the right policy. The Commission’s regulation of cable pole attachments has been a major success, facilitating billions of dollars in investment and consumer benefits. Bringing the telecom rate formula more into line with the cable rate formula will match that formula to accepted principles of compensation and remove barriers to broadband deployment.

³ *Id.* at ¶ 129.

⁴ *Id.*

⁵ *Id.* at ¶ 130.

⁶ *Id.* at ¶ 141.

I. THE COMMISSION'S PROPOSED POLE ATTACHMENT RATE STRUCTURE WILL MEET NATIONAL POLICY PRIORITIES

The Commission's regulation of pole attachments has been a major success story for three decades, facilitating billions of dollars in investment by cable operators in broadband networks and the introduction of exciting video, voice, and data services to virtually every American home. Without any government funding, cable operators have been able to offer high capacity broadband Internet access to over 92 percent of the country. In many areas, cable operators also have introduced Voice over Internet Protocol (VoIP) services that offer consumers the first widespread facilities-based telephone service alternative to incumbent local exchange carriers (LECs). The competition cable operators have brought to the voice market has produced over \$35 billion in consumer savings, with more than \$100 billion expected in the next five years.⁷ More broadband investment promises even greater consumer benefit and thousands of additional jobs.⁸

The ability to attach cable facilities to utility poles at regulated rates has been a cornerstone of the cable industry's successful roll-out of advanced video, voice, and data services over the last three decades. The availability of reasonably priced access to poles pursuant to the cable rate formula contained in section 224(d) of the Communications Act of 1934, as amended (the Act), along with the Commission's other pro-competitive policies, has

⁷ Cable's provision of advanced digital video, voice and data services alone has yielded an estimated increased consumer benefit of over \$25 billion. Michael D. Pelcovits and Abigail B. Ferguson, *Benefits to Consumers from the Transformation of the Cable Industry*, Microeconomic Consulting & Research Associates, at 36 (July 29, 2009) (available at Cable's Digital Transformation Providing Consumers with Advanced Technology, Lower Prices and Enhanced Competition, NCTA Press Release, <http://www.ncta.com/ReleaseType/MediaRelease/Cables-Digital-Transformation-Providing-Consumers-with-Advanced-Technology-Lower-Prices-and-Enhanced.aspx>, (July 29, 2009)). Total consumer benefits of cable's provision of Triple Play services, however, provides about \$35 billion in annual consumer benefits, including the added benefit to all consumers as a result of the competitive response of incumbent telephone companies. *Id.*

⁸ Robert W. Crandall and Hal J. Singer, *The Economic Impact of Broadband Investment*, Broadband for America, <http://www.ncta.com/PublicationType/ExpertStudy/The-Economic-Impact-of-Broadband-Investment.aspx>, (Feb. 23, 2010).

enabled cable operators to expand and upgrade the capacity of their networks in a manner that advances the congressional mandate to promote competition and encourage network investment. With these advanced networks, cable operators have been able to offer high-capacity broadband Internet access to over 92 percent of the country.

Utility poles are an important component of the networks that utilities use to provide service to their customers. Whether built by incumbent LECs or electric companies, pole systems always have been treated as regulated assets, with costs recovered from captive subscribers and, in some cases, subsidized by the federal government, e.g., through Rural Utilities Service loans or universal service fund payments. Thus, as with other regulated utility assets, it is “settled beyond dispute that regulation of rates chargeable from the employment of private property devoted to public uses is constitutionally permissible.”⁹

In any given geographic area, there generally is only one set of poles, and it is almost always owned by the electric company, the incumbent LEC, or a combination of the two. Consequently, a cable operator building a network in an area where an electric company or an incumbent LEC has built poles will have little choice but to place its facilities on those poles. As a general matter, allowing other parties to attach is beneficial for the pole owner any time the compensation it receives from the attaching party exceeds the additional costs, if any, that result from allowing the attachment.¹⁰ Given the lack of alternatives available to the attaching party, however, an unregulated pole owner will be able to charge attachment rates that far exceed the costs imposed by the attachment. The Supreme Court accurately summarized the situation as

⁹ *FCC v. Florida Power Corp.*, 480 U.S. 245, 253 (1987) (*Florida Power*), citing *Munn v. Illinois*, 94 U.S. 113, 133-34 (1877); *Permian Basin Area Rate Cases*, 390 U.S. 747, 768-69 (1968).

¹⁰ Rent from additional attachers was viewed from the outset as found money for pole owners. “It has been made clear ... that access to utility poles does not in itself constitute a problem, among other reasons because CATV offers an income-producing use of an otherwise unproductive and often surplus portion of plant.” Communications Act Amendments of 1978, Sen. Rep. 95-580, P.L. 95-234, 92 Stat. 33, 97th Cong., 2d Sess., as reprinted in 1997 U.S.C.A.A.N. 109, 124 (Communications Act Amendments of 1978).

follows: “Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.”¹¹

Long ago it became apparent to Congress and the Commission that this situation was not conducive to the deployment of facilities by cable operators. Congress first addressed this issue in 1978. Recognizing that utilities possessed the incentive and the ability to impose unreasonably high attachment rates on cable operators, Congress directed the Commission to establish limits to the rates utilities could charge.¹² The Commission’s approach to limiting unreasonable pole rents was challenged by the utilities but affirmed by the Supreme Court in 1987.¹³ The Commission subsequently recognized that there were strong policy reasons for allowing cable operators to provide non-video services over facilities attached to utility poles pursuant to regulated attachment rates, and that applying the cable rate formula “will encourage greater competition in the provision of Internet service and greater benefits to consumers.”¹⁴ Despite repeated appeals by utilities, the Commission’s approach and application of the cable

¹¹ *National Cable & Telecommunications Ass’n v. Gulf Power*, 534 U.S. 327, 330 (2002) (*Gulf Power*); see also *Alabama Power Co. v. FCC*, 311 F.3d 1357, 1362 (11th Cir. 2002), *cert. denied*, 540 U.S. 937 (2003) (*Alabama Power*) (“In the view of Congress, the costs of erecting an entirely new set of poles would have created an insurmountable burden on cable companies. As the owner of these ‘essential’ facilities, the power companies had superior bargaining power, which spurred Congress to intervene in 1978.”).

¹² 47 U.S.C. § 224; S. Rep. No. 95-580, *reprinted in* 1978 U.S.C.C.A.N. 109 (Congress sought to “establish a mechanism whereby unfair pole attachment practices may come under review and sanction and to minimize the effect of unjust and unreasonable pole attachment practices on the wider development of cable television service to the public.”).

¹³ *Florida Power*, 480 U.S. 245.

¹⁴ *Implementation of Section 703(e) of the Telecommunications Act of 1996, Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, CS Docket No. 97-51, Report and Order, 13 FCC Rcd 6777, 6795-96, ¶ 32 (1998) (footnote omitted) (*1998 Pole Attachment Order*).

rate formula was repeatedly upheld.¹⁵ In the three decades since Congress started regulating pole attachment rates, there is not a single agency or court decision finding that the cable rate formula produces a rate that is confiscatory. Indeed, utility claims that the cable rate is a “subsidy” have been repeatedly refuted and rejected by the Commission, the courts, public service commissions, and consumer advocates.¹⁶ As the National Association of State Utility Consumer Advocates (NASUCA) explained in endorsing the cable rate as the unified pole rate, “[t]his rate was upheld against challenges that it was confiscatory. Thus this is the rate that should be used for all pole attachments, regardless of the exact service provided over the attachment, and regardless of the

¹⁵ *Heritage Cablevision Associates of Dallas v. Texas Utilities Elec. Co.*, File No. PA-89-002, Memorandum Opinion and Order, 6 FCC Rcd 7099, 7103, ¶ 18 (1991). *Texas Utilities Elec. Co. v. FCC*, 997 F.2d 925, 933 (D.C. Cir. 1993) (“[T]he Commission held that a utility may only charge a cable television system operator a single, regulated rate regardless of the fact that part of the cable may transmit nonvideo communications. We have no trouble finding this interpretation reasonable . . .”). *Gulf Power*, 534 U.S. at 339 (Raising pole rents for Internet services would subject innovative cable operators to “monopoly pricing . . . [and] defeat Congress’ general instruction to the FCC to ‘encourage the deployment’ of broadband Internet capability and, if necessary, ‘to accelerate deployment of such capability by removing barriers to infrastructure investment.’”).

¹⁶ *See, e.g., 1998 Pole Attachment Order*, 13 FCC Rcd at 6795-96, ¶ 32 (“We conclude, pursuant to Section 224 (b)(1), that the just and reasonable rate for commingled cable and Internet service is the Section 224(d)(3) rate.”), *aff’d in relevant part, NCTA v. Gulf Power*, 534 U.S. 327 (2002); *Alabama Cable Telecomm’s Ass’n. v. Alabama Power Co.*, File No. PA 00-003, Order, 16 FCC Rcd 12209, 12236, ¶ 60 (2001) (*ACTA Order*) (“Respondent’s repeated claims that cable attachers do not pay for any costs of unusable space is a complete mischaracterization of the Pole Attachment Act and the Commission’s rules. Cable attachers pay all of the costs associated with the pole attachment, which are allocated based on the portion of usable space occupied by the attachment. The costs associated with the entire pole are included in that calculation.”); *Gulf Power Co. v. United States*, 998 F. Supp. 1386 (N.D. Fla. 1998), *aff’d*, 187 F.3d 1324 (11th Cir. 1999); *Order Instituting Rulemaking on the Commission’s Own Motion Into Competition for Local Exchange Service*, R.95-04-043, I.95-04-044, Decision 98-10-058, 1998 Cal. PUC LEXIS 879 (Oct. 22, 1998); *Proceeding on Motion of the Commission as to New York State Electric & Gas Corporation’s Proposed Tariff Filing to Revise the Annual Rental Charges for Cable Television Pole Attachments and to Establish a Pole Attachment Rental Rate for Competitive Local Exchange Companies*, Order Directing Utilities to Cancel Tariffs, Case 01-E-0026, 2002 N.Y. PUC LEXIS 14, at *4 (Jan. 15, 2002); *Consideration of Rules Governing Joint Use of Utility Facilities & Amending Joint-Use Regulations Adopted Under 3 AAC 52.900 – 3 AAC 52.940*, Order Adopting Regulations, 2002 Alas. PUC LEXIS 489 (Oct. 2, 2002); *Petition of the United Illuminating Company For A Declaratory Ruling Regarding Availability Of Cable Tariff Rate For Pole Attachments By Cable Systems Providing Telecommunications Services & Internet Access*, Docket No. 05-06-01, Decision, 2005 Conn. PUC LEXIS 295, at *11-12 (Dec. 14, 2005); *Rulemaking to Amend & Adopt Rules in OAR 860, Divisions 024 and 028, regarding Pole Attachment Use & Safety (AR 506) & Rulemaking to Amend Rules in OAR 860, Division 028 Relating to Sanctions for Attachments to Utility Poles & Facilities (AR 510)*, Order No. 07-137, 2007 Ore. PUC LEXIS 115, at *24 (Apr. 10, 2007); *Cablevision of Boston v. Boston Edison Co.*, Mass. Docket No. D.T.E. 97-82 at 12, 45, 46 (Apr. 15, 1998) (reducing pole rental fees and holding that cable rate will “not require an adjustment of other [utility] rates.”); Reply Comments of NCTA, WC Docket No. 07-245 at App. A, 14-15 (Decl. of Billy Jack Gregg) (Apr. 22, 2008) (NCTA Reply Comments); Reply Comments of NASUCA, WC Docket No. 07-245 at 4-5 (Apr. 22, 2008) (NASUCA Reply Comments). A full listing of court and agency decisions affirming and applying the cable rate formula is attached as Attachment B.

identity of the attacher.... Equally importantly, the Commission must not increase the rate paid by broadband service providers because this would be contrary to ‘the nation’s commitment to achieving universal broadband deployment and adoption.’”¹⁷

The National Broadband Plan and this *FNPRM* rightly take the next and necessary step of removing remaining barriers to broadband deployment. To spur broadband deployment, the National Broadband Plan recommends that the Commission establish rates for all pole attachments by broadband service providers that are as low and as uniform as possible under section 224, and facilitate the timely and efficient access to poles, conduits and rights-of-way by such providers. The National Broadband Plan acknowledges that the amount of pole attachment rent plays a significant role in broadband deployment decisions and that broadband deployment can be encouraged by directly cutting such costs. In addition, the National Broadband Plan notes that, with the convergence of video, voice and data services over shared networks, charging different rates for similar pole attachments based on regulatory classifications (i.e., cable vs. telecommunications), is outdated and has led to significant litigation and uncertainty, which can deter broadband deployment and investment. Consequently, the National Broadband Plan recommends that the Commission establish pole attachment rates as low and as close to uniform as possible, in light of statutory limitations. The National Broadband Plan notes that the cable formula “has been in place for 31 years and is ‘just and reasonable’ and fully compensatory to utilities.”¹⁸ The National Broadband Plan urges the Commission to modify its rules to lower the telecommunications pole formula to yield an attachment rate as close to the cable rate as possible.

¹⁷ NASUCA Reply Comments at 1-2, 5. NASUCA is a national association of consumer advocates in more than 40 states and the District of Columbia who are “designated by the laws of their respective states to represent the interests of utility consumers before state and federal regulators and in the courts.” *Id.* at 1 n.3.

¹⁸ National Broadband Plan at 108.

This is exactly the right approach. As NCTA demonstrated in earlier comments, high pole attachment rates for any broadband provider run counter to the Commission's goal of increasing broadband deployment and adoption. NCTA submitted a report by economist Michael Pelcovits demonstrating that imposing the telecom rate formula as currently implemented on cable attachments would impose between \$200 and \$600 million in new costs on cable operators and their customers annually, even though there is no additional burden on pole owners.¹⁹ We also submitted a report prepared by Billy Jack Gregg, former consumer advocate for the West Virginia Public Service Commission and former member of the Federal-State Joint Board on Universal Service, demonstrating that the impact of increased pole attachment fees would be particularly onerous in rural areas, where there are more poles and fewer customers.²⁰ Comparable impact analysis confirmed these conclusions,²¹ and USTA agreed: "In rural areas with many miles of lines per customer the impact of such fees are particularly acute, and can result in [preventing] unserved or underserved rural areas from obtaining the benefits of increased broadband deployment."²² As also noted in the *Rural Broadband Report*, "[t]imely and reasonably priced access to poles and rights of way is critical

¹⁹ NCTA Reply Comments at App. B, 11 (Decl. of Michael Pelcovits).

²⁰ NCTA Reply Comments at App. A, 11-12 (Decl. of Billy Jack Gregg).

²¹ See Comments of Charter Communications, WC Docket No. 07-245 (Mar. 7, 2008) (Charter Comments); Reply Comments of Charter Communications, WC Docket No. 09-154, GN Docket No. 09-51 (Oct. 9, 2009); Letter from Jill M. Valenstein, Counsel for the Arkansas Cable Telecommunications Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 07-245, at 1-2 (July 11, 2008) (ACTA *Ex Parte* Letter). Moreover, in some cases, such increases may even jeopardize an operator's ability to continue providing video service. ACTA *Ex Parte* Letter at 2-3 (quoting testimony from Dennis R. Krumbly, Vice President of Engineering for Buford Media Group, LLC: "I'm faced not only with the prospect of probably not being able to deliver broadband in that system, but with 48 per cent of my revenue going just to pole rental alone, I will probably be faced in this system and other systems as those rates increase and just turning those systems off all together.").

²² Comments of United States Telecom Association, WC Docket 09-154 at 5 (Sept. 24, 2009).

to the buildout of broadband infrastructure in rural areas.”²³ Making the fully compensatory cable rate available not only to cable broadband providers but also to all other broadband providers, as NCTA has proposed in prior comments,²⁴ would facilitate greater investment in broadband networks by lowering costs, especially in rural areas, where there are more poles per customer.²⁵ As the Commission has recognized, any strategy to promote increased deployment and adoption of broadband must take steps to improve the business case for investing in broadband facilities, particularly in rural areas. Ensuring pole rates that are fair for all broadband providers and as close to uniform as possible will create the regulatory certainty that drives broadband investment.

II. THE COMMISSION’S PROPOSED POLE ATTACHMENT RATE STRUCTURE, WITH CERTAIN ADJUSTMENTS, WILL INCENT BROADBAND INVESTMENT AND ESTABLISH REGULATORY PARITY AMONG PROVIDERS, CONSISTENT WITH THE NATIONAL BROADBAND PLAN

The Commission proposes to establish a single annual rental rate for all entities providing telecommunications services, including cable operators. The proposal sets the attachment rate at the higher of a rate produced using a revised “lower bound” telecom rate formula, which excludes certain capital and related operating costs,²⁶ or the existing attachment rate for cable

²³ *Bringing Broadband to Rural America: Report On A Rural Broadband Strategy*, Acting Chairman Michael J. Copps, Federal Communications Commission, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291012A1.pdf, at ¶ 157 (May 22, 2009) (“Timely and reasonably priced access to poles and rights of way is critical to the buildout of broadband infrastructure in rural areas.”).

²⁴ NCTA Reply Comments at 18-23 (proposing, with respect to competitive LECs, that the Commission forbear from the statutory telecommunications rate formula contained in section 224(e) and apply the cable rate formula instead, and that incumbent LECs be brought under the cable attachment regime by permitting them to “opt in” to existing agreements between cable operators and electric companies).

²⁵ *See id.* at App. A, 13 (Decl. of Billy Jack Gregg) (“The new higher pole attachment rates for cable providers in West Virginia will substantially increase the annual cost of doing business for these providers and will increase the costs of extending service to rural and high-cost areas that currently do not have broadband service.”).

²⁶ The revised telecom rate formula would exclude capital and related operating costs – the utility’s pole plant depreciation, rate of return on pole plant investment, and taxes – from the annual pole carrying charges, bringing the rate closer to recovery of actual incremental costs. *See FNPRM* at ¶ 133.

operator attachments.²⁷ The Commission’s proposed pole attachment rate structure correctly recognizes that the current telecom rate formula, which departs significantly from principles of cost causation and cost allocation and produces rates significantly higher than the fully compensatory cable rate, is not consistent with the goals of increased broadband deployment and competition in the communications market set forth in the National Broadband Plan. The Commission also rightly concludes that the capital and operating cost categories specified in section 224(d) for the upper bound cable rate formula do not dictate or constrain the cost categories the Commission must include in a telecommunications rate formula under section 224(e). The Commission’s recognition that cable operators pay their share of capital costs in the form of make-ready payments and its decision to remove capital costs from the lower bound rate formula is entirely consistent with the statutory requirements. Moreover, setting the telecom rate at the higher of the cable rate or the rate produced using the lower bound formula ensures that rates are close to uniform regardless of technology and that utilities receive adequate compensation.

NCTA fully supports the Commission’s movement toward a pole attachment rate structure that incorporates more appropriate costing principles and produces rates that are lower and closer to uniform, and therefore more economically efficient and fair. The Commission’s approach is confirmed by a refined economic analysis of the range of possible rate approaches that would most align with cost causation and cost allocation principles. The result confirms that the Commission’s approach produces “just, reasonable and non-discriminatory” rates that are near the top end of the range within which the Commission could faithfully implement the Act. Specifically, NCTA offers a formula for the lower bound rate based on a “marginal cost proxy,”

²⁷ *Id.* at ¶ 141.

which refines the *FNPRM* approach to account for overpayments for operating expenses, in addition to capital costs. NCTA also presents a fresh look at the current telecom rate formula that updates certain capital cost inputs, more accurately measures carrying charges attributable to pole attachments, and demonstrates that the Commission’s approach is reasonable.

A. The Commission Is Correct That The Current Telecommunications Rate Formula Is Not Measuring Appropriate Costs

As repeatedly demonstrated by attaching entities in Commission filings and recognized by the Commission and the courts, cable operators not only pay utilities annual per pole attachment rental fees, they also reimburse utilities directly for the costs incurred in making the space on a pole available for attachments, i.e., “make-ready” work.²⁸ Any time a wire is moved or a pole is replaced to accommodate an attachment, the cost-causing attaching entity pays. As stated by the Commission in the *FNPRM*, “a pole owner recovers the entire capital cost of a new pole through make-ready charges from the new attacher when a new pole is needed to enable the attachment.”²⁹ In addition to paying for the actual make-ready work, attaching entities typically pay directly for costs the utility incurs in processing pole attachment applications, including the cost of any pre-construction engineering surveys and post-construction inspections. They may also pay utilities directly for their share of billing audits and inspections of their facilities. And, when governmental requirements necessitate pole transfers, attaching entities make these transfers themselves, at their own cost. Finally, attaching entities are responsible for the cost of removing their attachments if a pole is retired or they stop providing service.

²⁸ *Alabama Power*, 311 F.3d at 1368-69 (“The known fact is that the Cable Rate requires the attaching cable company to pay for any ‘make-ready’ costs and all other marginal costs (such as maintenance costs and the opportunity cost of capital devoted to make-ready and maintenance costs), in addition to some portion of the fully embedded cost.”); *see also ACTA Order*, 16 FCC Rcd 12240, ¶ 69 n.154.

²⁹ *FNPRM* at ¶ 134.

Competitive LECs and incumbent LECs filing comments in earlier rounds of this proceeding described these direct charges as a profit center for pole-owning utilities. AT&T, a pole owner with decades of joint ownership and joint use experience reported that “electric utilities view pole attachments as a line of business to generate revenue rather than a cost recovery mechanism.”³⁰ Competitive LEC comments described utilities’ excessive charges as including counting audits, exorbitant safety inspection charges, unnecessary pole replacements, excessive make-ready charges including for correcting pre-existing utility violations, and excessive and unexplained material and labor charges.³¹

The Commission therefore correctly recognized that attachers pay the entire amount of the capital costs attributable to their attachments in the form of make-ready payments and that no more than a *de minimis* portion of additional capital costs related to poles are “caused” by the attaching entity.³² Thus, the Commission rightly concluded that the current telecom rate formula

³⁰ Comments of AT&T, Inc., WC Docket No. 07-245, at 5 (Mar. 7, 2008) (AT&T Comments).

³¹ See, e.g., Comments of Knology, WC Docket No. 07-0245, at 15 n.27 (Mar. 8, 2008) (Knology Comments) (“One utility charges an exorbitant sum of \$3.58 *per attachment* for a pole inventory.”); Comments of Sunesys, WC Docket No. 07-024, at 8-10 (Mar. 8, 2008) (“Utilities often seek to charge attachers for work that is either (i) unnecessary or (ii) should be paid by the utility,” “Sunesys has ceased attempts to enter the Delaware market as a result of Connectiv’s high costs and lengthy delays for make-ready,” “Sunesys has abandoned efforts to provide wide area network services to an interested school district in Maryland because the excessive make-ready charges demanded by BG&E rendered the project economically infeasible”); Comments of TWT, WC Docket No. 07-0245, at 15 (Mar. 8, 2008) (“pole owners needlessly replace poles and pass on the substantial replacement cost to attachers instead of simply rearranging the attachments to create additional space on existing poles at a much lower cost; ... pole owners incorrectly bill attachers for make-ready costs incurred by previous attachers; and ... pole owners often bill an attacher for the entire cost of correcting a safety violation which may have been caused by a prior attacher”); Comments of Fibertech Networks, LLC and Kentucky Data Link, Inc., WC Docket No. 07-0245 at 7 (Mar. 8, 2008) (“make-ready estimates typically require unnecessary and time-consuming work, improperly impose the entire cost of the work on the license applicant even when the owners use some or most of the newly created space, and are based on frequently unexplained and very high labor or material rates”).

³² *FNPRM* at ¶ 135.

inappropriately requires telecommunications attachers to pay for certain capital costs that are wholly unrelated to their attachments.³³

In fact, the existing telecom rate formula departs from accepted principles of cost causation and cost allocation for other reasons as well. The cost allocation requirement in section 224(e) apportions the cost of the pole not solely on the basis of occupancy (i.e., one that adheres to principles of cost causation) but rather on a per-capita basis. As a result, the allocator apportions a much higher percentage of costs to the attacher than a space allocator unless there are a very large number of attaching entities, a condition that was expected but did not emerge at the time the Telecom Act was enacted. In addition, as recognized by the Commission years ago, the pole investment account already includes numerous costs that are not attributable to pole attachments. “Even with the 15% reduction for non-pole appurtenances such as crossarms, this is still a very generous account [for utilities], including the cost of towers, transformer racks and platforms.”³⁴ Indeed, this concept was expanded upon by AT&T in earlier rounds where it showed excessive cost recovery by electric utilities arising from the inclusion of both tower costs and the costs of wooden poles beyond the 40 foot, Class 5 poles found in FERC account 364.³⁵

The Commission’s exclusion of capital costs from the telecom rate formula is a critical step in the right direction.³⁶ The Commission’s “no capital cost” approach, which is designed to limit what attachers pay to the costs they actually cause, is precisely the type of adjustment

³³ See Attachment A at ¶15 (Kravtin Report) (“The present carrying charge factor overstates the true economic carrying costs associated with pole attachment, by including many types of expenses that are widely acknowledged as being non-pole related or that pertain entirely to the conduct of the electric enterprise business and are not impacted by the presence of third-party attachments.”)

³⁴ *Amendment of Commission’s Rules and Policies Governing Pole Attachments; Implementation of Section 703(e) of the Telecommunications Act of 1996*, CS Docket Nos. 97-98, 97-151, Consolidated Partial Order on Reconsideration, 16 FCC Rcd 12103, 12161, ¶ 121 (2001) (*Consolidated Reconsideration Order*).

³⁵ AT&T Comments at Att. (Decl. of Veronica MaHanger MacPhee).

³⁶ *FNPRM* at ¶¶ 135-136 (discussing 47 U.S.C. § 224(e)).

needed to establish appropriate economic signals and incent broadband deployment consistent with the objectives of the National Broadband Plan. As set forth in the attached Kravtin Report at Attachment A, additional refinements to this approach would ensure that the lower bound rate more closely tracks the costs caused by attaching entities, and produces economically efficient and fair rates.

B. Costs In Section 224(e) Are Not Constrained By Costs In Section 224(d)

The Commission rightly concludes that it has discretion to reinterpret the term “cost” as it is used in section 224(e) for purposes of setting the lower bound attachment rate for broadband services.³⁷ The costs in section 224(e) are not constrained by the capital and operating costs enumerated in section 224(d), instructing the Commission how to calculate the *upper bound* of the rate for *cable* television operators. It is well established that the meaning given a particular term in one section of a statute does not necessarily dictate the meaning attributed to the same term used in the same statute.³⁸ It is also well established, as recognized by the Commission, that “words like ‘cost’ give rate setting commissions broad methodological leeway” in determining a particular rate.³⁹

³⁷ See FNPRM at ¶ 131.

³⁸ *Verizon Cal. v. FCC*, 555 F.3d 270, 276 (D.C. Cir. 2009) (“Because . . . different contexts dictat[e] different interpretations[,] courts addressing the meaning of a term in one context commonly refrain from any declaration as to its meaning elsewhere in the same statute.”); see also *Atlantic Cleaners & Dyers, Inc. v. U.S.*, 286 U.S. 427, 433 (1933) (identical words may have different meanings where among other things the conditions are different); *Robinson v. Shell Oil Co.*, 519 U.S. 337, 342-43 (1997) (term “employees” means current employees only in some sections of Title VII of Civil Rights Act, but in other sections includes former employees); *U.S. v. Cleveland Indians Baseball Co.*, 532 U.S. 200 (2001) (different statutory contexts of worker eligibility for Social Security benefits and “administrability” of tax rules justify different interpretations); *General Dynamics Land Systems, Inc. v. Cline*, 540 U.S. 581, 594-595 (2004) (word “age” means “old age” when included in the term “age discrimination” in the Age Discrimination in Employment Act even though it is used in its primary sense elsewhere in that act).

³⁹ FNPRM at ¶ 131 and nn. 352 and 352 (citing *Verizon Communications, Inc. v. FCC*, 535 U.S. 467, 500-01 (2002)).

While the Commission’s initial implementation of section 224(e), which interpreted costs there to include the same cost categories used in the cable rate formula, was reasonable, it was not required.⁴⁰ Indeed, the Commission has broad authority under section 224(e)(1) to set a rate that is “just, reasonable and non-discriminatory.”⁴¹ As recognized by the Commission, in similar regulatory contexts, a rate is considered reasonable if it falls within a “zone of reasonableness.”⁴² To fall within this zone, a rate must balance the interests of the rate payer “in being charged non-exploitative rates” and the “financial integrity” of the entity being compensated.⁴³

The *FNPRM*’s proposal is consistent with the overall way in which section 224 is to be read. Indeed, it produces a result even *more* accurate than the current administration of section 224(e). Both sections 224(d) and (e) are governed by the overarching requirement in section 224(b) that rates, terms and conditions must be just and reasonable.⁴⁴ As the Supreme Court explained in *Gulf Power*, the rate formulas articulated in subsections (d) and (e) are “subsets of – but not limitations upon” the requirement of “just and reasonable” for all pole attachments mandated by subsections (a) and (b).⁴⁵ Thus, to the extent that the language in section (d) informs section (e), it is to help demonstrate that a rate that falls within the range of incremental costs and fully allocated costs likely falls “within the zone of reasonableness.”

⁴⁰ *FNPRM* at ¶ 130.

⁴¹ 47 U.S.C. § 224(e)(1).

⁴² *FNPRM* at ¶ 129.

⁴³ *Id.* (citing *Long Term Number Portability Tariff Filings*, CC Docket No. 99-35, Memorandum Opinion and Order, 14 FCC Rcd 11983, 12026-27, ¶98 (1999)).

⁴⁴ 47 U.S.C. §224 (b).

⁴⁵ *Gulf Power*, 534 U.S. at 336. Section 224(b) provides that all pole attachment rates must be “just and reasonable.” Section 224(e)(1) also mandates that telecom service rates must be “just, reasonable, and nondiscriminatory.” As the 1978 legislative history explains, section 224(d)’s rate setting formula was adopted, in part, “to provide the Commission with a sense of congressional intent as to the meaning of the term ‘just and reasonable’”. *Communications Act Amendments of 1978, reprinted in 1997 U.S.C.A.A.N.* 109, 129.

C. Economically Appropriate Costs Are Costs Caused By Attaching Entities

As more fully set forth in the Kravtin Report, the Commission’s decision to remove capital cost elements from the carrying charge component of the rent is based on sound economic policy.⁴⁶ “The closer the rate for pole attachment is to marginal cost, the more efficient the allocation of resources (which in turn maximizes the overall societal value that can be generated from use of those resources) and the more likely the emergence of conditions that stimulate competition in the relevant communication markets and produce the desired competitive market performance attributes such as lower prices, greater choices among new and innovative broadband services, enhanced productivity and economic development opportunities for the national and local economies.”⁴⁷ Moreover, there is no risk of economic harm to the utility or its ratepayers from a pole rental rate set using marginal costs “where there is space available on the pole.”⁴⁸ Utilities historically have failed to show a lack of existing capacity or lost opportunity costs associated with pole attachments.⁴⁹ Accordingly, a marginal cost approach is entirely supported by economic principles.

The specific modifications made by the Commission to the Carrying Charge Factor of the lower bound formula, i.e., elimination of the capital costs pertaining to depreciation, taxes and return on investment, are economically sound and fully consistent with cost causation principles. As correctly stated by the *FNPRM*, those costs are fully and appropriately covered through direct charges for make-ready and other activities related to pole attachments.⁵⁰

⁴⁶ Attachment A, Kravtin Report at ¶ 64.

⁴⁷ *Id.* at ¶ 51.

⁴⁸ *FNPRM* at ¶ 135.

⁴⁹ *Gulf Power*, 534 U.S. 327.

⁵⁰ Attachment A, Kravtin Report at ¶¶ 64-69.

The economic and policy justification for a low, unified broadband pole attachment rate is even more compelling given the increased national priority on broadband deployment. The National Broadband Plan urges development of a regulatory framework that will spur continued growth and new investment in the nation’s broadband infrastructure.⁵¹ A key component of the National Broadband Plan is its call for governmental action to “ensure efficient allocation and management of assets [that] government controls or influences, such as spectrum, poles, and rights-of-way, to encourage network upgrades and competitive entry.”⁵² The National Broadband Plan specifically recommends a reduction in costs and improvement of existing infrastructure, concluding the “FCC should establish rental rates for pole attachments that are as low and close to uniform as possible, consistent with Section 224 of the Communications Act of 1934, as amended, to promote broadband deployment.”⁵³ Recognizing that the Commission’s cable rate formula “has been in place for 31 years and is ‘just and reasonable and fully compensatory for utilities,’” the National Broadband Plan recommends that the Commission “revisit its application of the telecommunications carrier rate formula to yield rates as close as possible to the cable rate in a way that is consistent with the Act.”⁵⁴

As found by the National Broadband Plan’s creators, “[t]he cost of deploying a broadband network depends significantly on the costs that service providers incur to access conduits, ducts, poles and rights-of-way on public and private lands.”⁵⁵ Accordingly, the National Broadband Plan recommended that the Commission establish pole attachment rental

⁵¹ Congress directed the Commission to develop a National Broadband Plan that ensures that “all people of the United States have access to broadband capability.” American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k)(2)(D), 123 Stat. 115, 516 (2009).

⁵² National Broadband Plan at xi.

⁵³ *Id.* at 109.

⁵⁴ *Id.* at 110.

⁵⁵ *Id.* at 109.

rates “that are as low and close to uniform as possible,” recognizing that such a step would greatly reduce the complexity and risk for those deploying broadband.⁵⁶ “[U]ncertainty may be deterring broadband providers that pay lower pole rates from extending their networks or adding capabilities (such as high-capacity links to wireless towers).”⁵⁷ “If the lower rates were applied, and if the cost differential ... were passed on to consumers, the typical monthly price of broadband for some rural consumers could fall materially.”⁵⁸

An approach that more accurately reflects the marginal costs of attachments also is consistent with cost causation principles employed by the Commission in its Part 64 rules, which provide a methodology to allocate costs between regulated and non-regulated activities designed to prevent the cross subsidization of the latter. Part 64 instructs carriers to allocate indirect costs (including common costs that cannot be directly assigned to either regulated or non-regulated activities) “based upon an indirect, cost-causative linkage to another cost category ... for which a direct assignment or allocation is available.”⁵⁹

D. A Marginal Cost Proxy For The Lower Bound Rate Accurately Accounts For The True Costs Imposed By Attachments

In addition to removing capital costs from the carrying charge component of the formula (as the Commission has proposed in its “no capital cost” approach), the Commission could also make adjustments to certain operating cost elements so as to more accurately capture the true proportion of aggregated costs attributable to poles. Currently, both the Maintenance and Administrative charge components overstate the amount of expenses that are attributable to poles. The overstatement stems from the fact that the FERC Form 1 accounts used to track

⁵⁶ *Id.* at 109-111.

⁵⁷ *Id.* at 110.

⁵⁸ *Id.*

⁵⁹ 47 C.F.R. § 64, Subpart I (allocation of costs); 47 C.F.R. § 64.901(3)(i) (“Whenever possible, common cost categories are to be allocated based upon direct analysis of the origin of the cost themselves.”).

expenses operate at a higher level of aggregation than pole plant. The current formulas attempt to adjust for this fact with ratios intended to attribute the costs appropriately between poles and other classes of plant. However, the current formula used to derive these amounts incorrectly assumes that expenses should be allocated in equal proportions to bare poles as to electric distribution plant. In fact, administrative and maintenance expenses related to bare poles is significantly less. The costs properly attributed to attaching entities are more accurately reflected in Ms. Kravtin's "marginal cost proxy."

The proposed "marginal cost proxy" offers an improved formula for calculating the lower bound attachment rate because it applies the Commission's cost causation principles consistently across all elements of the lower bound formula. The proxy captures the true costs caused by pole attachments (that are not captured by make-ready or other direct reimbursements to the utility) and measures and allocates these costs in a simple and expeditious manner, while respecting the space cost allocators set forth in section 224(e).

1) The Maintenance Charge Carrying Factor Should Be Adjusted To More Accurately Reflect The Expenses Attributable To Maintaining Pole Plant

The Maintenance FERC account 593 includes significant expenses associated with maintenance costs of a sophisticated electric grid that are not related to the maintenance of a bare pole. The way the maintenance charge component currently is derived presumes that a utility's maintenance costs for bare poles are the same proportionately as the maintenance costs of the overhead distribution lines and the electric service drops extending between the lines and the home. Today, account 593 expenses are divided proportionately among accounts 364 (poles), 365 (lines) and 369 (drops) based on relative net asset value. However, as set forth in the Kravtin Report and Appendix B thereto, a comparison of the maintenance expense ratios of

geographically paired pole-owning utilities and incumbent LECs demonstrates a systematic overstatement of pole-related maintenance expenses for utilities vis-à-vis their counterpart incumbent LECs, as measured by relative percentages of FERC account 593 (maintenance expense for overhead lines) to account 364 (gross pole plant) to pole specific maintenance expense tracked under ARMIS account 6411 and the incumbent LEC's Gross Investment in Pole Plant.

Specifically, the analysis shows, on average, that the maintenance costs applicable to poles in account 593 are not spread equally across dollars of net investment in plant accounts 364, 365 and 369, but rather constitute 45 percent of that amount. Accordingly, an adjustment is required. The specific adjustment recommended by Ms. Kravtin is to reduce maintenance expense to 45 percent of the amount produced using the current formula. This adjustment is necessary to ensure that the line maintenance expenses from account 593 are appropriately reduced. Without this adjustment, attachers would continue to pay more than their fair share of the plant maintenance expense.

2) The Administrative Charge Carrying Factor Should Be Adjusted To Reflect The Work Force Assigned To Pole Attachments

Similarly, in both FERC and ARMIS accounting systems, costs pertaining to the administrative and general expenses are maintained at a higher level of aggregation than poles. Specifically, administrative charges are kept at the total plant level. The Commission has tried to account for this by comparing the aggregated administrative expenses with total investment in plant, and making the assumption that the indirect costs of administration for poles is proportional to the net asset value of poles compared to net asset value for total electric plant. However, as explained in the Kravtin Report, this presumption is “at odds with basic principles

of cost allocation.”⁶⁰ A better approach would be to reduce Administrative expenses based upon a direct calculation of labor resources employed by the pole owner in connection with third party pole attachments. This approach is consistent with the principles of cost allocation as applied by the Commission’s Part 64 rules, in which costs that cannot be directly assigned are to be allocated “based upon a direct, cost-causative linkage to another cost category ... for which a direct assignment or allocation is available.”⁶¹ Consistent with cost-causation principles, administrative costs should be attributed to poles using a direct calculation for the actual labor resources employed by the pole owner in connection with third party pole attachments, an amount properly determined in Ms. Kravtin’s “marginal cost proxy.”

3) Other Cost Inputs Should Be Updated

As set forth below in NCTA’s discussion of the upper range, additional cost inputs should be updated to more accurately capture the costs allocated to attaching entities. Specifically, the pole height should be adjusted to reflect the fact that pole inventory today is taller than it was 40 years ago when presumptions were first adopted, and the number of presumed attaching entities should be adjusted to reflect today’s marketplace realities.

E. A Fresh Look Also Reveals Necessary Adjustments To The Costs Utilized In The Current Telecom Rate Formula

While the Commission’s presumption is that rates will be set at the higher of the marginal cost proxy and the cable rate, the reasonableness of this approach is confirmed by a refined and updated economic analysis of the upper end of the range of possible rate approaches that would align with cost causation and cost allocation principles.

⁶⁰ Attachment A, Kravtin Report at ¶ 35.

⁶¹ See 47 C.F.R. § 64.901.

The departure of the existing telecom rate formula from accepted principles of cost causation and cost allocation has resulted in unreasonably high attachment rates for telecom attachments. The section 224(e) space allocation methodology builds in a significant (and unwarranted) cushion of cost over-recovery by the pole owner. The relatively low number of facility-based competitive LECs that have succeeded since the 1996 Act also has adversely affected the results producing outsized rents that defeat national goals for broadband deployment. The Commission has recognized that the costs in section 224(d) do not constrain its interpretation of the costs in section 224(e). It would therefore be free to reevaluate the costs included in the current telecom rate formula to ensure that they more closely track principles of cost causation and thus more accurately reflect the true “fully allocated” costs associated with pole attachments.⁶²

The Commission could adjust the Maintenance carrying charge to account for the fact that a significantly larger proportion of plant maintenance is expended on the electric grid than on the bare pole. The Commission could also adjust the Administrative charge to make it proportionate to the operations expense rather than total plant investment, as this narrower cost category more closely aligns with pole costs, but does so consistent with the principles of fully allocated costs. In addition, as with the lower bound formula, certain cost inputs require adjustment in the current telecommunications formula to ensure that the most current and accurate information is reflected. Specifically, the average pole height presumption should be adjusted to reflect the fact that poles today are taller than they were 20 years ago when the pole

⁶² For example, when the Commission reinterpreted section 224(e) to include pole owners as “attaching entities” under section 224(e), the D.C. Circuit Court of Appeals sustained that reinterpretation as permissible because the broader definition of attaching entity “limits the financial burden on telecommunications providers and therefore encourages growth and competition in the industry” and “better served the goals of the Act.” *Southern Co. Serv., Inc. v. FCC*, 313 F. 3d 574, 581 (D.C. Cir. 2002) (*Southern Company*).

height presumptions were adopted. In addition, the number of attaching entities could be adjusted to 4 for the reasons set forth below.

This analysis of the upper bound retains the capital cost related carrying charge components of depreciation, return and taxes. While this is reasonable for a fully allocated upper bound analysis, other adjustments are necessary to ensure that the upper bound reflects certain fundamental principles of cost causation and also is updated to include more current and accurate data inputs.

1) The Maintenance Charge Carrying Factor Should Be Adjusted To More Accurately Reflect The Expenses Attributable To Maintaining Pole Plant

The Maintenance carrying charge component of the upper bound formula should be adjusted in the same manner as described above for the lower bound formula. Essentially, an adjustment (presumptively 45 percent of the amount produced using the current estimates) is necessary to reflect the fact that the maintenance expenses for utility poles and overhead lines are not directly proportional.⁶³

2) The Administrative Charge Carrying Factor Should Be Adjusted To Reflect Only Those Expenses Relating To Poles

As stated above, Administrative costs are maintained at a higher level of aggregation than poles. The Commission currently accounts for this by comparing the aggregated Administrative expense with the total investment in plant. A more refined approach would be to allocate the Administrative overhead expense in proportion to the direct operations and maintenance expenses associated with poles, as in Ms. Kravtin's approach.⁶⁴

⁶³ Attachment A, Kravtin Report at ¶¶ 32-34.

⁶⁴ *Id.* at ¶¶ 35-37.

3) The Tax Carrying Charge Should Be Adjusted To Reduce The Portion Of Income Taxes Assignable To Pole Attachers

The current formula apportions income-related taxes on the basis of net plant investment.⁶⁵ While property taxes are appropriately measured in this way, since they are a function of property value, income taxes – which are a function of income not property value – are not. From a cost causation perspective, taxes related to income are more accurately accounted for by grossing up the return to ensure the utility earns its allowed return on a tax-adjusted (i.e., after-tax) basis. Accordingly, under the methodology described in the Kravtin Report, the tax component of the carrying charge would be disaggregated into income tax and other tax components, with each calculated in a distinct manner more reflective of cost causative linkages to pole plant.⁶⁶ Income-related taxes would be recovered through a gross-up factor applied directly to the rate of return component of the carrying charge, using the average embedded tax rate for the utility as recorded in the FERC and ARMIS accounts, to better reflect the actual tax burden created by pole rental payments. Taxes other than income-related, which relate more directly to pole plant investment, would continue to be captured in the tax carrying charge, in the same manner as in the existing methodology.

4) The Utility Rate Of Return Should Be Based Upon The IRS Refund Rate, Which Is Updated Quarterly And Reflects Current Conditions In Relevant Capital Markets

The Commission allows utilities to recover an appropriate return on investment. However, as state regulatory bodies began moving away from rate of return regulation, the last

⁶⁵ As recognized by the Commission, under normal operating conditions, there should not be any direct cost causative linkages between third party pole attachment rentals and the pole owner's aggregate tax liability. *See FNPRM* at ¶ 137.

⁶⁶ Attachment A, Kravtin Report at ¶¶ 38-40.

authorized state returns have grown quite stale and no longer reflect current market conditions.⁶⁷ The Commission's default rate of return of 11.25%, set decades ago when the return on capital was significantly higher than it is today, has grown equally out of date. The Commission borrowed the 11.25% rate from regulations setting the authorized rate of return for interstate access services, assuming it would be "modified from time to time" to mimic true market conditions.⁶⁸ In fact, the rate was not modified.

In contrast, the interest rate set by the Internal Revenue Service (IRS) for individual underpayments to section 6621 of the Internal Revenue Code is updated quarterly based on current capital market conditions, publicly reported, and based on a consistent and objective methodology tied to (and well above) the federal short-term interest rate. The Commission has relied upon the IRS interest charge in a number of other applications, including refunds issued pursuant to pole attachment regulations.⁶⁹ As reported by Ms. Kravtin, the IRS interest charge is "a more efficient and accurate measure of the true opportunity costs of capital facing the pole-owning utility."⁷⁰ To ensure that the rate of return accurately represents the true cost of capital, the Commission could adopt the IRS interest charge as the permissible rate of return for poles.

5) Other Cost Allocation Data Inputs Should Be Updated

Adjustments must be made to certain data inputs used in the calculation of the space allocation factor to bring an upper bound analysis more in line with current market conditions. Specifically, the presumptive pole height and number of attaching entities should be adjusted to

⁶⁷ *Id.* at ¶¶ 41-43.

⁶⁸ *Amendment of Rules and Policies Governing Pole Attachments*, CS Docket No. 97-98, Report and Order, 15 FCC Rcd 6453, 6490-91, ¶¶ 75-76 (2000) (citing *Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, CC Docket No. 89-624, Order, 5 FCC Rcd 7507 (1990)).

⁶⁹ *Mile Hi Cable Partners, LP. v. Public Service Co.*, File No. PA 98-003, Order, 15 FCC Rcd 11450, 11458 ¶ 14 (Cable Serv. Bur. 2000) (*Mile Hi Cable Partners I*).

⁷⁰ Attachment A, Kravtin Report at ¶ 43.

ensure that the rate reflects current and accurate cost data. When the Commission first adopted the cable rate formula over 30 years ago, the average utility poles were 35 and 40 feet in height.⁷¹ The Commission set the presumptive usable space at 13.5 (presuming a pole height of 37.5 and subtracting out 18 feet for ground clearance) but allowed the complainant and the utility to rebut the figure using actual measurements.⁷² However, today, as reflected in the Kravtin Report, the average pole height typically is 40 feet or taller.⁷³ Indeed, in rulemaking proceedings following the 1996 Act, utilities filed a white paper asserting that “over time, and with increased demand, the average pole height has increased to 40 feet.”⁷⁴ Other studies demonstrate that pole heights have increased.⁷⁵ And certified states that have addressed the issue more recently have adopted a 40 foot pole height presumption (or a usable space presumption of 16 feet).⁷⁶

According to the Kravtin Report, the use of the lower presumptive pole height has contributed to the existing telecom rate formula’s over-recovery of the costs of pole attachments.⁷⁷ Adjusting the pole height increases the usable space on the pole from 13.5 to 16 feet and the space allocator factor used to apportion total costs of the pole to attachers is adjusted

⁷¹ See *Adoption of Rules for the Regulation of Cable Television Pole Attachments*, FCC Docket No. 78-144, Memorandum Opinion and Second Report and Order, 72 FCC 2d 59, 68, ¶ 21 (1979).

⁷² See 47 C.F.R. §1.1418.

⁷³ See, e.g., *Armstrong Utilities, Inc. v. The United States Telephone Co. of Pennsylvania d/b/a Embarq Pennsylvania*, File No. EB-08-MD-009, Order of Dismissal, 23 FCC Rcd 16539 (Enf. Bur. 2008) (order granting joint order to dismiss formal complaint with prejudice where Embarq sought to deny attachment to certain class poles typically 25 to 30 feet tall).

⁷⁴ *1998 Pole Attachment Order*, 13 FCC Rcd at 6791, ¶23 (while utilities submitted this data to support assertions that 30 foot poles should be removed from inventory, the data actually shows that the overall inventory of poles is changing).

⁷⁵ AT&T Comments at Att. (Decl. of Veronica MaHanger MacPhee), ¶13 (“pole heights have risen from 35 feet to 40 feet or 45 feet to provide ELCOs with additional space to accommodate their facilities”); CTAM Response to Petition, EB-02-MD-031, Exhibit 4, Attachment PG-6, (including a statistically reliable study of BGE’s jointly and solely owned poles with cable attachments to rebut the 13.5-foot presumption).

⁷⁶ Vermont Board Policy Paper and Comment Summary on PSB Rule 3.700, at 10-11 (2001) (“[m]ore and more 40 foot poles are being installed” in part to accommodate higher voltage utility grids); Oregon Admin. Rule 860-028-0020 (22) (“there is a rebuttable presumption that the average bare pole is 40 feet”).

⁷⁷ Attachment A, Kravtin Report at ¶ 45.

commensurately.⁷⁸ The resulting rate captures more accurately the total pole cost amount that should be attributed to each foot of space occupied by an attacher.

In addition to updating the average pole height, the Commission could revisit the number of attaching entities that are presumed to be attached to the pole. The existing telecom rate formula has two presumptions for the number of attaching entities: 5 for urban areas and 3 for rural areas, where a utility service area is deemed to be urban if any part of its service area is classified as urban, *i.e.*, as having populations of 50,000 or more. The Commission adopted these rebuttable presumptive averages to “expedite the process and allow utilities to avert the expense of developing location specific averages.”⁷⁹ It concluded, based on record evidence submitted in that proceeding, that in all geographically defined areas, even less populated rural areas, the poles to which third party attachers are attached have at a minimum, three attaching entities: the utility, the incumbent LEC and the cable operator.⁸⁰ In urban areas, in addition to these entities, the presumption, based upon evidence in the record, was that a competitive LEC and a governmental entity would also be attached.⁸¹ In setting the urban presumption at 5 attachers, the Commission relied on evidence that the number of competitive services were increasing.⁸² It also concluded that “[i]f any part of a specific service area ...is urbanized, then all that service area would be considered urbanized for pole attachment purposes.”⁸³

⁷⁸ See *id.* at Table 4.

⁷⁹ *Consolidated Reconsideration Order*, 16 FCC Rcd at 12139, ¶70.

⁸⁰ *Id.* at 12140, ¶ 72.

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.* at 12137, ¶ 66.

As explained in the Kravtin Report, the Commission could adopt a single presumption of four attaching entities per pole for both rural and urban communities.⁸⁴ While the market has failed to deliver the large number of attaching entities anticipated when the Telecom Act was adopted, the number of attachers is in fact growing. Fiber backbone providers such as Fibertech and distributed antenna service providers such as NextG, Extanet, and American Tower, are attaching to utility poles.⁸⁵ Moreover, NTIA and RUS have been given grant money to build broadband systems in unserved and underserved areas, many of which are necessarily located in rural areas. Indeed, RUS loans are only made available for projects in rural areas.⁸⁶

Applying a single presumption, would avoid the protracted fights that often arise when utilities are unwilling to accept the presumption of five attaching entities. Precious time is lost in negotiating rates and conducting appropriate studies of third party poles in relevant service areas. Often the end result is a compromise of four attaching entities. A single presumptive figure is less complex to administer and will likely lead to fewer disputes in the field.⁸⁷ In addition, a single number provides consistency and uniformity in rates, and serves to level the competitive playing field, all of which will promote broadband deployment, consistent with the National Broadband Plan's objectives.

⁸⁴ See Attachment A, Kravtin Report at ¶¶ 47-49.

⁸⁵ See *FNPRM* at Appendix C (List of Commenters).

⁸⁶ American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, 123 Stat. 115 (2009), at div. A, tit. I, 123 Stat. at 118-119.

⁸⁷ Faced with the possibility of 5 attaching entities, utilities almost always opt to perform a study that starts with an inaccurately low number, based on a "survey" of the utility's entire service area, which inevitably includes portions of the utility's footprint that have poles with no third party attachments. The average number is thereby artificially low. The parties must dispute the number of attaching entities and it is not uncommon for the parties to arrive at 4 attaching entities.

F. The Commission’s Proposed Rates Fall Within The Range Of Just And Reasonable Rates Required By Section 224

Both sections 224(b) and 224(e)(1) direct the Commission to ensure that pole attachment rates for telecommunications services are just, reasonable and non-discriminatory. As recognized in the *FNPRM*, the Commission’s regulatory scheme fulfills this obligation if it produces rates that “fall within a zone of reasonableness” because they balance “investor interest in maintaining financial integrity and access to capital markets and the consumer interest in being charged non-exploitative rates.”⁸⁸

The attached Kravtin Report demonstrates that the Commission’s approach is just and reasonable. It assures the utility of recovering the higher of marginal costs (most accurately represented by the “marginal cost proxy” developed by Ms. Kravtin) and the rate produced by the cable rate formula. That rate is demonstrably near the very top end (within 5 percent on average) of the range within which the Commission could faithfully implement the Act.⁸⁹

The Commission historically has recognized that pole attachment rates, to be reasonable, should fall between incremental costs and fully allocated costs.⁹⁰ The National Broadband Plan recommends that the Commission establish pole attachment rental rates “that are as low and close to uniform consistent with [s]ection 224 of the [Act], to promote broadband deployment.”⁹¹

As the Kravtin Report confirms, the Commission’s proposed approach:

- Is fully consistent with the existing statutory framework of section 224(e) of the Act;

⁸⁸ *FNPRM* at ¶ 129.

⁸⁹ See Attachment A, Kravtin Report, Table 8.

⁹⁰ *Amendment of Rules and Policies Governing the Attachment of Cable Television Hardware to Utility Poles*, CC Docket No. 86-212, Report and Order, 2 FCC Rcd 4387, 4397 at ¶ 74 (1987) (“we will continue to focus on the maximum rate. If, however, a cable operator can make a specific, quantifiable and supportable proposal for a rate which falls between the statutory minimum and maximum rates, we will examine the proposal.”).

⁹¹ National Broadband Plan at 107.

- Supports national broadband policy by removing artificially high pole rental rates as barriers to cable operators’ and telecommunications carriers’ deployment of broadband;
- Is fully consistent with “underlying economic or analytical theory,”⁹² i.e., the principles of cost causation and economically efficient marginal cost pricing;
- Meets the Commission’s stated concerns that section 224(e) rates designed to recover purely marginal costs may not be fully compensatory to the pole owner, by demonstrably assuring cost recovery in full accord with the cost allocations set forth in section 224(e);⁹³
- Can be applied in a simple, expeditious, and unified manner; and
- Assures that the resulting rate is more economically efficient than the existing telecom rate, is fair to pole owning utilities and their ratepayers, and would do nothing to compromise the safety or integrity of the utility’s pole network.

G. The Commission’s Approach Ensures That Utilities Receive Just Compensation

The Commission’s proposal also assures the utility of recovering just compensation, as determined by prior court cases. As recognized by the Commission in the *FNPRM*, a pole attachment rate above marginal cost can provide just compensation, and the cable rate, which reimburses utilities for both their marginal costs and a proportional share of the fully allocated cost for each entire pole, more than fully compensates utilities.⁹⁴ The Commission and the courts have repeatedly recognized that the rates produced using the cable rate formula are just, reasonable, and fully compensatory.⁹⁵ “[A]ny implementation of the Cable Rate (which provides

⁹² See *FNPRM* at ¶ 125.

⁹³ See *FNPRM* at ¶ 126 (“To the extent that TWTC is arguing for ‘costs’ to be defined as marginal or incremental costs for purposes of Section 224(e), we are skeptical of that theory. Marginal cost can be defined either as the rate of change in total cost when output changes by an infinitesimal unit or as the change in total cost when output changes by a single unit.... However, the Section 224(e) formulas allocate the relevant costs in such a way that simply defining ‘cost’ as equal to incremental cost would result in pole rental rates *below* incremental cost.”).

⁹⁴ *FNPRM* at ¶126, n. 344 (citing *Alabama Power*, 311 F.3d at 1370 (“In some cases, then, marginal cost will be sufficient to compensate the pole owner.”)).

⁹⁵ *Florida Power*, 480 U.S. at 254.

for much more than marginal cost) necessarily provides just compensation.”⁹⁶ Numerous state commissions also have concluded that the cable rate formula is fully compensatory.⁹⁷ For example, the Massachusetts DTE concluded that its pole attachment rate formula, which follows the Commission’s cable rate formula, assures that utilities are provided adequate compensation.⁹⁸

The Commission also has ensured that the proposed rate formula is compensatory and otherwise lawful by creating a rebuttable presumption which the utility may challenge with actual evidence that the rate is not compensatory. As stated by the Court in *Alabama Power*, “before a power company can seek compensation above marginal cost, it must show with regard to each pole that (1) the pole is at full capacity; and (2) either (a) another buyer of the space is waiting in the wings or (b) the power company is able to put the space to a higher valued use with its own operations.”⁹⁹ Otherwise, any implementation of a rate that provides for more than marginal cost necessarily provides just compensation. Despite repeated utility assertions that the cable rate and make-ready do not make them whole, utilities have never provided substantive economic analysis to support their claim, nor could they in light of well established principles of economics.¹⁰⁰

The Kravtin Report demonstrates that within the range of rates that would most align with cost causation and cost allocation principles—between a “marginal cost proxy” and a refined approach to today’s telecommunications rate formula—the Commission’s approach is

⁹⁶ *Alabama Power*, 311 F.3d. at 1370-1371.

⁹⁷ See Comments of NCTA, WC Docket No. 07-245, App. A at 3 (Mar. 7, 2008) (NCTA Comments) (providing list of state public utility Commission decisions addressing reasonableness of cable pole attachment rates).

⁹⁸ *Order Establishing Complaint and Enforcement Procedures to Ensure That Telecommunications Carriers and Cable System Operators Have Non-Discriminatory Access to Utility Poles, Ducts, Conduits, and Rights-Of-Way and to Enhance Consumer Access to Telecommunications Services*, D.T.E. 98-36-A, at 11 (Mass DTE 1999).

⁹⁹ *Alabama Power*, 311 F.3d at 1370-71.

¹⁰⁰ Attachment A, Kravtin Report at ¶¶ 14, 77.

just and reasonable, and produces rates that are near the top end of the range within which the Commission could faithfully implement the Act.

H. The Commission May Use Forbearance To Prevent Unreasonable Pole Rents

In addition to the Commission’s broad discretion under section 224 of the Act, it also possesses broad authority under section 10 of the Act to forbear from applying “to a telecommunications carrier or telecommunications service” statutory provisions or rules that no longer serve the public interest. Forbearance is “[a]n integral part of the pro-competitive, de-regulatory national policy framework established in the 1996 Act.”¹⁰¹ Section 10(a) of the Act requires the Commission to forbear from applying “any provision of this Act” if the Commission finds that enforcement of that provision is not needed to ensure the reasonableness of the rates and practices of affected telecommunications carriers or to protect consumers of such carriers, and that forbearance is otherwise in the public interest.¹⁰² Section 706(a) of the 1996 Act, as amended, specifically identifies forbearance as one of the tools available to the Commission to “remove barriers to infrastructure investment.”¹⁰³

In the event the Commission does not adopt a revised rate approach based on cost causation principles, the Commission can and should implement the National Broadband Plan’s recommendation to reduce the attachment rates for broadband providers by adopting the additional measure of forbearing from applying the current telecom rate formula to broadband

¹⁰¹ *Petition of the Embarq Local Operating Companies for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket No. 06-147, Memorandum Opinion and Order, 22 FCC Rcd 19478, 19487, ¶15 (2007) (*Embarq Forbearance Order*) (quoting Joint Explanatory Statement of the Committee of Conference, S. Conf. Rep. No. 230, 104th Cong., 2d Sess. 113 (1996)) (internal quotation omitted); *see also* *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket No. 06-125, Memorandum Opinion and Order, 22 FCC Rcd 18705, 18714-15, ¶16 (2007) (same); *Petitions of the Verizon Tel. Cos. for Forbearance Pursuant to 47 U.S.C. § 160(c)*, WC Docket No. 06-172, Memorandum Opinion and Order, 22 FCC Rcd 21293, 21303, ¶19 (2007) (footnotes omitted) ; *AT&T Inc. v. FCC*, 452 F.3d 830, 833 (D.C. Cir. 2006).

¹⁰² 47 U.S.C. § 160(a).

¹⁰³ 47 U.S.C. § 1302(a).

attachments by telecommunications carriers and applying the cable rate formula instead, as proposed by NCTA in its 2008 reply comments in the broadband pole attachment proceeding.¹⁰⁴ Using its forbearance authority in the context of pole attachments is an entirely rational and legal way for the Commission to promote its broadband goals. In particular, forbearing from applying section 224(e)(2) of the telecom rate formula furthers the precise objective underlying section 10 of the Act insofar as “forbearance seeks elimination of regulatory uncertainty [that] even the Commission recognizes ... may discourage investment and innovation regarding the very technologies Congress intended the Act to promote.”¹⁰⁵

Forbearance from disproportionate allocations under the telecom rate formula, and application of the cable rate formula instead, easily satisfies the statutory criteria. First, under section 10(a)(1), applying disproportionate allocations under the telecom rate formula is not necessary to ensure the reasonableness of rates those carriers charge. Indeed, it harms consumers by raising the cost of providing broadband and telecommunications services.

Second, section 10(a)(2) is satisfied because application of section 224(e)(2) is not necessary for the protection of consumers. Forbearance will keep pole attachment rates from rising above just and reasonable compensation and is appropriate to “help ensure that customers

¹⁰⁴ See NCTA Reply Comments at 18-20; see also Letter from Thomas Jones, Counsel for Time Warner Telecom, to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11293, RM-11303, Attach. (White Paper on Pole Attachment Rates Applicable to Competitive Providers of Broadband Telecommunications Services at 2) (filed Jan. 16, 2007) (“the Commission has used every means available to it under the Communications Act [to level the competitive playing field for facilities-based providers of broadband service], including its authority under the ‘at a minimum’ clause in Section 251(d)(2) and its forbearance powers under Section 10”). Because incumbent LECs are not currently covered by the Commission’s rules implementing section 224(e), forbearance from that provision would be of no benefit to them without additional actions by the Commission. See Petition of the United States Telecom Association for Rulemaking to Amend Pole Attachment Rate Regulation and Complaint Procedures, RM-11293 (filed Oct. 11, 2005). NCTA has proposed alternative solutions to provide incumbent LECs with parity to other attachers. See NCTA Reply Comments at 21-22.

¹⁰⁵ 47 U.S.C. § 1302(a).

... have competitive choices,”¹⁰⁶ and remove barriers to a fully competitive market.¹⁰⁷ Although utilities have alleged that reducing pole attachment rates could have a harmful effect on electric ratepayers, NCTA demonstrated in its pleadings that the effect on electric ratepayers is *de minimis*.¹⁰⁸ The fact that NASUCA, which represents the interests of electric ratepayers, supports the use of the cable rate formula demonstrates the fallacy of the utilities’ argument.

Finally, under sections 10(a)(3) and 10(b), forbearance is in the public interest because it would promote competition in the marketplace by allowing all broadband providers covered by section 224 to attach under the same regime that is now used by cable operators,¹⁰⁹ rather than penalizing providers that choose to offer telecommunications services or other services that help fulfill the 1996 Act goals of “promoting competition in every sector of the communications industry.”¹¹⁰

Utilities have raised a number of arguments against the proposal to forbear, but none withstand scrutiny. For example, it has been suggested that the Commission cannot forbear from the rate provisions of section 224(e) because Congress clearly wanted two separate rate formulas

¹⁰⁶ *Petition of ACS of Anchorage, Inc.*, 21 FCC Rcd 13655, 13688 (2007).

¹⁰⁷ See Charter Comments (demonstrating that, with respect to the prospect of raising pole costs above cable-only rates when additional services like Internet and VoIP are added to system, the “impact on a new entrant who must charge incrementally more to recoup its new plant investment within a reasonable amount of time ... is utterly forbidding”); see also *Embarq Forbearance Order*, 22 FCC Rcd at 19482 (discussing in grant of forbearance the propriety of “easing the regulatory requirements for broadband facilities and service”).

¹⁰⁸ NCTA Reply Comments at 7. For example, the Massachusetts DTE has found that reducing pole rental fees to the level set by the cable rate formula would have “minimal” impact (.009%) on electric ratepayers “and not require an adjustment of other [utility] rates.” *Cablevision of Boston Co.*, D.P.U./D.T.E. 97-82, p. 12 (Apr. 15, 1998). The DTE reached the same conclusion in a case involving Massachusetts Electric. *A-R Cable Services, Inc.*, D.P.U./D.T.E. 98-52 (Nov. 16, 1998) (“The Department’s pole attachment formula reasonably balances the interests of subscribers of CATV services as well as the interests of consumers of utility services...”).

¹⁰⁹ See Comments of State Cable Associations, WC Docket No. 07-245, at 22 (Mar. 8, 2008) (“we do not oppose CLECs that face the same attachment terms as cable operators paying the same cable rate for their attachments because there is no legitimate reason to increase *any* broadband pole attachment rates”) (emphasis in original).

¹¹⁰ *1998 Pole Attachment Order*, 13 FCC Rcd at 6794, ¶ 31; see also Charter Comments at 10 (“Increasing pole rents on the Internet would inexplicably reverse Congressional intent to promote new broadband deployment and local voice competition.”).

and therefore forbearance would be inconsistent with congressional intent. In fact, Congress adopted the forbearance provision because it recognized that circumstances change over time and the agency needs the ability to make changes that Congress might not have anticipated in 1996. That is precisely the situation here. The expectation in 1996 was that bringing down barriers to entry and promoting competition would result in the emergence of multiple, competing facilities-based networks. Competitive providers were expected to use their new rights of access to deploy their lines on utility poles,¹¹¹ and with more lines on the poles, there would be more entities to share pole costs under the telecommunications pole formula.

Had competition developed as anticipated, with multiple providers all placing new facilities on poles, the newly added telecom rate formula would have produced results comparable to the existing cable rate formula.¹¹² But for a variety of reasons, competition developed differently, with fewer competitive LECs, fewer companies attaching new facilities to poles, and technology migrating from separate lines switching circuits to IP packets integrated into lines already attached to poles for other services. As a result, applying the telecom rate formula to today's technology and market produces pole rents that are far higher than the cable rate formula, far higher than necessary to fairly compensate pole owners, and far higher than Congress anticipated. Forbearance here is necessary to adjust to these changed circumstances.

Utilities also argue that forbearance is permitted only with respect to provisions that impose obligations on telecommunications carriers and cannot be used for section 224, which

¹¹¹ Section 251(b)(4), for example, imposed upon each LEC the "duty to afford access to the poles, ducts, conduits, and rights-of-way of such carrier to competing providers of telecommunications services on rates, terms, and conditions that are consistent with Section 224."

¹¹² Under Congress's concept, each new attaching entity would decrease the amounts that each entity would pay. But Congress also knew that from a standing start in 1996, it would take 10 years to achieve reasonable penetration, assuming all went well. Therefore, it prohibited any change in rent for the first 5 years, and required a phase in of any changes over the next five years. That decade, it was assumed, would give CAPs and other facility-based providers the chance to establish substantial market presence without being hit by massive pole penalties from the outset.

imposes obligations on utilities.¹¹³ That theory is inconsistent with the text of the statute. It is the telecommunications service providers that are obligated to pay costs apportioned in (e)(2), not the utility. While the wording of subpart (e)(2) may direct the utility to apportion costs in particular manner, these subparts are encompassed in the broader instruction to the Commission “to prescribe regulations ... to govern the charges for pole attachments used by telecommunications carriers to provide telecommunications services.” If the statutory criteria are satisfied, the Commission is required to forbear from “any regulation or any provision of this Act to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets.”¹¹⁴ Section 224 is “a provision of this Act” that applies “to telecommunications carriers” and therefore it is a permissible subject of forbearance. Section 10(d) includes the only statutory limitation on the provisions that may be the subject of forbearance. In that provision, Congress stated that the Commission cannot forbear from sections 251(c) and 271 until it determines those sections have been “fully implemented.”¹¹⁵ The fact that Congress did not include section 224 as one of the provisions identified in section 10(d) provides further support for the notion that the Commission must forbear if the statutory criteria are satisfied.

Moreover, forbearance alone would produce the intended result because the Commission would retain the authority under sections 224(e)(1) and (e)(3) to assure just, reasonable, and nondiscriminatory rates consistent with the Act and with the recommendations of the National

¹¹³ In the *Third Way NOI*, the Commission asks, “Does section 10 provide the Commission authority to forbear from Section 224 insofar as it imposes rate-related obligations on the Commission and utilities that own poles, rather than on telecommunications carriers or telecommunications services?” *Framework for Broadband Internet Service*, GN Docket No. 10-127, Notice of Inquiry, FCC 10-114 (rel. June 17, 2010) (*Third Way NOI*).

¹¹⁴ 47 U.S.C. § 160(a).

¹¹⁵ 47 U.S.C. § 160(d).

Broadband Plan. The Commission’s 2007 decision in response to a petition filed by Core Communications is thus distinguishable.¹¹⁶ In that case, the Commission denied the request to forbear from access charge provisions on the ground that further Commission action, in a separate proceeding, would be needed to fill the void created by forbearance. NCTA’s request for forbearance from section 224(e)(2) is distinguishable because it arises in the context of a rulemaking proceeding, not a section 10(c) petition, and therefore the Commission has the ability to forbear from the old rule while adopting a new rule in a single proceeding.¹¹⁷

III. RETAINING SIGN AND SUE IN ITS PRESENT FORM IS CRITICAL TO EFFECTIVE BROADBAND DEPLOYMENT

The Commission must retain its “sign and sue” rule in its current form to appropriately fulfill its statutory duty to ensure that rates, terms and conditions of pole attachments are just, reasonable and non-discriminatory, and to incent broadband deployment. Utilities are sophisticated companies with years of experience in negotiating pole attachment agreements and navigating the Commission’s pole attachment rules and policies. They are not, and will not be, “blind sided” by challenges to terms that are facially unreasonable. Nor is there any evidence in the record that attachers are abusing the sign and sue rule. Moreover, requiring attachers to list each and every term that is potentially illegal will needlessly extend an already lengthy negotiation process. It is entirely inconsistent with the objectives of the National Broadband Plan to accelerate “the duration of the entire process for obtaining access to poles, duct, conduit and rights-of-way.”¹¹⁸

¹¹⁶ *Petition of Core Communications, Inc.*, Memorandum Opinion and Order, WC Docket No. 06-100, 22 FCC Rcd 14118 (2007).

¹¹⁷ As NCTA explained in its reply comments, the Commission has granted forbearance in the context of a rulemaking on numerous occasions. See NCTA Reply Comments at 20, n. 72, citing *Implementation of the Call Home Act of 2006*, 22 FCC Rcd 1030 (2007); *Regulation of Prepaid Calling Card Services*, 21 FCC Rcd 7290, 7299 (2006); *Federal-State Board on Universal Service*, 20 FCC Rcd 16883, 16893-94 (2005).

¹¹⁸ National Broadband Plan at 111.

A. The Proposed Requirement To Memorialize Illegal Terms Will Undermine Commission Authority To Regulate Rates, Terms And Conditions

In adopting the sign and sue requirement over 30 years ago, the Commission recognized that “without authority to alter unreasonable or unjust contractual rates, terms or conditions, the Commission would be powerless to act in accordance with its mandate.”¹¹⁹ The U.S. Court of Appeals for the D.C. Circuit affirmed the Commission, concluding that if attachers could not sign a contract and sue later, the Commission would be incapable of addressing the “numerous abuses of [the utilities’] monopoly power” identified by Congress in the Pole Attachment Act.¹²⁰ The court reached the same conclusion twenty years later, endorsing the Commission’s explanation that “[i]f the rates and conditions to which the attacher later objects are within the statutory framework, then the utility has nothing to fear from the attacher’s complaint. The attacher would not be entitled to relief.”¹²¹

Throughout the *FNPRM* the Commission acknowledges that the fundamental premise on which this rule was adopted, has not changed: utilities retain monopoly control over poles and the Commission’s regulatory oversight remains essential to ensuring just and reasonable terms and conditions of attachments. Recognizing “a real possibility that utilities may abuse their monopoly power during the negotiating process,” the Commission rejected several other utility suggestions to limit sign and sue, including utility requests to: limit Commission review of

¹¹⁹ *Adoption of Rules for the Regulation of Cable Television Pole Attachments*, First Report and Order, 68 FCC 2d 1585, 1590 ¶16 (1978).

¹²⁰ *Monongahela Power Co. et al. v. FCC*, 655 F.2d 1254, 1256 (D.C. Cir. 1981) (citing 123 Cong. Rec. 35,006 (1977) (remarks of Rep. Wirth)).

¹²¹ The court concluded that the sign and sue rule was a “reasonable exercise” of the Commission’s authority and “does not interfere with any of the rights afforded [the utilities] under the Act.” *Southern Company*, 313 F.3d at 583-84.

agreements to state law considerations of unconscionability,¹²² adopt a presumption that executed pole attachment agreements are just and reasonable,¹²³ require attaching entities to submit extrinsic evidence of coercion or undue influence, and limit challenges to pole attachment complaints to state court.¹²⁴ The Commission concluded that the “record does not demonstrate that the potential for utilities to exert such coercive pressure in pole attachment agreement negotiations is less significant today than when the Commission first adopted the sign and sue rule.”¹²⁵

Notwithstanding its clear understanding of the need for sign and sue, the Commission proposes to require attachers to provide a utility with written notice of objections to provisions in a pole attachment agreement that are, on their face, unjust or unreasonable, as a prerequisite to later bringing a complaint challenging such provisions. Not only is there no basis in the record or real world negotiations to support such a requirement, limiting review to items memorialized at the time of negotiation would limit the Commission’s ability to fulfill its regulatory duty to ensure that rates, terms and conditions of attachment are just and reasonable. Even if it is applied only to contracts entered into at the next renewal, as would be standard for Commission rule changes,¹²⁶ it is still unworkable. The Commission must be empowered to review a patently

¹²² *FNPRM* at ¶ 105.

¹²³ *Id.* at ¶ 104.

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *See, e.g., Implementation of the Cable Television Consumer Protection and Competition Act of 1992; Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996; Review of the Commission's Cable Attribution Rules, Report and Order*, 14 FCC Rcd 19014, ¶ 138 (1999) (rules setting limits on ownership - the horizontal ownership rule, the cable/SMATV cross-ownership prohibition rule, the cable-telco buyout prohibition, and the effective competition test -- made effective only to interests acquired after date of NPRM); 47 C.F.R. § 76.1002(e) (exempting from prohibition exclusive satellite programming agreements entered into prior to 1990).

unreasonable term or condition of attachment even if such term is not memorialized by the attacher.¹²⁷

B. The Proposed Modification To Sign And Sue Would Delay Access To Poles And Broadband Deployment

The Commission’s proposal would necessarily delay the already lengthy pole attachment process and is thus entirely inconsistent with the Commission’s efforts to “expedite the build-out of affordable broadband services.”¹²⁸ Indeed, increasing the speed of all aspects of the pole attachment process is a primary recommendation of the National Broadband Plan.¹²⁹ But just like the application and make-ready process, the process of negotiating an agreement can be painfully slow. Typically, a utility provides the attaching entity with a lengthy one-sided template that contains numerous provisions which stray from established Commission principles governing just and reasonable attachments. The exchange of drafts and debate over terms typically lasts several months. The *FNPRM* provides no guidance concerning what is and is not a facially invalid contract term, or what kinds of contract terms are only unlawful “as applied.”

¹²⁷ See *Implementation of Section 703(e) of the Telecommunications Act of 1996*, 16 FCC Rcd at 12112-13, ¶ 13 (2001) (“[T]he record as a whole does not demonstrate that the market for pole attachments is fully competitive or that the utilities now lack any incentive to discriminate against attaching entities. As the Court stated in *Gulf Power II*... the original purpose of the Pole Attachment Act, to prevent utilities from charging monopoly rents to attach to their bottleneck facilities, did not change with the 1996 Act. Nothing in the record demonstrates that the utilities’ monopoly over poles has since changed.”); *Southern Company*, 313 F.3d at 583-584 (The court found the sign and sue rule is “a reasonable exercise of the agency’s duty under the statute to guarantee fair competition in the attachment market.”).

¹²⁸ See *FNPRM* at ¶¶ 31-45, 52-53, 55-67, 70-77. We support the Commission’s proposals to expedite infrastructure access by establishing specific timeframes for pole owner action at each stage of attachment, facilitating the use of third party contractors and common construction practices (i.e. boxing), increasing transparency of make-ready changes, staged progress-based make-ready payments, and authorizing remedies to include compensatory damages and refunds through the applicable statute of limitations period. Each of these improvements could be nullified if the Commission were to abrogate the sign and sue rule. We believe, however, that the Commission should not delegate to pole owning utilities the unilateral right to determine when capacity is sufficient. *FNPRM* at ¶ 67 and proposed rule 1.1422(b)(2) (referring to pole owners “final determinations” relating insufficient capacity). The Eleventh Circuit rejected this notion when it held that such a delegation “is clearly not what Congress intended when it passed the Act.” *Southern Company*, 293 F.3d at 1347-48 (rejecting “argu[ment] that the language [in § 224(f)(2)] permitting utilities to deny access on the basis of ‘insufficient capacity’ specifically entrusts [] utilities with the power to determine when capacity is insufficient”).

¹²⁹ National Broadband Plan, Chapter 2, Goal 1, p. 9 (“securing rights to this infrastructure is often a difficult and time-consuming process that discourages private investment”).

The proposed rule will require attaching entities to err on the side of including all potentially problematic terms in a written letter to the utility prior to signing an agreement. Creating such a list of objectionable terms will be a time consuming, expensive and potentially unnecessary exercise. If the Commission were to impose this requirement, negotiations will necessarily extend well beyond what already is an unacceptable timeframe and broadband facilities deployment will be delayed.

C. Utilities Are Not In Jeopardy Of Losing Bargained For Exchanges

Utilities' assertions that the sign and sue rule allows attachers to "cherry pick" favorable terms and conditions in pole attachment agreements and that utilities are somehow "blindsided" when attachers file complaints with the Commission are wholly unsupported and inaccurate. As an initial matter, utilities, which still "have monopoly power over pole access,"¹³⁰ have no market-based incentive to make concessions that are not required by law. Accordingly, operators are not able to obtain favorable terms and conditions beyond what is legally required. Moreover, if, as utilities suggest, attachers simply are signing "virtually any pole attachment agreement" and filing complaints later, significantly more complaints would have been filed to date. There is no evidence in the record that attaching entities are abusing the complaint process and filing complaints about bargained-for terms that they "would like to disavow." Indeed, utilities are sophisticated companies with a history of challenging the Commission's pole attachment rules and policies. Rather than placing the burden on attachers, the Commission should recognize that the initial template provided to attachers should be free of facially illegal terms.

¹³⁰ *FNPRM* at ¶ 104; *see also Gulf Power*, 534 U.S. 327 (2002).

The Commission's existing rules provide sufficient protections for utilities in the event they make concessions. First, the Commission's existing rules require cable operators to work with pole owners informally to try to resolve disputes concerning pole attachment terms and conditions before filing a complaint, unless that effort would be futile. The operators must then summarize all steps taken to resolve problems prior to filing a complaint.¹³¹ Accordingly, utilities will not be "blind sided" by attacher complaints that certain terms are unreasonable. In reality, the "sign and sue" rule is virtually the only leverage attachers have when negotiating contracts and is the primary reason pole owners negotiate in good faith. Second, as recognized by the Commission in the *FNPRM*, "[e]vidence of such a quid pro quo could come from several sources, including communications between the parties during contract negotiations."¹³² Therefore, if a pole owner wishes to demonstrate that an attacher bargained away the precise term or condition that it subsequently challenges in a complaint, it can do so under the existing regulatory regime. It is not necessary to burden attaching entities with a requirement to list all of the unjust terms that the utility has refused to change or remove.

IV. UTILITY REQUESTS FOR UNFETTERED DISCRETION TO IMPOSE ADDITIONAL PENALTIES FOR UNAUTHORIZED ATTACHMENTS MUST BE REJECTED

No additional penalties are needed to incent attaching entities to comply with existing permitting requirements. Instead, the status quo should be maintained. Cable attachers already are motivated to ensure that their attachments to poles are properly permitted, safe, and that improper pole engineering will not lead to service interruptions or to the sizeable penalties that already exist under current law. As repeatedly demonstrated by attaching entities, utility assertions that attachers routinely fail to permit attachments and thereby cause pole safety issues

¹³¹ 47 C.F.R. § 1.1404(h).

¹³² *FNPRM* at ¶ 105 n. 89.

are unsupported, inaccurate and misleading. The numbers of attaching entities reported by various utilities in this proceeding do not withstand scrutiny. There is no evidence to support claims that third parties are failing to get permits or that attachments are unsafe. The true cause of any discrepancies that exist between the number of billed and actual attachments, always has been, and continues to be, one of record keeping, changing pole ownership, and morphing definitions of what constitutes a “billable attachment.”

Contrary to the image painted by utilities for this Commission, an image that contrasts sharply with that drawn for state regulatory bodies investigating service outages, attachers, as a rule, comply with the permitting process. Attachers have strong and obvious incentives in maintaining the structural integrity of the poles to which their facilities are attached, to ensure that billing records are accurate (often they are billed for attachments they no longer own or that have been removed), and to avoid existing penalties, which typically assess multiple years of back rent. Attachment audits performed by utilities are often seriously flawed and thus grossly overstate the number of unauthorized attachments. This is precisely why the Commission historically has declined to adopt a “hard and fast” penalty scheme. Its proposal to do so now is without justification. Indeed, the Oregon experience provides precautionary instruction for maintaining the status quo.

A. Utility Claims Concerning Unauthorized Attachments And Safety Problems Caused By Third Party Attachments Are Unsupported And Misleading

Cable attachers have a strong interest in ensuring that their attachments to poles are properly permitted and that all their facilities are compliant with applicable safety codes and will not be disrupted due to improper pole engineering practices. They care about the safety of their employees and community residents, and they are subject to legal requirements that demand

careful attention to safety compliance, proper permitting and maintenance of reliable plant. They also have incentives to ensure that billing records are accurate. After considerable litigation, the Commission adopted a balanced order that has become today's *de facto* benchmark—that unauthorized attachments could be subject to up to five years of back rent.¹³³ For example, if pole rents are \$8, then a pole agreement could provide penalties of \$40 per pole if attachments are unauthorized. This creates strong additional incentives for procedural regularity in attachment practices, while preventing utilities from converting occasional liquidated damage provisions into large and unregulated cash cows.

Some utilities would have the Commission believe that cable attachers routinely make attachments without following the required permitting process resulting in large numbers of alleged “unauthorized” attachments, and corresponding safety issues. However, the number of unauthorized attachments reported in this proceeding not only vary dramatically among pole owners, as recognized by the Commission,¹³⁴ they are contradicted by evidence submitted by other commenters at earlier stages of this proceeding as well as by statements made by these same utilities to state regulators in other contexts.

In reply comments filed previously in this proceeding, Comcast submitted evidence that the allegations of Oncor that third party attachments were to blame for violations of applicable safety codes were unfounded. “With Oncor and USS representatives present, a sample of poles that Oncor had demanded be replaced because of alleged cable operator safety violations was

¹³³ *Mile Hi Cable Partners v. Public Service Co.*, 17 FCC Rcd 6268, 6273, ¶ 13 (2002), *aff'd Public Service Co. v. FCC*, 328 F.3d 675 (D.C. Cir. 2003) (hereinafter “Mile Hi Cable Partners II”).

¹³⁴ See *FNPRM* at ¶ 91 (“Based on the current record, we are unable to gauge with certainty the extent of the problem of unauthorized attachments.”).

reviewed. At the conclusion of this joint review, it was found that *Oncor had in fact caused all of the violations that necessitated the pole replacements* for the sample of poles reviewed.”¹³⁵

Similarly, the Florida Cable Television Association (FCTA) submitted data in reply comments filed in earlier rounds of this proceeding that demonstrate that utilities are painting a much different picture for the Commission than they are for state regulatory bodies examining service outages related to pole failures. In Reliability Reports submitted in Florida’s Storm Preparedness proceedings, the Florida utilities touted the overall safe condition of their poles as well as the compliance of third party attachments.¹³⁶ For example, FP&L reported, “In 2006, audit results [of 20% of its plant inspected] indicate that unauthorized attachments (47) ... were almost nonexistent.”¹³⁷ FP&L also reported that its “2007 audit results continue to show that FPL’s joint use processes and procedures, along with cooperation from joint pole owners and 3rd party attachers, indicate that joint use facilities are being properly maintained.”¹³⁸ These reports contrast sharply with the 33,350 unauthorized attachments reported by FP&L in this proceeding for year 2006, the same year where FP&L reported 47 unauthorized attachments to the Florida Public Service Commission.¹³⁹

¹³⁵ Reply Comments of Comcast Corporation WC Docket No. 07-245, at 25-26 (Apr.22, 2008)(Comcast Reply Comments) (citing Declaration of Michael Harrelson) (emphasis added).

¹³⁶ For example, Progress Energy reported that it found “no apparent NESC violations involving third party attachments.” *PEF Reliability Report* dated March 1, 2007 (Joint Use Attachment-Distribution Poles chart).(<http://www.psc.state.fl.us/library/filings/07/02092-07/02092-07.pdf> at page 1210 of 3458.).

¹³⁷ *FP&L Status Report and Update of its Storm Preparedness Initiatives*, filed in FPSC Docket 060198-EI at 4, (<http://www.psc.state.fl.us/library/filings/07/01933-07/01933-07.pdf>).

¹³⁸ FPL’s status report and update of its Storm Preparedness Initiatives, which was filed in Docket No. 0601 98-EI on June 1, 2006, (<http://www.psc.state.fl.us/library/filings/08/01619-08/01619-08.pdf> at 2 and at page 377 of 445 (reporting significantly less than 1% of attachments to be “unauthorized”).).

¹³⁹ Similarly, Gulf Power stated that of the thousands of third party attachments on its poles, approximately *two percent* were unauthorized. *Gulf Power Company's Annual Distribution Service Reliability Report* as required by Rule 25-6.0455, filed February 27, 2007in FPSC Docket 060198-EI at 32 (<http://www.psc.state.fl.us/library/filings/07/01922-07/01922-07.pdf>).

Indeed, the comments submitted to date in this docket demonstrate that the inflated number of unauthorized attachments, such as those reported by EEI, UTC and AEP,¹⁴⁰ are the result of: “the utility’s retroactive enforcement of a change in its attachments policies;”¹⁴¹ “the unavailability of pole licensing records;”¹⁴² changes in pole ownership;¹⁴³ and financial incentives offered by utilities to their contractors to find unauthorized attachments.¹⁴⁴

The Commission has acknowledged these issues in its rejection of utility efforts to retroactively count attachments as “unauthorized” that were not previously subject to “permitting” (i.e., billing) requirements.¹⁴⁵ The Commission has also had to remind utilities that attachments made outside of the usable space are not to be counted as billable attachments.¹⁴⁶ No doubt there are some situations where billings do not capture all existing attachments, as well as others where attachers are billed for attachments incorrectly. But, as recognized by Verizon, also a pole owner, these are largely due to “utilities changing out poles or adding attachments without notifying attachers and from inaccurate pole records.”¹⁴⁷ The Commission should not

¹⁴⁰ *FNPRM* at ¶ 89.

¹⁴¹ Knology Comments at 18.

¹⁴² Time Warner Cable Reply Comments, WC Docket No. 07-245 at 49 (Apr. 22, 2008) (Time Warner Cable Reply Comments).

¹⁴³ Comcast Reply Comments at 30.

¹⁴⁴ *Id.*; see also Knology Comments at 15; Time Warner Cable Reply Comments at 49.

¹⁴⁵ *Mile Hi Cable Partners II*, 17 FCC Rcd at 6273 ¶ 13 (“The evidence introduced by the parties, and cited by the Bureau, supported the finding that it was the specific practice of Respondent not to require that Complainant gain advance authorization for drop poles (or, therefore, to pay fees for them) until 1998. ... We agree that it would be unjust and unreasonable to allow Respondent to collect unauthorized attachment fees for drop poles when Respondent has provided no evidence to contradict Complainant’s evidence that prior to 1998, Complainant was not required to apply for, or pay for, attachments to drop poles.”).

¹⁴⁶ *Texas Cablevision Company, et al. v. Southwestern Electric Power Company*, Memorandum Opinion and Order, PA-84-007, 1985 FCC Lexis 3818, ¶ 6 (rel. Feb. 26, 1985). Guy wires that attach to a pole outside of the presumptive one foot of space occupied by an attachment are to be excluded from any calculation of occupied space. *Id.*

¹⁴⁷ *FNPRM* at n. 248.

adopt an entirely new penalty scheme for attachers when utilities have failed to prove the existence of a problem caused by attaching entities.

B. No Additional Incentives Are Necessary To Ensure That Permits Are Obtained For Attachments

Cable attachers, as explained above, have a strong and obvious interest in ensuring that their attachments to poles are properly permitted and already operate under strong financial incentives to ensure for procedural regularity in attachment practices.

The *FNPRM* asks “whether the system of penalties instituted by the Oregon Commission has been effective in reducing the incidence of unauthorized attachments.”¹⁴⁸ As a preliminary matter, it is important to clarify that the penalties in Oregon that pertain to unauthorized (i.e., unpermitted) attachments as that term has been routinely used by the Commission are the penalties set forth in ORS 860-028-0140 (Sanctions for Having No Permit). Pursuant to this provision, sanctions for unpermitted attachments may not exceed five times the current annual rental fee (if the violation is reported by the attacher or discovered through joint inspection), and the attacher is given time to obtain a permit before additional sanctions may be levied.¹⁴⁹ Oregon also imposes sanctions for attaching without an agreement¹⁵⁰ and for violations of other duties related to compliance with standards governing the installation and maintenance of attachments.¹⁵¹ Sanctions related to compliance issues are part of Oregon’s much larger pole

¹⁴⁸ *FNPRM* at ¶ 96.

¹⁴⁹ An attacher that refuses to participate in an inspection is subject to an additional sanction of \$100 per pole. Or. Admin. Rule § 860-028-0140.

¹⁵⁰ See Or. Admin. Rule § 860-028-0130.

¹⁵¹ See Or. Admin. Rule § 860-028-0150. Subsequent to its initial adoption, the Oregon PUC severely limited a pole owner’s ability to apply the \$500 sanction for failing to have an agreement. Under the new rule, “the last contract between the parties . . . continue[s] in effect until a new contract between the parties goes into effect.” Or. Admin. Rule § 860-028-0060(4). Accordingly, the \$500 penalty is rarely needed.

safety compliance inspection program which encompasses the entire pole infrastructure and all entities attached thereto.¹⁵²

While the *FNPRM* references these other sanctions imposed by Oregon under its entire safety compliance program,¹⁵³ the Commission is not proposing wholesale revisions to its practices that adoption of a safety compliance program like Oregon's would entail. The Oregon Joint Use Association (OJUA)¹⁵⁴ and the Oregon Public Utility Commission actively monitor the pole inspection process by all state pole owners and attachers and devote significant state resources to the program's oversight and to resolving the many disputes that arise among the parties under this regime. The Commission does not have the authority or manpower to institute a similarly broad inspection program in all 30 non-certified states.

Moreover, the Oregon experience demonstrates why an abrupt departure from the status quo is not a good idea. Oregon originally adopted a rule in 2001 that allowed pole owners to impose an unauthorized attachment penalty of \$250 per pole or 30 times back rent – whichever was higher.¹⁵⁵ Pole attachment counting quickly became a profit center and led to massive costly disputes among attachers and pole owners. After years of discord, in 2007, Oregon reduced its penalties substantially to more reasonable levels and instituted a 60 day grace period for attachers to correct problems.¹⁵⁶ In revising the rules, the Oregon Public Utility observed that “pole occupants have asserted that sanctions rules have been abused as sources of revenue by

¹⁵² See Or. Admin. Rule, Division 24, Safety Standards, § 860-024-011; (http://www.sos.state.or.us/archives/rules/OARS_800/OAR_860/860_024.html).

¹⁵³ *FNPRM* at ¶ 95.

¹⁵⁴ The Oregon Joint Use Association is a uniquely structured organization created by the Oregon state legislature. See OR. Rev. Stat. §757.290(1).

¹⁵⁵ See *Adoption of Rules to Implement House Bill 2271, Sanctions and Rental Reduction Provisions Related to Utility Pole Attachments*, AR-386, Order No 00-467, Public Utility Commission of Oregon, Appendix A (Aug. 23, 2000).

¹⁵⁶ See Or. Admin. Rule § 860-028-0140.

pole owners,” and stated that it was adopting the changed unauthorized attachment penalty structure to “allow[] sanctions to provide an incentive for compliance *without allowing for possible abuses.*”¹⁵⁷ The Oregon experience shows that a draconian approach of high penalties is not workable.

For years this Commission has rightly concluded that the appropriate remedy for “unauthorized attachments” is compensatory damages. Payment of back rent plus “just and reasonable costs associated with safety compliance issues” is “consistent with general contract principles that prohibit the enforcement of unreasonable penalties for breach of contract.”¹⁵⁸ While the Commission has allowed utilities to impose a penalty of five years back rent or back to the date of the last audit, where attachers cannot produce records, it has always allowed attachers to provide evidence to rebut utility allegations concerning unauthorized attachments. In fact, the Commission specifically declined to adopt a “hard-and-fast rule requiring back rent to the date of the last inspection” recognizing this “could grossly overcompensate [the pole owner] if an unauthorized attachment were installed long after the last inspection.”¹⁵⁹

In the *FNPRM*, the Commission also suggests that unauthorized attachment penalties may be necessary to counteract possible incentives for attachers to bring services to market quickly.¹⁶⁰ However, to the extent such incentives ever existed, they are largely addressed by the Commission’s proposed mandatory application and make-ready timeframes¹⁶¹ as well as its

¹⁵⁷ *Rulemaking to Amend and Adopt Rules in OAR 860, Division 028 Relating to Sanctions for Attachments to Utility Poles and Facilities*, AR-510, Order No. 07-137, Public Utility Commission of Oregon, p. 26 (Apr. 10, 2007) (emphasis added).

¹⁵⁸ *Mile Hi Cable Partners II*, 17 FCC Rcd at 6273-74.

¹⁵⁹ *Cable Television Ass’n of Georgia v. Georgia Power*, 18 FCC Rcd 16333, ¶18 (2003)

¹⁶⁰ *FNPRM* at ¶ 94.

¹⁶¹ *See FNPRM* at ¶¶ 31-44.

requirement that utilities employ time-saving construction techniques where practical and consistent with pole owners' use of those techniques.¹⁶²

V. THE COMMISSION SHOULD ADOPT REMEDIES TO INCENT UTILITIES TO COMPLY WITH THE RULES IN ADVANCE OF A COMMISSION ORDER AND TO ENCOURAGE PRE-COMPLAINT RESOLUTION

Changes in the Commission's enforcement processes are necessary to ensure that the Commission's rules are respected and followed by pole owners. In addition, the Commission's proposals to amend its rules pertaining to refunds and complaints alleging denials of access will go a long way toward encouraging pre-complaint resolution of disputes.

A. The Commission Should Amend Its Rules To Incent Prompt Compliance By Pole Owners

Under the current regime, utilities have little incentive to comply with regulations until a complaint is filed. Even then, the process for resolving disputed matters can extend well beyond the time when prospective resolution will make the attacher whole. Potential customers will have sought out alternative solutions or work forces will have been deployed to other projects. As recognized in the *FNPRM*, attachers should be made whole. Where prospective relief is the primary remedy, the longer the utilities wait, the longer they can impose unreasonable terms and conditions. The possibility of compensatory damages will provide incentives to rectify illegal behavior more promptly.

Currently, pole attaching entities are strongly encouraged to participate in the Commission's mediation process prior to filing complaints. However, there is no apparent structure governing the mediation process and no limits on the amount of time a dispute remains in mediation. As a result, the longer pole owners give the appearance of cooperation the more time that passes before a complaint is filed, and ultimately, before a dispute is resolved. The

¹⁶² *FNPRM* at ¶16.

Commission proposes to make the informal dispute resolution process more efficient and asks whether it should develop a set of best practices to govern the process.¹⁶³

NCTA supports an approach that borrows from the best practices of other successful regimes. One of the key difficulties in current procedures is the absence of any time limit within which pole disputes must be resolved. As a practical matter, encouragement of unbounded pre-complaint mediation, with no fixed time for resolving the underlying dispute either through mediation or through complaint, has created delays that are antithetical to prompt deployment and to the prompt resolution of rate issues that can have profound impact on deployment decisions. In prior pole attachment enforcement regimes, the Commission had greater success by inviting parties to mediation while complaint processes were running or immediately after the pleading cycle closed. Pole attachment dispute resolution has historically benefited greatly by the promise of expeditious resolution and a body of promptly issued precedential decisions, both of which spur parties to resolve the vast majority of their differences outside of the Commission process.¹⁶⁴ But these advantages are lost if dispute resolution is delayed or channeled primarily into mediation forums with built-in incentives to “split the baby” rather than to meet national law and priorities. In other enforcement regimes, the Commission has recognized the salutary value of having defined “shot clocks” which spur either informal or formal resolution.

We therefore suggest that the Commission should adopt the goal of resolving pole attachment complaints within 90 days from submission of the complaint to the Commission, without requiring pre-complaint mediation. Any Commission mediation can occur during the cycle of pleadings. Under current pole attachment pleading cycles, the record is closed within 50

¹⁶³ *FNPRM* at ¶ 81.

¹⁶⁴ By making such rapid resolution available, and by adopting the *FNPRM* proposal to remove a 30 day complaint deadline for access complaints, the Commission would provide even better opportunity for access disputes to be resolved privately, even in advance of filing.

days, leaving 40 days for resolution. Ninety days is the reasonable time frame established by the Commission for other governmental bodies to resolve franchise negotiations for those authorized to occupy the public rights-of-way¹⁶⁵ and to resolve zoning and other concerns over the use of existing towers by co-located facilities.¹⁶⁶ Pole attachments are by definition co-located facilities of providers with authority to occupy the public rights-of-way. Extensions would be permitted in complex cases, or by agreement of the parties (such as when parties extend times for responsive pleadings if mediated results seem imminent); but the extension should be limited to an additional 30 days, for a total of 120 days of process. That time period—120 days—has been considered ample for resolving complex cases such as must carry and market modification before the Commission,¹⁶⁷ and cable franchise modification before state and local governments.¹⁶⁸ This approach would satisfy the Congressional instruction that pole attachment procedures be kept “simple and expeditious.”¹⁶⁹

Timetables like this would provide the certainty and structural incentives for parties to resolve their differences or obtain prompt agency determinations, both of which are essential to the prompt deployment of broadband.

¹⁶⁵ *Implementation of Section 621(a)(1) of the Cable Communications Policy Act*, FCC 06-180, 22 FCC Rcd 5101 ¶68 (2007) (“We are concerned that without a defined time limit, the extended delays will continue, depriving consumers of cable competition and applicants of franchises.”).

¹⁶⁶ *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review*, WT Docket No. 08-165, FCC 09-99, 24 FCC Rcd 13994 at ¶35 (2009) (“Delays in the processing of personal wireless service facility siting applications are particularly problematic as consumers await the deployment of advanced wireless communications services, including broadband services, in all geographic areas in a timely fashion.”).

¹⁶⁷ *Implementation of the Cable Television Consumer Protection and Competition Act of 1992 Broadcast Signal Carriage Issues*, 8 FCC Rcd 2965 (1993).

¹⁶⁸ 47 U.S.C. § 545(a)(2).

¹⁶⁹ *Communications Act Amendments of 1978*, S. Rep. No. 95-580 at 129 (“The committee desires that the commission institute a simple and expeditious CATV pole attachment program which will necessitate a minimum of staff, paper-work and procedures consistent with fair and efficient regulation.”).

B. Access Disputes And Refunds Should Not Be Contingent Upon The Date A Complaint Is Filed

The Commission should eliminate the requirement that a complaint for denial of access be filed within 30 days.¹⁷⁰ Denials often take the form of unacceptable delays or continuous enforcement of unreasonable terms and conditions. In such cases it is difficult to identify a specific date on which the denial takes place. And, as recognized by the Commission, forcing attaching entities to file within 30 days of a denial significantly reduces the opportunity for informal resolution.¹⁷¹

The Commission should also amend its rules to allow attachers to obtain refunds of overpayments dating back to the earlier of the date such overpayments began or to the date permitted by the state statute of limitations. Pole owners are not required to adjust rates annually or to notify attaching entities if maximum permitted rates decrease. Attachers must police rents and typically are reimbursed only to the date on which an error is discovered and reported to the utility (or, if a complaint is filed, to the date of the complaint). The adoption of rules to ensure prompt resolution of disputes and to require pole owners to compensate attachers from the date of wrongful conduct would go a long way to creating an environment where pole owners are encouraged to comply with the Commission's rules. Section 1.1410(c) permits a monetary award in the form of refunds plus interest measured from the date a complaint is filed. However, attachers should be permitted to reach back to before the time it discovers an unjust rate or files a complaint. If utilities knowingly charge a rate that exceeds permitted maximum, they should not be rewarded simply because they get away with it until the overcharge is discovered.

¹⁷⁰ 47 C.F.R. 1.1404(m).

¹⁷¹ *FNPRM* at ¶ 82.

CONCLUSION

The Commission's proposed rate structure produces just, reasonable and nondiscriminatory pole attachment rates that assure just compensation and promote robust broadband deployment. Utility claims that the rates will not allow them to recover their costs are unsupported and refuted by numerous agency and court decisions finding the cable rate to be more than compensatory. Utility assertions of widespread unauthorized attachments are similarly lacking, and the Commission should reject utility requests for hard and fast rules imposing heavy sanctions for what is generally caused by flaws in utility billing and record keeping processes. As reflected by the record, pole owners still retain control over an essential asset and thus an unfair advantage in the negotiation process. Accordingly, the Commission should retain the sign and sue provision in its current form to ensure that it retains the ability to exercise its authority to regulate rates, terms and conditions, and should also amend its enforcement provisions to create incentives for utility compliance and to assure prompt dispute resolution.

Respectfully submitted,

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August 16, 2010

ATTACHMENT A

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of

Implementation of Section 224 of the Act;
A National Broadband Plan for Our Future

WC Docket No. 07-245

GN Docket 09-51

REPORT OF

PATRICIA D. KRAVTIN

August 16, 2010

Table of Contents

INTRODUCTION 1

 Qualifications 1

 Purpose and Summary of Report 3

ANALYTICAL FRAMEWORK FOR A BROADBAND POLE RATE 9

UPPER BOUND TELECOM RATE ANALYSIS..... 14

 Modifications to the Carrying Charge Factor 14

 Modifications to the Space Allocation Factor 23

LOWER BOUND TELECOM RATE ANALYSIS..... 28

 Modifications to the Carrying Charge Factor 35

 Modifications to the Space Allocation Factor 40

COMPARATIVE POLE ATTACHMENT RATES AND RECOMMENDATIONS FOR
A BROADBAND POLE RATE..... 41

CONCLUSION..... 44

List of Tables

1: Illustrative Comparison of Existing and Possible Alternative Pole Attachment Rates...9

2: Comparison of FCC Default Rate of Return and Applicable IRS Interest Rates23

3: Comparison of Telecom Formula Space Allocation Factors under Existing and
Possible Alternative Pole Height and Usable Space Presumptions..... 25

4: Illustrative Comparison of Upper Bound Rate Methodology and Existing Telecom and
Cable Formulas..... 27

5: Comparison of Marginal Cost Proxy Rates Under 224(e) and (d) Cost Allocators33

6: Illustrative Comparison of Lower Bound Rate Methodology, FNPRM No Capital Cost
Telecom Formula, and Existing Cable Formula.....41

7: Comparative ILEC Pole Attachment Rates.....43

8: Comparative Utility Pole Attachment Rates.....43

Appendices

- A: Detailed Resume
- B: Analysis of Utility and ILEC Maintenance Carrying Charge Factors
- C: Detailed Illustration of Upper and Lower Bound Telecom Rate Methodology - Utility
- D: Detailed Illustration of Upper and Lower Bound Telecom Rate Methodology - ILEC
- E: Comparison of Existing Cable Formula Rate and Upper and Lower Bound Telecom
Rate Methodology for FNPRM Sample of Electric Utilities

INTRODUCTION

Qualifications

1. My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue, Swampscott, Massachusetts. I am an economist in private practice specializing in the analysis of telecommunications regulation and markets.

2. I have testified or served as an expert on telecommunications matters in proceedings before over thirty state regulatory commissions. I have also provided expert testimony and reports in proceedings before this Commission, the FCC's Chief Administrative Law Judge, and before international agencies including the Canadian Radio-television and Telecommunications Commission, the Ontario Energy Board, and the Guam Public Utilities Commission. In addition, I have testified as an expert witness in antitrust and other litigation in federal and state district court, and also before a number of state legislative committees. A detailed resume summarizing my educational background and previous experience is provided in Appendix A to this Report.

3. Over the past decade and a half, I have been actively involved in proceedings, both at the state and federal level, concerning implementation issues in connection with the passage of the Telecommunications Act of 1996 (the Act). One component, essential for the provision of competitive communications services, with which I am very familiar, and have testified extensively on, is access to poles, ducts, conduits, and rights-of-way.

4. In March 2008, I submitted a report on matters pertaining to pole attachment rates and regulation in response to the Commission's earlier Notice of Proposed Rulemaking in this docket, *In the Matter of Implementation of Section 224 of the Act, Amendment of the Commission's Rules and Policies Governing Pole Attachments*, dated November 20, 2007 ("Kravtin March 2008 Report"). In 2006, I submitted testimony and was subject to live cross-examination before the Commission's Chief Administrative Law Judge, on issues pertaining to utility compensation for pole attachments *In the Matter of Florida Cable Telecommunications Association, Inc., et al. v. Gulf Power Company*, EB Docket No. 04-381, FCC 07D-01 (Initial Decision, rel. January 31, 2007). Previously, I submitted declarations on pole attachment, conduit and rights-of-way issues before the Commission in a pole attachment rulemaking proceeding, CS Docket No. 97-98, on behalf of the National Cable Television Association, et al., and in a pole attachment complaint proceeding *Cavalier Telephone v. Dominion Virginia Power* (Case No. EB-02-MD-005).

5. I have served as an expert or advisor on pole attachment matters in proceedings involving incumbent local exchange carriers, investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned utilities, and before the following state regulatory commissions: the Arkansas Public Service Commission, the Kentucky Public Service Commission, the Public Utilities Commission of Ohio, the Public Utilities Commission of Texas, the Georgia Public Service Commission, the South Carolina Public Service Commission, the Public Service Commission of the District of Columbia, the New Jersey Board of Public Utilities, and the New York Public Service Commission.

6. I have also been actively involved in key related issues pertaining to broadband deployment. I have authored a number of reports dealing with this subject and participated as a grant reviewer for the Broadband Technology Opportunities Program (“BTOP”) administered by National Telecommunications and Information Administration (“NTIA”).

Purpose and Summary of Report

7. The purpose of this Report is to respond to matters raised in the Commission’s Order and Further Notice of Proposed Rulemaking (FNPRM), adopted and released May 20, 2010, pertaining to revisions to the Commission’s pole attachment rules “to lower the costs of telecommunications, cable, and broadband deployment and to promote competition, as recommended in the National Broadband Plan.”¹ The Commission proposes to revise its approach to the telecommunications formula to better align that formula with principles of cost causation and the policies of the National Broadband Plan (NBP). As the Commission explains, there is the zone of reasonableness within which the Commission may establish “just and reasonable” pole rents for telecommunications providers, ranging from a lower bound closer to recovery of actual incremental costs to an upper bound based on fully distributed operating and capital costs. As recognized in the FNPRM, the approach initially taken by the Commission has resulted in rate disparities and disputes which undermine the purposes of the Pole Act and goals of the NBP. Thus, the Commission proposes to adopt a new approach, setting the “just and reasonable” rate for purposes of section 224(e) at the higher of the lower bound rate or

¹*Further Notice of Proposed Rulemaking*, WC Docket No. 07-245, GN Docket No. 09-51, adopted May 20, 2010, and released May 20, 2010 (“FNPRM”), at para. 1.

the rate derived using the existing formula for cable operator attachments. This report responds in particular to the Commission’s request for comments “on ways to reinterpret the section 224(e) telecom rate formula so as to yield pole rental rates that reduce disputes and investment disincentives which can arise from the disparate rates yielded by the Commission’s current rules” yet are “within the existing statutory framework.”²

8. The uniformity of pole attachment rates across the spectrum of broadband providers is a desirable goal, as recognized in the NBP.³ However, the Commission appropriately recognizes in the FNPRM that achievement of the overarching goals set forth in the NBP for increased broadband deployment and competition in communications markets should be the ultimate driver of changes in the Commission’s pole rate policies. For the reasons set forth in the FNPRM, the mandate to promote our national broadband policy dictates the Commission *lower* the existing telecom rate to more economically appropriate levels, i.e., to levels at or below the existing cable rate:

We believe that pursuing uniformity by increasing cable operators’ pole rental rates—potentially up to the level yielded by the current telecom formula—would come at the cost of increased broadband prices and reduced incentives for deployment. Instead, by seeking to limit the distortions present in the current pole rental rates by reinterpreting the telecom rate to a lower level consistent with the Act, we expect to increase the

²See FNPRM at para. 122. (“Rather than deviating from the statutory telecom rate formula, we seek comment on ways to reinterpret the section 224(e) telecom rate formula so as to yield pole rental rates that reduce disputes and investment disincentives which can arise from the disparate rates yielded by the Commission’s current rules. As the National Broadband Plan recognizes, this disparity largely results from the existing statutory framework, as implemented by the Commission. Although the National Broadband Plan recommended that Congress “consider amending [s]ection 224 of the Act to establish a harmonized access policy for all poles, ducts, conduits and rights-of-way,” it also recommended that the Commission take what actions it can to address these rate disparities within the existing statutory framework.”)

³ See NBP at 110.

availability of, and competition for, advanced services to anchor institutions and as middle-mile inputs to wireless services and other broadband services.⁴

9. As articulated in the Commission’s NBP, a fresh approach to the existing telecom formula can “yield rates as close as possible to the cable rate in a way that is consistent with the Act” in order to best promote widespread broadband deployment across this country.⁵ With this in mind, this report presents a framework for analyzing the Commission’s proposed approach of capping pole rents at the higher of the cable rate and a methodology oriented towards marginal costs. This report demonstrates that the Commission’s approach produces more economically efficient rates that are near the top end of the range within which the Commission could faithfully implement the Act in ways that most align with cost causation and cost allocation principles.

10. Specifically, this report frames the “zone of reasonableness” with two modified telecom rate formulas that establish a lower bound and upper bound to the “just, reasonable, and non-discriminatory” rates that the Commission could apply in setting pole attachment rates under section 224(e). These analytical bounds follow the same basic approach proposed by the Commission, but incorporate a number of important refinements to the Commission’s lower bound formula and to calculations under the existing telecom formula which would serve as an upper bound in the analysis.

11. The analysis confirms the reasonableness of the Commission’s approach, in that this approach:

⁴ FNPRM at 118.

- Produces rates that are fully consistent with the existing statutory framework of section 224(e) of the Act;
- Supports national broadband policy by removing artificially high pole rental rates as barriers to cable operators' and telecommunications carriers' deployment of broadband;
- Is fully consistent with "the underlying economic or analytical theory,"⁶ i.e., the principles of cost causation and economically efficient marginal cost pricing;
- Meets the Commission's stated concerns that section 224(e) rates designed to recover purely marginal costs may not be fully compensatory to the pole owner,⁷ by demonstrably assuring cost recovery in full accord with the cost allocation methodology set forth in Section 224(e);
- Can be applied in a simple, expeditious, and unified manner; and
- Assures that the resulting rate is more economically efficient than the existing telecom rate, is fair to pole owning utilities and their ratepayers, and would do nothing to compromise the safety or integrity of the utility's pole network.

12. The lower bound telecom rate analysis presented in this report is based on a direct proxy for the economically efficient marginal cost of pole attachment – the cost standard most conducive to achieving the goals set forth in the NBP. The marginal cost proxy

⁵ See NBP, Chapter 6, 109-110

⁶ See FNPRM at para. 125.

⁷ See *id.* at para. 126 ("To the extent that TWTC is arguing for "costs" to be defined as marginal or incremental costs for purposes of section 224(e), we are skeptical of that theory. Marginal cost can be defined either as the rate of change in total cost when output changes by an infinitesimal unit or as the change in total cost when output changes by a single unit.... However, the section 224(e) formulas allocate

presented here is a refinement of the Commission's "no capital cost" telecom formula. This marginal cost proxy applies the underlying economic or analytical theory consistently to all components and inputs of the rate formula, whereas the Commission's proposed formula limits revisions to the capital cost components of the carrying charge factor.

13. The upper bound telecom rate analysis presented in this report is based on a fully allocated cost approach, similar to the Commission's existing cable and telecom rate methodologies. This analysis refines the existing telecom formula methodology to achieve a more direct linkage of the individual components of and inputs to the formula (for both capital and operating costs) to the fundamental economic principle of cost causation.

14. The Commission states its intention is to "select a particular rate from within that range" [i.e., "the current application of the telecom rate formula at the higher end.... to an alternative application of the telecom rate formula based on cost causation principles at the lower end"] as the appropriate telecom rate.⁸ This Report confirms that the existing cable rate falls between these upper and lower bounds and is "just, reasonable, and fully compensatory."⁹ As detailed in my March 2008 report, the existing cable rate formula (which allocates costs exclusively in proportion to relative use) offers many advantages from an economics and public policy perspective vis-a-vis the existing telecom rate

the relevant costs in such a way that simply defining "cost" as equal to incremental cost would result in pole rental rates *below* incremental cost.")

⁸ See *id.* at para. 128.

formula (which allocates costs using a hybrid proportional and per-capita approach), and would be the best overall choice for a unified rate for broadband providers.¹⁰

15. The Commission has focused its attention on cost causation principles on the lower end of the range of permissible rates.¹¹ The analysis presented in this report demonstrates that the rate produced by the existing cable rate formula is demonstrably near the *upper* bound (within 5% on average for electric utilities) of the range within which the Commission could implement the Act.

16. Table 1 below presents an illustrative comparison of the existing cable rate, the rates produced under the Commission’s proposal (i.e., existing telecom rate for the upper bound, no capital cost telecom rate for the lower bound), and the rates produced using the two modified upper and lower bound telecom methodologies analyzed in this report (i.e., cost-causative fully allocated cost for the upper bound, and marginal cost proxy for the lower bound). Rates are provided for a representative utility and ILEC taken from the sample of pole owners for which rate calculations are provided in the FNPRM.

⁹ See *id.* at paras. 140-141.

¹⁰ See Kravtin March 2008 Report at 38-48.

¹¹ See *id.* at para. 128, emphasis added (“We propose an alternative approach which would recognize that the Commission has substantial—but not unlimited—discretion under the statutory framework to interpret the term “cost” for purposes of section 224(e). This proposal would view the range of possible interpretations of “cost” under section 224(e) as yielding a range of permissible rates, from the current application of the telecom rate formula at the higher end of the range, to an alternative application of the telecom rate formula *based on cost causation principles at the lower end.*”)

Table 1

Illustrative Comparison of Existing and Possible Alternative Pole Attachment Rates (\$ per attachment per year)*		
All Costs	AT&T FL	Gulf Power
Existing Cable Rate	4.92	6.31
Telecom Rate (4 attachers)		
Per formulas proposed in FNPRM:		
High End: Existing Telecom	8.86	11.35
Low End: No Capital Costs	2.42	3.39
As analyzed in this Report:		
High End: Cost-Causative Fully Allocated Cost	5.83	7.13
Low End: Marginal Cost Proxy	1.18	0.95
*Based on Year End 2007 ARMIS and FERC data.		

ANALYTICAL FRAMEWORK FOR A BROADBAND POLE RATE

17. Section 224(d) upon which the cable rate formula is based establishes a range of reasonableness that has marginal costs as a lower bound, and fully allocated cost as an upper bound.¹² The Commission’s cable rate formula is designed to allow recovery of a portion (relating to the attacher’s actual occupancy of a pole) of the utilities’ booked operating expenses and actual capital costs attributable to the entire pole, plus a return on those costs. In doing so, the cable formula adheres to the *greater* fully allocated cost standard described in Section 224(d), which by definition, allows the utility to recover

¹² Section 224(d) “assures a utility the recovery of not less than the additional costs of providing pole attachments, nor more than an amount determined by multiplying the percentage of the total usable space...which is occupied by the pole attachment by the sum of the operating expenses and actual capital costs of the utility attributable to the entire pole.”

through the rental rate ongoing costs *in excess* of marginal costs.¹³ As well established in the economic literature, marginal cost is the most economically efficient pricing standard, and most closely mimics the outcome of a competitive market with its resultant benefits to both consumers (lower prices and a greater array of service offerings) and to service providers (lower input costs that promote infrastructure investment).¹⁴

18. While the cable formula adheres to the greater fully allocated cost standard specified in Section 224(d) in determining the *total cost of the pole to be allocated* to attachers (which by definition, is in excess of the economically efficient marginal costs), it uses an economically efficient *allocation method* (i.e., one that adheres to principles of cost-causation) to *apportion* that cost. Specifically, the cable formula apportions the costs of the pole using a space allocation factor based on the attacher's relative use or occupancy on the pole.

19. By contrast, as described in the FNPRM, pursuant to Section 224(e), the telecom formula apportions the cost of the pole using a hybrid approach in which usable space is allocated on the basis of occupancy, but unusable space is allocated on a per-capita basis. Unless there are a very large number of attaching entities (a condition that has not emerged, despite expectations at the time of the Telecom Act's passage), the allocator

¹³ This is especially the case when make-ready charges which apply over and above the annual rental rate are taken into account. See *Alabama Power*, 311 F.3d at 1369, 1370; also *Florida Cable Telecommunications Association v. Gulf Power Company*, EB Docket No. 04-381, FCC 07D-01 (rel. Jan. 31, 2007) ("*FCTA*") at 21, n.10.

¹⁴See Kravtin March 2008 Report at 21.

employed in the telecom formula results in a much higher proportion of costs assigned to the attacher vis-a-vis the cable formula, or than is economically efficient.

20. The problem that arises in connection with the telecom formula's use of an allocator that is at odds with established cost causation principles (and that produces rates well in excess of economically efficient marginal costs) is compounded by the fact that the underlying costs of the pole that are currently being allocated under the telecom formula are fully allocated costs (the same as under the cable formula). Indeed, for a number of expense categories, the direct cost linkage to pole attachments is weak to non-existent. While applying the same fully allocated cost approach to the telecom formula as had been historically applied to cable was convenient, there is no language in section 224(e) that mandates the Commission to do so. The Commission did so, however, at a time when many more facilities-based providers were expected to be on the pole. As noted above, under those circumstances, the impact of the telecom formula's inefficient cost allocator would have been much less pronounced, and the two formulas would have produced rates much more closely in sync.

21. The significant disparity that has emerged between the pole rates yielded by the existing cable and telecom formulas is thus attributable to two main factors: the departure of the telecom formula from accepted principles of cost causation and cost allocation, exasperated by the failure of the telecommunications market and telecommunications technologies to develop as expected at the time of the 1996 Act (circumstances beyond the Commission's control). As the NBP makes clear, the resulting outsized rents produced by the telecom formula - as evidenced by the widening disparity between the

cable and telecom rates - is at direct odds with the national goals of promoting broadband deployment and competition in communications markets.

22. The approach taken in this analysis is to modify the telecom formula to yield rates more closely aligned with an economically appropriate attribution of cost, by adjusting *the total costs of the pole being allocated* to the broadband provider under the telecom rate formula so that they are closer to (but still in excess of) the lower bound of the range of reasonableness, i.e., the marginal costs of attachment. This approach is fully consistent with the economic principles of cost causation that serve as the foundation of Section 224 and the effective regulation of poles, while accepting as a given, the statutory requirement that the telecom formula use a per capita approach to allocating unusable space on the pole as prescribed in Section 224(e).

23. In adjusting the total costs of the pole being allocated under the modified telecom formulas to more economically efficient levels – in both the lower bound marginal cost-proxy analysis and the upper bound rate fully allocated cost-based analysis – the proposed framework relies on principles of cost causation and cost allocation well established in the economics and regulatory literature and consistent with the Commission’s Part 64 rules. Part 64 of the Commission’s rules provides a methodology dealing with the allocation of costs between regulated and non-regulated activities specifically designed to prevent the cross-subsidization of the latter. Under Part 64, carriers are instructed to allocate costs on a direct basis whenever possible, and to allocate indirect costs (such as common costs defined as costs that cannot be directly assigned to either regulated or non-regulated activities) “based upon an indirect, cost-

causative linkage to another cost category...for which a direct assignment or allocation is available.”¹⁵

24. For example, under the existing telecom rate formula, administrative and total company general (A&G) expenses are assigned to poles through a carrying charge factor based on the ratio of investment in pole plant to investment in total company plant. This approach does not accurately reflect the actual or even relative amount of administrative activities associated with pole plant compared to total company operations. By contrast, both the upper and lower bound telecom rate methodologies presented in this report determine an amount of those indirect administrative expenses properly attributable to poles based on *direct* cost linkages to poles. As detailed in the following two sections of this report, the modified upper and lower bound telecom rate methodologies differ in the manner or precision with which direct pole expenses are estimated: the former does so using an indirect fully allocated methodology based on the ratio of estimated direct pole expenses to total company direct expenses, while the latter does so using a calculation of direct labor resources employed by the pole owner in connection with the administration of third-party pole attachments (that “but for” the attachment would not be expended).

25. In addition to the methodological changes outlined above, the analysis presented in this report also includes revisions to a number of data inputs to the existing telecom formula. As described below, these revisions are economically justified and reflect more current and accurate information regarding the costs of pole attachment.

¹⁵ See 47 C.F.R.. Ch. 1, §64.901.

UPPER BOUND TELECOM RATE ANALYSIS

26. The modifications proposed to the existing telecom formula for purposes of calculating a more cost-causative fully allocated (upper bound) just and reasonable rate include a number of adjustments to the carrying charge factor methodology and inputs, as well as to inputs used in the derivation of the space allocation factor. As noted above, no changes are made to the section 224(e) space allocation methodology itself, which at the presumptive levels of attaching entities, builds in a significant (and unwarranted) cushion of cost over-recovery for the pole owner. These two components, along with the net bare cost of a pole (also unchanged under the presented methodologies), comprise the major components of the existing telecom rate formula. The modifications used in the analysis, along with their respective economic rationale, are as follows:

Modifications to the Carrying Charge Factor

27. As in the current telecom formula, annual pole carrying costs are the product of net bare pole investment (expressed on a per unit basis) multiplied by a carrying charge factor (CCF), consisting of the following five elements: maintenance, depreciation, administrative and general expenses, taxes, and rate of return. The present carrying charge factor overstates the true economic carrying costs associated with pole attachment, by including many types of expenses that are widely acknowledged as being non-pole related or that pertain entirely to the conduct of the electric enterprise business and are not impacted by the presence of third-party attachments. The proposed modifications, detailed below, are generous from the utility pole owner's perspective in that the resulting

carrying costs are still well in excess of levels associated with the true additional or marginal costs of pole attachment.

Adjustment to the maintenance expense component of the carrying charge factor for utilities to reflect only those expenses relating to the maintenance of the poles, exclusive of expenses pertaining to maintenance of the utility's overhead lines and service drops.

28. The Commission has been able to better isolate pole expense input data used in the pole rate formulas for ILECs, because the Commission set the ARMIS accounts used to track ILEC expenses. For example, when ARMIS was changed, and the rents that ILECs paid to utilities got commingled into pole maintenance, the Commission required those accounts to be unbundled so that the actual costs of pole maintenance could be separately identified.¹⁶

29. In the case of electric utilities, however, the FERC Form 1 accounts used to track expenses operate at a higher level of aggregation. Specifically, maintenance expense for poles, as recorded in FERC account 593, is commingled with maintenance expense associated with electric overhead distribution lines and with the service drops between the pole and the home. The Commission has attempted to adjust for this limitation in the utility's accounting records by comparing the aggregated maintenance account (593) with the investment in poles, lines, and services (i.e., calculating the maintenance element of the carrying charge factor by dividing account 593 expenses by a denominator consisting of the three respective plant accounts, 364, 365, and 369). The Commission's methodology implicitly assumes that maintenance costs for wood poles are

¹⁶ See ARMIS Annual Summary, FCC Report 43-01, Row 501.1, and 501.2, which provides a breakdown of Account 6411 "Pole Expense" (ARMIS 43-03) as between pole maintenance and pole rental expense.

proportionately the same as maintenance costs for a sophisticated electrical grid. That that underlying assumption is incorrect can be evidenced empirically.

30. The empirical analysis performed in this report compares ILEC pole maintenance expenses booked to the relevant subaccount of Account 6411 (related solely to poles under the Commission's reporting rules) with utility Account 593 maintenance expenses (which include both pole and line-related expenses under FERC Form 1 accounting), for a representative sampling of pairs of utilities and ILECs operating in similar geographic service areas. This analysis is presented in Appendix B to this Report.

31. All else being equal, given the generic nature of pole plant, the maintenance expense ratios of the geographically-paired pole-owning utilities and pole-owning ILECs would be expected to roughly track. This is because the greater dollars of booked maintenance expenses in account 593 associated with the utility's more aggregated tracking expense account in the numerator of the ratio should be largely offset by the correspondingly aggregated amount of plant investment dollars (i.e., dollars of net investment in accounts 364, 365, and 369) in the denominator of the ratio. Instead, the empirical analysis presented in Appendix B demonstrates a systematic overstatement of the pole-related maintenance expenses for utilities vis-à-vis their counterpart ILECs, as measured by relative percentages of account 593 expenses to account 364 gross pole plant for the utility, and pole-specific maintenance expenses tracked under Account 6411 to gross pole plant for the ILEC.

32. Specifically, the analysis shows, on average, that the maintenance costs applicable to poles for utilities is not accurately derived by taking account 593 expenses and spreading those expenses equally across dollars of net investment in plant accounts 364, 365, and 369 (the amount derived under the current formula), but only between 40% to 45% of that amount. The remaining amounts constitute maintenance costs for electric lines which have been commingled in account 593.

33. In order to remove line maintenance expenses from account 593, the existing formula ($593/364+365+369$) would need to be reduced—either to 45% of account 593, if compared to net investment in plant accounts 364, 365, and 369, or to 15% of account 593, if compared solely to net investment in pole plant account 364. The two potential adjustment factors identified in the benchmark analysis (i.e. 15% of account 593 if calculated on the basis of account 364 only, or 45% of account 593 if calculated on the basis of the combined accounts $364+365+369$), on average, produce an approximately equivalent carrying charge factor and impact on the pole rate. This analysis prefers the former (i.e., adjustment factor stated on the basis of account 364 alone) as it better expresses a more direct cost-causative linkage to poles.

34. Accordingly, to correct for the demonstrated overstatement of utility pole maintenance expenses relative to cost-causative levels, the analysis applies an adjustment factor of 15% derived from the empirical analysis described above to utility maintenance expenses booked to account 593. Corresponding to that adjustment factor, the carrying charge factor is then computed as the ratio of account 593 expense to account 364 net investment. The identified adjustment effectively normalizes the maintenance expenses

for utilities to exclude non-pole-related expenses, on the basis of appropriate pole benchmarking data from the ILECs. (As with the existing adjustment for appurtenances, the identified adjustment factor for maintenance could be rebutted by utility-specific accounting data that tracks pole maintenance expenses at the detailed sub-account level.)

Adjustment to the administration and general (A&G) expense component of the carrying charge factor to reflect only those expenses relating to A&G functions applicable to poles, rather than to core utility services.

35. In both the FERC and ARMIS accounting systems, costs pertaining to administrative and general expenses (i.e., common or overhead costs) are likewise maintained at a higher level of aggregation than poles. The Commission has attempted to account for this by comparing the aggregated administrative expenses with total investment in plant. The Commission's methodology assumes that the indirect costs of administration for poles are proportional to the net asset value of poles relative to the net asset value for total plant. However, that assumption is at odds with basic principles of cost allocation as applied by the Commission in its Part 64 rules.

36. As described above, under the Commission's Part 64 rules, costs are to be directly assigned wherever possible, and in those cases where costs cannot be directly assigned, they are to be allocated "based upon an indirect, cost-causative linkage to another cost category...for which a direct assignment or allocation is available." Consistent with the Part 64 methodology, it is far more appropriate from a cost allocation/cost causation perspective to allocate administrative and general (i.e. overhead) expenses in proportion to direct operations expense. Such an approach better reflects the cost

causation principle, because of its direct linkage to costs that “but for” pole attachments the utility or ILEC would otherwise not incur.

37. To better conform to accepted principles of cost causation and cost allocation, the analysis for the upper bound fully allocated methodology develops an adjustment factor based on the ratio of direct pole expenses (recorded in account 593 “Maintenance Overhead Lines”) to total company direct expenses (the sum of utility operations and maintenance accounts 581-598, 901-916).¹⁷ For ILECs, the adjustment factor is based on equivalent accounts as reported in ARMIS.¹⁸ This adjustment factor is then applied to aggregate A&G expense to develop an A&G expense applicable to poles, which in turn is divided by net pole plant recorded in account 364 for utilities (ARMIS 43-01 for ILECs) to derive a more cost-causative A&G carrying charge factor.

Adjustment to the tax component of the carrying charge factor to distinguish between taxes related to income taxes and taxes other than income-related.

38. The Commission’s existing approach for the tax component of the CCF combines property taxes and income taxes, and apportions both according to property cost (i.e., on the basis of total net plant investment). While property taxes are appropriately measured

¹⁷ For the reasons explained in the previous section of this report, because of the aggregated nature of account 593 as described in the previous discussion of the maintenance element of the carrying charge factor, an adjustment factor to apportion A&G expenses to poles based on the ratio of total Account 593 expenses to Account 364 pole plant is generous to the utility.

¹⁸ For a telephone utility, pole maintenance expense is that portion of ARMIS Account 6411 excluding pole rental expense (Report 43-01 Table III, Row 501.2), and total direct expenses for the utility is calculated as the sum of all plant expenses (ARMIS 6100 – 6500 accounts, excluding 6560 depreciation accounts).

in this way, since they are a function of property value, income taxes - which are a function of income not property value – are not. From a cost causation perspective, taxes related to income are more accurately accounted for by grossing up the return to ensure the utility earns its allowed return on a tax-adjusted (i.e., after-tax) basis. Separating the treatment in this way also allows a more convenient handling of capital and operating costs, as highlighted in the discussion of the marginal cost proxy (i.e., lower-bound) methodology.

39. Accordingly, in the analysis for the upper bound fully allocated methodology, the tax component of the carrying charge factor is disaggregated into income tax and non-income related tax components, with each handled in a distinct manner more reflective of the type of potential cost-causative linkages to pole plant. Specifically, income-related taxes are recovered through a gross-up factor applied directly to the rate of return component of the carrying charge, using the average embedded tax rate for the utility as recorded in the FERC accounts (ARMIS in the case of telephone utilities), to better reflect the actual tax burden engendered by the pole rental payments.¹⁹ Taxes other than income-related and that relate more directly to plant investment than revenues, would continue to be captured in the tax carrying charge, in the same manner as the existing methodology, i.e., according to the ratio of the sum of designated tax expenses to total net plant in service.

¹⁹Because the modified formula uses an average embedded tax factor in the calculation of an appropriate gross up factor (to more accurately reflect the actual tax burden attributable to pole attachment rental revenue), and to be generous to the pole owner, the calculation of the gross up factor does not take into account the tax deductibility of interest that is associated with the debt component of the rate of return, as is commonly done.

40. As discussed further in the context of the marginal cost proxy formula, under normal operating conditions, one would not expect there to be any direct cost-causative linkages between third party pole attachments rentals and the aggregate tax liability recorded on the books of the pole owners. However, for the purposes of an upper bound fully allocated methodology, it is not unreasonable to attribute a portion of tax related costs to pole attachments, provided those costs are attributed in a manner that has a defensible cost-causative linkage.

Replacement of the Commission's default rate of return input with the applicable, published interest rate determined (and updated regularly) by the Internal Revenue Service for underpayments and overpayments.

41. Existing Commission formula rules dictate the use of a rate of return authorized by a state regulatory commission, or in the absence of one, the Commission's default rate return. Because the rules do not set any requirement for "currency" of the authorized rate of return, the rules permit the use of stale rate of returns that no longer accurately reflect current conditions in the relevant capital markets or the true opportunity cost of capital facing the pole owner.

42. Similarly, the Commission's default rate of return (as determined) in the Commission's last rate of return prescription proceeding in 1990), has remained unchanged at 11.25% for the past two decades, notwithstanding dramatic variations in the capital markets over this period that have produced dramatically lower costs of capital for much of the period. The use of stale and generally overstated rates of return is a significant contributor to the existing telecom's formula's over-recovery of the costs of

pole attachments relative to true economic or cost-causative costs. A comparison of the IRS published interest charges and the Commission’s default rate of return presented in Table 2 on the following page, demonstrates this point.

43. The IRS interest charge is currently used by the Commission in a number of other applications, including refunds pursuant to pole rate and cable rate regulation.²⁰ The IRS rate is updated quarterly based on current capital market conditions, publicly reported, based on a consistent and objective methodology tied to (and well above) the federal short-term interest rate,²¹ and applicable across varying sectors of the economy.

Accordingly, it is a more efficient and accurate measure of the true opportunity costs of capital facing the pole-owning utility, and hence a convenient and logical choice for the rate of return input in a cost-causative telecom methodology.

²⁰ See relating to cable rate regulation: 47 C.F.R. § 76.961(d) (“Refunds shall include interest computed at applicable rates published by the Internal Revenue Service for tax refunds and additional tax payments. Interest shall accrue from the date a valid complaint is filed until the refund issues.”) and 47 C.F.R. § 76.942 (e) (“Refunds shall include interest computed at applicable rates published by the Internal Revenue Service for tax refunds and additional tax payments.”); see relating to pole rate regulation: *Cavalier Telephone, LLC v. Virginia Electric and Power Company*, 15 FCC Rcd 9563, ¶ 42 (2000) (“The Commission has determined previously that the current interest rate for Federal tax refunds and additional tax payments is the appropriate rate of interest for overcharges.”), also *Teleprompter of Fairmont, Inc. v. Chesapeake and Potomac Telephone Company of West Virginia*, 79 FCC 2d 232, ¶¶ 25-25 (1980) (“This brings us to the single remaining question, namely the appropriate rate of interest. As a matter of fairness, we believe that the rate of interest applied in a pole attachment complaint proceeding should be readily available, easily applied, and periodically revised to reflect changes in borrowing costs. In light of these considerations, we find the interest rate for Federal tax refunds and additional tax payments suitable for use in this type of proceeding. This rate appears in a variety of easily obtained official and commercial publications, and it is revised on a regular basis.”).

²¹ The federal short-term rate is determined from a one-month average of the market yields from marketable obligations of the United States with maturities of 3 years or less. The IRS rate for under- and overpayments is generally set at the federal short term rate plus 3%.

Table 2

Comparison of FCC Default Rate of Return and Applicable IRS Interest Rates						
Year	FCC	IRS		Year	FCC	IRS
1991	11.25	10.25		2001	11.25	7.75
1992	11.25	8.0		2002	11.25	6.00
1993	11.25	7.0		2003	11.25	4.75
1994	11.25	7.75		2004	11.25	4.50
1995	11.25	9.25		2005	11.25	6.00
1996	11.25	8.75		2006	11.25	7.50
1997	11.25	9.0		2007	11.25	8.00
1998	11.25	8.25		2008	11.25	6.00
1999	11.25	7.75		2009	11.25	4.25
2000	11.25	8.75		2010: 2	11.25	4.00
Sources: http://www.irs.gov/pub/irs-drop/rr-09-07.pdf , 1990 FCC Represcription Order, eff. 1-1-91.						

Modifications to the Space Allocation Factor

44. The analysis for the upper bound fully allocated methodology also includes adjustments to several presumptive values used as data inputs in the calculation of the space allocation factor component of the telecom formula. The revised values better reflect the current “production function” or underlying cost structure associated with poles, and hence produce rate results more aligned with cost causation principles. As detailed below, the inputs proposed for revision include: pole height, usable space on the pole, and the number of attaching entities.

Adjustment to the pole height and usable space presumptive values to conform them to the current standard 40 foot joint use pole.

45. The existing telecom formula is based on the presumptions of a 37.5' foot pole, with 13.5 feet of usable space and 14 feet of unusable space (reflecting 6 feet below-grade support and 8 feet above -ground clearance). The 37.5' pole is a blend of 35 and 40 foot poles. It is widely acknowledged that 35' poles are no longer the relevant standard for joint use poles, and that 40' poles are the new minimum standard.²² The continued use of a stale, and artificially lower pole height input (similar to the use of a stale, overstated rate of return input described above) has contributed to the existing telecom's formula's over-recovery of the costs of pole attachments relative to true economic or cost-causative costs (i.e. costs with a direct cost linkage to pole attachments).

46. To correct for this source of over-recovery, the analysis for the upper bound fully allocated methodology relies on updated presumptive values for pole height, along with the related inputs for usable and unusable space. Under the modified methodology, the presumptive value for pole height increases to 40 feet, and there is a corresponding increase in the presumptive value for usable space from 13.5 feet to 16 feet. In keeping with standard industry guidelines for pole setting depth and minimum clearances, the presumptive value for unusable space stays unchanged at 14 feet. As show in Table 3 on the following page for varying number of attaching entities, with these updated values,

²² See Vermont Board Policy Paper and Comment Summary on PSB Rule 3.700 (2001) at 10-11 (“[m]ore and more 40 foot poles are being installed” in part to accommodate higher voltage utility grids); Oregon Admin. Rule 860-028-0020 (22) (“there is a rebuttable presumption that the average bare pole is 40 feet”).

the space allocator factor used in the telecom formula to apportion the total costs of the pole to attachers is reduced commensurately to more cost causative levels - although levels well in excess of the space allocation factor employed in the cable formula.

Table 3

Comparison of Telecom Formula Space Allocation Factors Under Existing and Possible Alternative Pole Height and Usable Space Presumptions		
	37.5 ' Pole	40' Pole
Cable Formula	7.41%	6.25%
Telecom Formula		
3 Att. Entities	16.89%	15.83%
4 Att. Entities	13.33%	12.50%
5 Att. Entities	11.20%	10.50%

Adjustment to the presumptive number of attaching entities used in the calculation of the unusable space component of the space allocation factor to a uniform figure of 4.0.

47. The existing telecom formula has two different presumptions for attaching entities: 3 for a rural area, and 5 for an urbanized area, where urbanized areas are defined as those having populations of 50,000 or more, but where the urbanized presumption applies to the utility's entire service area if any part of that area is classified as urbanized. The proposed number of 4.0 represents an average of the two presumptive figures reflected in the current rules. A single presumptive figure offers many advantages. In addition to being less complex to administer, it provides more consistency and uniformity among

rates, as well as serves to level the competitive playing field – all of which will promote the Commission’s goals of encouraging broadband deployment and competitive entry. Moreover, the distinction between rural and urbanized areas is becoming increasingly blurred, and population alone is not necessarily well correlated with the true underlying determinants affecting the number of attaching entities, i.e., density or concentrations of population, commerce, educational, and/or governmental activity.

48. In summary, as described above, the analysis of the upper bound fully allocated methodology presented in this report incorporates adjustments to the maintenance, administrative and general, tax, and rate of return elements of the carrying charge factor, and to the presumptive values for pole height, usable space, and number of attaching entities used in the calculation of the space allocation factor component of the formula. With the various inputs to the formula refined in the manner described above, the calculation of the pole attachment rate under the Commission’s formula approach is a straightforward multiplication of three major components: net bare pole cost times carrying charge factor times space allocation factor.

49. Table 4 on the following page provides an illustrative comparison of the three major components of the modified telecom upper bound with the existing telecom and cable formulas. A more detailed side-by-side comparison of the proposed upper bound methodology vis-à-vis the existing FCC telecom methodology, including the calculation of all five elements of the carrying charge factor, is provided in Appendix C to this Report for a representative utility, and Appendix D for a representative ILECs (applicable

in circumstances where the ILEC is a sole or part owner of poles with third parties paying the telecom rate).

Table 4

Illustrative Comparison of Upper Bound Rate Methodology and Existing Telecom and Cable Rate Formulas			
ILEC/Utility (4 entities)	Existing Telecom	High End Cost Causative Fully Allocated Cost	Existing Cable
AT&T Florida			
Net. Inv. Per Bare Pole	\$85.19	\$85.19	\$85.19
x Carrying Charge Factor	77.96%	54.70%	77.96%
x Space Allocation Factor	13.33%	12.50%	7.41%
= Maximum Rate	\$8.86	\$5.83	\$4.92
Gulf Power			
Net. Inv. Per Bare Pole	\$185.71	\$185.71	\$185.71
x Carrying Charge Factor	45.86%	30.70%	45.86%
x Space Allocation Factor	13.33%	12.50%	7.41%
= Maximum Rate	\$11.35	\$7.13	\$6.31

LOWER BOUND TELECOM RATE ANALYSIS

50. “In identifying the lower bound of reasonable rates under section 224(e), [the Commission] proposes that a rate that covers the pole owners’ incremental cost associated with attachment would, in principle, provide a reasonable lower limit,” citing legal precedent.²³ As discussed earlier, given the increased national priority of promoting broadband deployment, there is compelling economic and public policy justification for a unified broadband pole attachment rate set as close as possible a true marginal or incremental cost of pole attachment. As the FNPRM points out, this is all that is required by the language in Section 224 of the Act for a rate to be deemed “just and reasonable.”²⁴

51. The economic theory is clear: as discussed in my March 2008 Report, the closer the rate for pole attachment is to marginal cost, the more efficient the allocation of resources.²⁵ This in turn maximizes the overall societal value that can be generated from use of those resources. Perhaps most importantly from the perspective of the NBP, it better fosters the emergence of conditions that stimulate competition in the relevant communication markets and produce the desired competitive market performance attributes including lower prices, greater choices among new and innovative broadband services, enhanced productivity and economic development opportunities for the national and local economies.

²³ FNPRM at para. 133.

²⁴ See Section 224(d)(1) (“For purposes of subsection (b) of this section, a rate is just and reasonable if it assures the utility the recovery of not less than the additional costs of providing pole attachments”); see also FNPRM at para. 126, citing *Alabama Power Co. v. FCC*, 311 F.3d at 1370-71, and Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions*, Vol. 1, 65-122 (1970); Charles F. Phillips, Jr., *The Regulation of Public Utilities*, 443-49 (1993).

52. Moreover, there is no risk of economic harm to the utility or to its ratepayers from a pole rental rate set at marginal cost. Utilities frequently cite to the theoretical incompatibility of marginal cost pricing and the full recovery of costs under conditions of natural monopoly (i.e., the presence of large fixed assets with declining per unit costs) that characterize utility distribution plant. However, such counter arguments ignore the practical reality of the two-part pricing structure that exists under the Commission's rules for pole attachments.

53. This two-part pricing structure consists of a recurring pole rental rate set pursuant to the Commission's pole rate formula methodology, and non-recurring charges (set unilaterally by the utility) to recover the costs of any make-ready work performed in connection with the accommodation of a third party attachment. Make-ready refers to the normal and customary process, including rearrangements and pole change-outs, by which the utility is able to readily harness pole capacity to accommodate an additional attachment on the pole. The make-ready process allows the pole owner a mechanism to recover all non-recurring, out-of-pocket capital costs incurred in connection with the accommodation of a third-party attacher. It is worth emphasizing that make-ready charges apply *in addition to* the recurring pole rental rate. Moreover, many utilities continue to assess similar charges after construction, in the form of application, inspection, or audit fees.

²⁵ See Kravtin March Report at 52-53.

54. From an economic standpoint, a two-part pricing structure that recovers capital costs from those users who are causally responsible for those costs, in combination with a recurring rate which recovers ongoing operating costs is a much more efficient pricing mechanism than a single rate set at an inflated fully allocated cost that diverges from cost-causative principles. This is true in terms of enhancing resource allocation, maximizing societal value, and promoting the goals of the NBP, provided both recurring and non-recurring rates are set at an economically appropriate marginal cost.

55. That there are little to no opportunity costs associated with third-party occupancy on utility poles is well documented in a 2005 case before the Commission involving Gulf Power.²⁶ This condition exists because there is either excess capacity on the poles, or because additional capacity can be readily harnessed through a routine make-ready process for which the utility is compensated by the attacher (again, in a charge set by the utility and that applies in addition to the annual pole rental rate). Because the true opportunity costs of third-party attachment is so small, the two tier pricing system applicable under the Commission's rules – *even with recurring rental rates set at the lower bound* - produce a result that is not only more economically efficient than the existing telecom rate, but one that is fair to pole owning utilities and their ratepayers. The proposed lower bound telecom methodology produces rates that still make contribution over and above true economically efficient marginal costs, and accordingly would do nothing to compromise the safety or integrity of the utility's pole network.

²⁶See *Florida Cable Telecommunications Association v. Gulf Power Company*, EB Docket No. 04-381, FCC 07D-01 (rel. Jan. 31, 2007) (“*FCTA*”), at 10.

56. The FNPRM expresses concerns that the particular construction of the 224(e) rate precludes a rate designed to recover *no more than* marginal cost. This reasoning would appear to be the basis for the Commission's proposal to make no other modification to the existing telecom formula other than to remove capital costs, leaving unchanged operating cost elements and other inputs to the formula (i.e., maintenance, and administrative and general elements, rate of return input). As shown in the preceding section, however, the existing formula's operating cost elements recover costs in excess of those causally linked to pole attachments. The expressed concerns are unfounded, given the hybrid cost allocation methodology incorporated in the telecom formula.

57. Under the hybrid cost methodology prescribed in Section 224(e), usable costs are allocated in a cost-causative proportion based on relative occupancy on the pole, but unusable costs are allocated based on the number of attaching entities. This hybrid approach gives much more in excess cost recovery to the pole owner (*vis-à-vis* economically appropriate marginal costs) than is taken away by the application of the statutory two-thirds adjustment factor. As demonstrated in Table 5 below, the marginal cost proxy formula proposed here as the basis of the lower bound telecom rate similarly relies on the inefficient hybrid allocation method prescribed in section 224(e) (versus the more efficient 224(d) allocation method). Accordingly, this marginal cost proxy produces a rate that is still well in excess of the true marginal or incremental of pole attachment.

58. As described at length in my March 2008 Report, the true marginal or incremental cost of pole attachment is most accurately estimated using the relative-use allocation methodology embodied in the section 224(d) cable rate, which more closely tracks the

causation of costs by third party attachments (i.e., costs “but for” the attachers, would not otherwise exist). The way the cable rate formula allocates pole costs on the basis of relative use (i.e., direct occupancy of the pole) is consistent with the Commission’s Part 64 rules, whereas the telecom formula, which allocates a portion of costs on a per capita basis, is not.

59. Table 5 below compares the proposed marginal cost proxy rates, calculated using the same methodology for calculating the total costs of the pole to be allocated, but using differing allocation methodologies associated with 224(d) and (e), for cable and telecom respectively. Specifically, under the 224(d) allocation methodology, 6.25% of the total costs of the pole are allocated to third-party attachers, as compared with the 224(e) allocation methodology, which allocates 12.50% of the total costs in the case of four attaching entities. Given these cost allocators, as demonstrated in Table 5, the marginal cost proxy rate calculated using the section 224(e) telecom allocation methodology exceeds the marginal cost proxy calculated using the section 224(d) cable allocation methodology (a much truer proxy of marginal costs) by approximately a factor of two.²⁷

²⁷ For three attaching entities, 224(e) formula would allocate 15.83% of total costs compared to the 224(d) allocation of 6.25% - over 2.5 times the allocation; for five attaching entities, the 224(e) formula would allocate 10.50%, approximately 1.7 times the allocation.

Table 5

**Comparison of Marginal Cost Proxy Rates
Under 224(e) and (d) Cost Allocators
(\$ per attachment per year)***

ILECs - 4 entities*	VZ NY	VZ PA	AT&T CA	AT&T FL	AT&T IL	AT&T TX	Qwest CO	Qwest WA
Marginal Cost Proxy - 224(e) Allocator	0.50	0.57	0.73	1.18	0.27	0.25	0.87	0.94
Marginal Cost Proxy - 224(d) Allocator	0.25	0.28	0.36	0.59	0.14	0.12	0.43	0.47
Utilities -4 entities*	Gulf Power	Alabama Power	Georgia Power	Tampa Electric	Jersey Central	Metro Edison	Penn Electric	NSTAR
Marginal Cost Proxy - 224(e) Allocator	0.95	1.28	0.96	1.35	1.33	1.27	0.78	1.02
Marginal Cost Proxy - 224(d) Allocator	0.48	0.64	0.48	0.67	0.66	0.63	0.39	0.51
*Based on ARMIS and FERC Data (Year End 2007)								

60. This analysis effectively resolves concerns expressed in the FNRPM that the manner in which the section 224(e) formula allocates the relevant costs of a pole (i.e., the application of the prescribed 2/3 adjustment factor in the calculation of the unusable space percentage) means that “simply defining ‘cost’ as equal to incremental cost would result in pole rental rates *below* incremental cost.”²⁸ While such concerns might be valid if the telecom formula employed an economically efficient allocation factor such as employed by the cable formula, this is decidedly not the case given the telecom’s formula hybrid allocation methodology.

²⁸ See FNPRM at para.126.

61. As shown in Table 5 above, the effect of that methodology, within the presumptive range of attaching entities, is to build into the rate a magnitude of *over-recovery* of costs that more than offsets the effect of the 2/3 adjustment factor. Moreover, in the case of utilities, this demonstrated over-recovery due to the telecom formula's use of the hybrid space allocator is *in addition to* the over-recovery built into both the cable and telecom formulas in connection with their use of account 364 pole plant. As recognized by the Commission, "[E]ven with the 15% reduction for non-pole appurtenances such as crossarms, this is still a very generous account, including the cost of towers, transformer racks and platforms."²⁹

62. The Commission's proposed lower bound telecom formula, by stripping out capital costs, produces a pole rate that is much closer to marginal cost than the existing telecom formula, and even closer than the existing cable rate. As discussed further below, the Commission's reasoning to strip out the capital cost components from a marginal cost formula is sound. However, by failing to apply economic cost causation principles consistently across *all* elements of the formula, the Commission's lower bound formula produces a rate that is well in excess of the marginal cost standard statutorily permitted

²⁹ See Recon. Order at para. 121 ("For electric utility poles, we use Account 364 (poles, towers and fixtures). Account 364 includes the cost of installed poles, towers, and appurtenant fixtures used for supporting overhead distribution conductors and service wires. Specific items include: 1. Anchors, head arm, and other guys, including guy guards, guy clamps, strain insulators, pole plates, etc.; Brackets; Crossarms and braces; Excavation and backfill, including disposal of excess excavated material; Extension arms; Foundations; Guards; Insulator pins and suspension bolts; Paving; Permits for construction; Pole steps and ladders; Poles, wood, steel, concrete, or other material; Racks complete with insulators; Railings; Reinforcing and stubbing; Settings; Shaving, painting, gaining, roofing, stenciling, and tagging; Towers; Transformer racks and platforms. Even with the 15% reduction for non-pole appurtenances such as crossarms, this is still a very generous account, including the cost of towers, transformer racks and platforms.")

for the lower bound of a just and reasonable rate and that would best promote attainment of the goals of the National Broadband Plan.

63. The lower bound rate analysis presented in this report builds on the Commission's approach, but refines it by applying cost-causation principles consistently across all elements of the formula, in order to produce a truer estimate of the marginal cost of pole attachment. The modifications to the existing telecom formula embodied in the proposed marginal cost proxy analysis are discussed in turn below:

Modifications to the Carrying Charge Factor

Adjustment to Remove Capital Cost Elements Consistent with Cost-Causation Principles and to Achieve a More Economically Efficient Marginal Cost Proxy Rate.

64. Consistent with the Commission's proposed lower bound formula, the marginal cost proxy methodology presented in this report does not provide for capital cost recovery.

As the FNPRM correctly recognizes, those costs are fully and appropriately covered on an incremental basis through the make-ready charges utilities charge third-party attachers in situations where rearrangements and replacements of existing pole capacity would not otherwise be required "but for" the presence of the third-party attacher.³⁰ The rationale supporting the elimination of the various capital cost elements of the formula is economically sound and fully consistent with cost causation principles.

65. Depreciation – Depreciation is a non-cash expense item reflecting the utility's "consumption" of the pole asset over time, as measured by the reduction in the asset's value by virtue of wear and tear and/or obsolescence. As a non-cash expense,

depreciation lowers a company's reported earnings (and tax liability) and provides a source of free cash from which the company can fund capital purchases including replacement of plant past its useful life. From a cost-causation perspective, there is no net impact on the utility's depreciation accrual due to pole attachments. Both the original purchase of the pole asset, its consumption over time, and its replacement are driven by the utility's provision of core electric (or telephone) services.

66. To the extent there are any capital costs that would not have occurred "but for" the presence of third-party attachers, as mentioned above, those costs are recovered through make-ready charges. Moreover, because the utility gets the benefit of plant additions or replacements funded through make-ready payments from attachers in terms of reductions or delays to its capital expenditures for poles (caused or driven by its core utility service requirements), allocation of depreciation charges through the recurring rate formula in effect results in a double recovery of capital costs from attachers.

67. Taxes – From a strict cost-causation perspective, there is similarly no net revenue impact on the utility associated with either income or property-related taxes. First, with respect to income or revenue-related taxes, as long as pole attachment revenues are accounted for "above-the-line," as the utilities claim them to be, pole rate increases are ultimately offset by decreases in other utility rates dollar-for-dollar. Thus, theoretically, pole rates should be revenue neutral to the utility in terms of income tax liability. This also holds true for property-related taxes, and for the same reason as for depreciation –

³⁰ See FNRPM at paras. 134-135.

namely the imposition of make-ready charges in those cases where the utility is required to make a capital outlay that “but for” the third-party attacher would not have occurred. As long as pole-related capital improvements funded through make-ready charges are properly accounted for, i.e., applied as an offset to the utility’s rate base to avoid double recovery, there is no net revenue impact on the utility associated with property-taxes either.

68. Return - Similarly, from a cost-causation perspective, there is no economic justification why a marginal cost proxy would mark-up the recurring pole rental rate so as to earn an additional return or “profit” *over and above* the normal cost recovery reflected in the rental rate. First, under the theory of marginal cost pricing, prices that recover a producer’s cost provide a “normal” return on investment. Rates set in excess of costs will be bid down to more efficient levels in response to actual competition or to deter potential competition. Second, make-ready charges already provide the utility the opportunity to earn additional return (over and above the normal level built into the recurring cost recovery provided in the rental rate) in those instances where capital costs are actually caused by a third-party attachment, as such charges commonly build in contribution over costs.

69. In addition, as mentioned above, by virtue of the fact that utilities benefit from plant additions or replacements funded through make-ready payments in terms of reductions or delays to its capital expenditures for poles, make-ready payments in effect provide utilities with an interest-free source of capital. Allowing utilities to reap a return on

capital in the recurring rental rate over and above that reflected in make ready payments directly or through the capital savings that make-ready work provides is excessive.

Adjustments to Operating Cost Elements

70. Maintenance – The lower bound marginal cost proxy analysis applies the same adjustment to utility maintenance expenses as applied in the upper bound fully allocated cost analysis. Specifically, the methodology used in this analysis applies an adjustment factor of 15% to correct for the demonstrated overstatement of utility pole maintenance expense relative to cost-causative levels (due to the aggregated nature of FERC account 593). The carrying charge element is then computed by dividing the adjusted maintenance expense figure to net investment in account 364 for poles. As described above, this adjustment factor is derived from an empirical analysis comparing ILEC and utility booked maintenance expenses, where the former is based on strictly pole-related expenses.

71. Administrative and General – Like the upper bound fully allocated cost methodology, the lower bound marginal cost proxy analysis corrects for the inherently non-cost-causative manner in which A&G costs are allocated to poles. However, where the former does so using an indirect fully allocated methodology based on the ratio of estimated direct pole expenses to total company direct expenses, the latter does so, using a direct approach, more consistent with cost-causation principles and the Commission’s own cost allocation rules. Specifically, A&G costs are attributed to poles using a direct calculation

of the actual labor resources employed by the pole owner in connection with third party pole attachments that “but for” the attacher would not be expended.

72. The direct calculation of A&G costs attributable to poles is based on information provided in a recent utility rate case, which identifies the number of full-time equivalent (FTE) employees assigned to administer and manage the third-party attachment process.³¹ The available benchmark data identifies five FTEs, including one program administrator and four engineers, all at base salaries equivalent to line workers.³² Using data on utility line workers’ base salaries available from the Bureau of Labor Statistics,³³ adjusted upward to restate those salaries on a fully loaded basis, the lower bound methodology calculates an estimate of dedicated A&G labor costs directly attributable to poles. This direct cost estimate is divided by net pole plant recorded in account 364 for utilities (ARMIS 43-01 for ILECs) to produce an economically appropriate A&G carrying charge element. (As with the maintenance adjustment, properly supported and verifiable utility-specific data could be used in lieu of the benchmark data, and/or a set of presumptive values applicable to different size ranges of utilities could be established, to the extent additional benchmarking data is available and demonstrates clear scalar relationships.³⁴)

³¹ See Connecticut Light & Power, Docket No. 09-12-05, Data Request DPUC-05, Q EL-255, dated 2/8/10.

³² Id.

³³ See <http://www.bls.gov:80/oco/ocos195.htm>

³⁴ CP&L, the source of the benchmark data used in this analysis, has approximately 700,000 poles.

Modifications to the Space Allocation Factor

73. The proposed lower bound marginal cost proxy analysis incorporates the same economically appropriate adjustments to presumptive values used as data inputs in the calculation of the space allocation factor as included in the upper bound analysis. As previously described, the inputs proposed for revision include: an increase in pole height to 40 feet, a corresponding increase in usable space to 16 feet, and the use of a uniform number of attaching entities of 4.

74. In summary, the lower bound methodology presented in this report excludes all three capital cost elements of the carrying charge factor (i.e. depreciation, taxes, and return), adjusts the maintenance and A&G elements of the carrying charge factor, and revises the presumptive values for pole height, usable space, and number of attaching entities used in the calculation of the space allocation factor component of the formula.

75. With the various inputs to the formula refined in the manner described above, the calculation of the pole attachment rate under the Commission's formula approach is a straightforward multiplication of three major components: net bare pole cost times carrying charge factor times space allocation factor. Table 6 below provides an illustrative comparison of the three major components of the modified telecom lower bound methodology with the no capital costs telecom formula proposed in the FNRPM for the lower bound rate, as well as the existing cable formula. A more detailed side-by-side comparison of the proposed lower bound methodology vis-à-vis the existing FCC telecom formula methodology, including the calculation of all five elements of the

carrying charge factor, is provided in Appendix C to this Report for a representative utility, and Appendix D for a representative ILEC.

Table 6

Illustrative Comparison of Lower Bound Methodology, FNPRM No Capital Cost Telecom Formula, and Existing Cable Formula			
ILEC/Utility (4 entities)	No Capital Cost Telecom	Low End Marginal Cost Proxy	Existing Cable
AT&T Florida			
Net. Inv. Per Bare Pole	\$85.19	\$85.19	\$85.19
x Carrying Charge Factor	21.27%	11.10%	77.96%
x Space Allocation Factor	13.33%	12.50%	7.41%
= Maximum Rate	\$2.42	\$1.18	\$4.92
Gulf Power			
Net. Inv. Per Bare Pole	\$185.71	\$185.71	\$185.71
x Carrying Charge Factor	13.68%	4.09%	45.86%
x Space Allocation Factor	13.33%	12.50%	7.41%
= Maximum Rate	\$3.39	\$0.95	\$6.31

**COMPARATIVE POLE ATTACHMENT RATES AND RECOMMENDATIONS
FOR A BROADBAND POLE RATE**

76. Tables 7 and 8 on the following pages present calculations of pole attachment rates based on (1) the existing cable rate formula; (2) the Commission’s proposal as set forth in the FNPRM (i.e., existing telecom rate for the upper bound and the no capital cost

telecom rate for the lower bound); and (3) the upper and lower bound methodology presented in this report (i.e., cost-causative fully allocated for the upper bound, and marginal cost proxy for the lower bound). Rates are presented for the same sample of utility and ILEC pole owners for which rate calculations are provided in Appendix A of the FNPRM.

77. For the reasons set forth in this report and in my March 2008 report, a pole attachment rate for broadband providers based on marginal cost is the most efficient and economically justified, and best serves the overarching national broadband goals. That said, there are other considerations to be taken into account in setting a unified broadband pole attachment rate, including the constraints of section 224(e) and the desirability of assuring just compensation to the pole owner through a proxy that the courts have already held to be well above just compensation.

78. Such considerations advocate for setting a unified rate based on the existing cable rate or any rate in between the marginal cost proxy rate and the cable rate, the latter found to be well in excess of just compensation.³⁵ It would be reasonable for the Commission to set a unified pole attachment rate at the higher of the marginal cost proxy rate or the existing cable rate. As shown in this report, the cable rate is demonstrably near the upper bound (within 5% on average for electric utilities) of the range within which the Commission could implement the Act. (Supporting calculations are provided in Appendix E to this report).

³⁵See e.g., *Alabama Power*, 311 F.3d at 1369, 1370.

Table 7
Comparative ILEC Pole Attachment Rates
(\$ per attachment per year)*

All Costs	VZ NY	VZ PA	AT&T CA	AT&T FL	AT&T IL	AT&T TX	Qwest CO	Qwest WA
Existing Cable Rate	4.58	2.16	5.43	4.92	1.80	2.16	1.58	2.48
Telecom Rate: 4 attachers								
Existing Telecom	8.24	3.88	9.78	8.86	3.24	3.88	2.84	4.46
No Capital Costs	2.04	0.58	2.94	2.42	0.61	1.11	0.98	0.78
Cost-Causative Fully Allocated Cost	6.97	3.74	5.89	5.83	2.20	3.16	2.00	3.80
Marginal Cost Proxy	0.50	0.57	0.73	1.18	0.27	0.25	0.87	0.94
*Based on ARMIS Data (YE 2007)								

Table 8
Comparative Utility Pole Attachment Rates
(\$ per attachment per year)*

All Costs	Gulf Power	Alabama Power	Georgia Power	Tampa Electric	Jersey Central	Metro Edison	Penn Electric	NSTAR
Existing Cable Rate	6.31	8.00	5.77	8.24	8.21	8.69	8.01	6.90
Telecom Rate :4 attachers								
Existing Telecom	11.35	14.39	10.38	14.83	14.77	15.64	14.41	12.42
No Capital Costs	3.39	5.14	3.19	3.84	3.92	4.34	2.26	3.45
Cost- Causative Fully allocated Cost	7.13	8.36	6.10	9.58	7.54	8.73	8.61	6.97
Marginal Cost Proxy	0.95	1.28	0.96	1.35	1.33	1.27	0.78	1.02
*Based on FERC Form 1 Data (Year End 2007)								

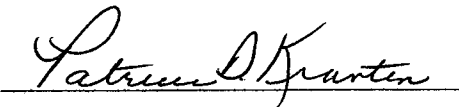
CONCLUSION

79. This report presents a refined economic analysis of the range of possible rate approaches to telecommunications pole attachment rates that would most align with cost causation and cost allocation principles. The results of this analysis confirm that the Commission's approach produces "just, reasonable and non-discriminatory" rates that are near the top end of the range within which the Commission could faithfully implement the Act. The methodologies applied are fully consistent with economic principles of cost causation and effective pole regulation.

80. Even with the modifications to the Commission's existing telecom formula described above, both the upper and lower bound telecom rates presented in this report and the rates calculated using the existing cable rate formula exceed by multiples the marginal cost of pole attachment. By well-established economic, regulatory, and legal just-compensation principles, marginal costs provide the appropriate standard for a non-subsidized, economically efficient, competition-promoting broadband or telecom rate. The more the pole attachment rate diverges from this standard, the more at odds that rate will be with the pressing national goals of stimulating broadband deployment and competitive entry so clearly articulately in the Commission's National Broadband Plan.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: August 11, 2010

A handwritten signature in cursive script, reading "Patricia D. Kravtin", is written over a horizontal line.

Patricia D. Kravtin

Appendix A

Patricia D. Kravtin

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Summary

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

Experience

CONSULTING ECONOMIST

2000–Present Independent Consulting Swampscott, MA

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

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, 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; and access to pole attachments 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 and 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 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 related to allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis of 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)

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 the California Association of Competitive Telecommunications Companies (CALTEL), August 2000.

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“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.

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

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2009

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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 filed March 31, 2006, Deposition March 15, 2006, Cross-Examination 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 (jointly with 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

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 (jointly with 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 December 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 filed 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 filed January 23, 2002; Rebuttal Testimony filed 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 December 7, 2001, Rebuttal Expert Report filed December 20, 2001, Deposition January 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 September 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 October 9, 1998, cross-examination 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.* ¶ 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.93-04-002AT&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* 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* 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* Section 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* 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* Section 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* Section 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* 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* 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* 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* 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 February 11, 1994, reply March 11, 1994.

Before the **Federal Communications Commission**, in *Re: SNET 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 February 10, 1994.

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

1992

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

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

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

1991

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

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

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

1990

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

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

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

1989

Before the **Georgia Public Service Commission**, in *Re: Southern Bell Tariff Revision and Bidirectional Usage Rate Service*, 3896-U, on behalf of Atlanta Journal Const./Voice Information Services Company,

Inc., GA Association of Telemessaging Services, Prodigy Services, Company, Telnet Communications, Corp., filed November 28, 1989.

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

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

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

1988

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

1987

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.

1986-1982

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

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).

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

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.

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.

Analysis of Utility and ILEC Maintenance Carrying Charge Factors

I. Utility/ILEC Comparison Based on Ratio of Account 593 / Accounts 364+365+369

		Column (1)	Column (2)	Column (2) / (1)	
Geographical Pairing		Gross Investment	Expense booked to	Maintenance	Ratio CCF
Utility/ILEC	Year	FERC 364+365+369	FERC 593 or	Carrying Charge	ILEC/Utility
		or ARMIS 101	ARMIS 43-01,501.1	Factor (CCF)	
Alabama					
Alabama Power (Southern Co.)	2004	\$1,759,229,144	\$77,346,166	4.40%	0.25
AT&T Alabama	2004	\$162,233,000	\$1,760,000	<u>1.08%</u>	
Georgia					
Georgia Power (Southern Co.)	2006	\$2,378,992,924	\$78,370,976	3.29%	0.28
AT&T Georgia	2006	\$163,915,000	\$1,509,000	<u>0.92%</u>	
Mississippi					
Mississippi Power (Southern Co.)	2006	\$239,534,760	\$7,746,713	3.23%	0.83
AT&T Mississippi	2006	\$102,071,000	\$2,738,000	<u>2.68%</u>	
Florida - Gulf Power					
Gulf Power (Southern Co.)	2006	\$297,327,723	\$8,125,897	2.73%	0.69
AT&T Florida (**see box below)	Avg 2005/2007	\$182,779,000	\$3,422,500	<u>1.87%</u>	
Florida - Gulf Power					
Gulf Power (Southern Co.)	2006	\$297,327,723	\$8,125,897	2.73%	0.69
GTE Florida	2006	\$31,504,000	\$593,000	<u>1.88%</u>	
Florida - FP&L					
Florida Power & Light	2006	\$2,550,085,103	\$104,137,776	4.08%	0.46
AT&T Florida (**see box below)	Avg 2005/2007	\$182,779,000	\$3,422,500	<u>1.87%</u>	
Massachusetts					
NSTAR (Boston Edison)	2006	\$528,426,350	\$15,745,383	2.98%	0.20
Verizon Massachusetts	2006	\$393,102,000	\$2,386,000	<u>0.61%</u>	
New York					
Central Hudson Gas & Electric	2006	\$281,626,440	\$12,823,304	4.55%	0.13
Verizon - New York	2006	\$654,542,000	\$3,874,000	<u>0.59%</u>	
Virginia					
Dominion Virginia Power	2006	\$2,316,851,825	\$64,959,421	2.80%	0.31
Verizon Virginia	2006	\$93,287,000	\$805,000	<u>0.86%</u>	
Average Ratio ILEC/ Utility					0.43

II. Utility/ILEC Comparison Based on Ratio of Account 593/ Account 364

		Column (1)	Column (2)	Column (2) / (1)	
Geographical Pairing		Gross Investment	Expense booked to	Maintenance	
Utility/ILEC	Year	FERC 364	FERC 593 or	Carrying Charge	Ratio CCF
		or ARMIS 101	ARMIS 43-01,501.1	Factor (CCF)	ILEC/Utility
Alabama					
Alabama Power (Southern Co.)	2004	\$782,999,486	\$77,346,166	9.88%	0.11
AT&T Alabama	2004	\$162,233,000	\$1,760,000	<u>1.08%</u>	
Georgia					
Georgia Power (Southern Co.)	2006	\$772,038,482	\$78,370,976	10.15%	0.09
AT&T Georgia	2006	\$163,915,000	\$1,509,000	<u>0.92%</u>	
Mississippi					
Mississippi Power (Southern Co.)	2006	\$94,818,137	\$7,746,713	8.17%	0.33
AT&T Mississippi	2006	\$102,071,000	\$2,738,000	<u>2.68%</u>	
Florida - Gulf Power					
Gulf Power (Southern Co.)	2006	\$102,262,675	\$8,125,897	7.95%	0.24
AT&T Florida (**see box below)	Avg 2005/2007	182,779,000	\$3,422,500	<u>1.87%</u>	
Florida - Gulf Power					
Gulf Power (Southern Co.)	2006	\$102,262,675	\$8,125,897	7.95%	0.24
GTE Florida	2006	\$31,504,000	\$593,000	<u>1.88%</u>	
Florida - FP&L					
Florida Power & Light	2006	\$791,839,370	\$104,137,776	13.15%	0.14
AT&T Florida (**see box below)	Avg 2005/2007	182,779,000	\$3,422,500	<u>1.87%</u>	
Massachusetts					
NSTAR (Boston Edison)	2006	\$94,775,228	\$15,745,383	16.61%	0.04
Verizon Massachusetts	2006	\$393,102,000	\$2,386,000	<u>0.61%</u>	
New York					
Central Hudson Gas & Electric	2006	\$119,158,663	\$12,823,304	10.76%	0.05
Verizon - New York	2006	\$654,542,000	\$3,874,000	<u>0.59%</u>	
Virginia					
Dominion Virginia Power	2006	\$567,361,486	\$64,959,421	11.45%	0.08
Verizon Virginia	2006	\$93,287,000	\$805,000	<u>0.86%</u>	
Average Ratio ILEC/ Utility					0.15

Calculation of AT&T Florida Average To Correct for Anomaly in 2006 Data			
	Year	Gross Investment ARMIS 101	Expense booked to ARMIS 43-01,501.1
AT&T Florida	2005	\$194,162,000	\$3,971,000
AT&T Florida	2007	\$171,396,000	\$2,874,000
Average 2005/2007		\$182,779,000	\$3,422,500

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate
POLE ATT. RATE CALCULATION: GULF POWER, Year End 2007 FERC/4 Attachrs				
Net Investment Per Bare Pole:				
Gross Investment in Pole Plant	\$110,201,017.00	\$110,201,017.00	\$110,201,017.00	\$110,201,017.00
-Depreciation Reserve for Poles	\$45,563,061.24	\$45,563,061.24	\$45,563,061.24	\$45,563,061.24
-Accumulated Deferred Taxes	\$10,795,869.72	\$10,795,869.72	\$10,795,869.72	\$10,795,869.72
=Net Investment in Pole Plant	\$53,842,086.04	\$53,842,086.04	\$53,842,086.04	\$53,842,086.04
Adjustment for Appurtenances	15%	15%	15%	15%
-Net Investment in Appurtenances	\$8,076,312.91	\$8,076,312.91	\$8,076,312.91	\$8,076,312.91
=Net Investment in Bare Pole Plant	\$45,765,773.14	\$45,765,773.14	\$45,765,773.14	\$45,765,773.14
/Number of Poles--Equivalent	246,434	246,434	246,434	246,434
=Net Investment per Bare Pole	\$185.71	\$185.71	\$185.71	\$185.71
Carrying Charges				
Maintenance				
Maintenance Expenses	\$10,440,357	\$10,440,357	\$10,440,357	\$10,440,357
x Adjustment for Non-Pole Related Expenses			15% (a)	15%
=Maintenance Attributable to Pole			\$1,566,054	\$1,566,054
/Net Inv. 364,365+369 (or Net Inv. 364 in Cols. 3 & 4)	\$152,281,822	\$152,281,822	\$53,842,086 (a)	\$53,842,086 (b)
=Maintenance Carrying Charge	6.9%	6.9%	2.91%	2.91%
Depreciation				
Annual Depreciation Rate for Poles	5.40%		5.40%	
Gross Investment in Pole Plant	\$110,201,017		\$110,201,017	
/Net Investment in Pole Plant	\$53,842,086		\$53,842,086	
=Gross/Net Adjustment	2.05		2.05	
Deprec Rate Applicable to Net Pole Plant	11.05%	x	11.05%	x
Administrative				
Total A&G Expenses (or Dedicated FTE in Col. 4)	\$89,128,761	\$89,128,761	\$89,128,761	\$638,765 (c)
x Ratio Direct Pole Exp. to Total Utility Direct Exp.			1.26% (d)	
=A&G Attributable to Pole			\$1,126,174 (d)	
Total Plant - Electric	\$2,672,226,878	\$2,672,226,878		
-Depreciation Reserve	\$1,104,843,133	\$1,104,843,133		
-Accumulated Deferred Taxes	261,785,363	261,785,363		
=Total Net Plant in Service (or Net Inv. 364 in Cols. 3 & 4)	\$1,305,598,382	\$1,305,598,382	\$53,842,086 (d)	\$53,842,086 (c)
Administrative Carrying Charge	6.83%	6.83%	2.09%	1.19%
Taxes				
Tax Expense (or Taxes Other than Income in Col. 3)	\$128,886,795.00		\$82,991,780.00 (e)	
Total Plant	\$2,672,226,878		\$2,672,226,878	
-Depreciation Reserve	\$1,104,843,133		\$1,104,843,133	
-Accumulated Deferred Taxes	261,785,363		261,785,363	
=Total Net Plant in Service	\$1,305,598,382		\$1,305,598,382	
Tax Carrying Charge	9.87%	x	6.36%	x
Return				
FCC Default Return (or IRS Payment Rate in Col. 3)	11.25%	x	8.00% (f)	x
Avg Embedded Tax Factor			3.52% (e)	
Gross up Rate			1.0364 (e)	
Return Grossed Up for Income Taxes			8.29%	
Total Carrying Charges	45.86%	13.68%	30.70%	4.09%

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate	
Allocation of Annual Carrying Costs					
Space Occupied by Cable	1	1	1	1	
/Total Useable Space 37.5' pole (or 40' pole in Cols. 3 & 4)	13.5	13.5	16 (g)	16 (h)	
=Space Allocation Factor - Cable	7.41%	7.41%	6.25%	6.25%	
Statutory Factor	0.667	0.667	0.667	0.667	
x Unusable Space	24.00	24.00	24.00	24.00	
/ No attaching entities	4.00	4.00	4.00 (i)	4.00 (h)	
=Unusable Space Allocated to Telecom	4.00	4.00	4.00	4.00	
+ Usable Space Occupied by Telecom	1.00	1.00	1.00	1.00	
=Total Space Allocated to Telecom	5.00	5.00	5.00	5.00	
/Height of Pole	37.50	37.50	40.00 (g)	40.00 (h)	
=Space Allocation Factor - Telecom	13.33%	13.33%	12.50%	12.50%	
Maximum Cable Rate					
Net Investment Per Bare Pole	\$185.71				
*Carrying Charges	45.86%				
*Space Allocation Factor	7.41%				
=MAXIMUM RATE	\$6.31				
Maximum Telecom Rate					
Net Investment Per Bare Pole	\$185.71	\$185.71	\$185.71	\$185.71	
*Carrying Charges	45.86%	13.68%	30.70%	4.09%	
*Space Allocation Factor	13.33%	13.33%	12.50%	12.50%	
=MAXIMUM RATE	\$11.35	\$3.39	\$7.13	\$0.95	
DATA ENTRY AND SOURCE					
Accumulated Deferred Taxes 190 (Plant)	(59,785,640)	(59,785,640)	(59,785,640)	(59,785,640)	FERC OR OTHER: Pg. 234, c 18.
Accumulated Deferred Taxes 281 (Plant)	2,274,551	2,274,551	2,274,551	2,274,551	Pg. 273, k 17.
Accumulated Deferred Taxes 282 (Plant)	255,029,916	255,029,916	255,029,916	255,029,916	Pg. 275, k 9.
Accumulated Deferred Taxes 283 (Plant)	64,266,536	64,266,536	64,266,536	64,266,536	Pg. 277, k 19.
Accumulated Deferred Taxes-Total (Plant)	\$261,785,363	\$261,785,363	\$261,785,363	\$261,785,363	
Taxes 408.1	\$82,991,780	\$82,991,780	\$82,991,780	\$82,991,780	Pg. 114, c 14.
Taxes 409.1 Federal	\$50,132,023	\$50,132,023	\$50,132,023	\$50,132,023	Pg. 114, c 15.
Taxes 409.1 Other	\$8,308,524	\$8,308,524	\$8,308,524	\$8,308,524	Pg. 114, c 16.
Taxes 410.1	\$45,300,659	\$45,300,659	\$45,300,659	\$45,300,659	Pg. 114, c 17.
Taxes 411.1 Cr.	(56,112,567)	(56,112,567)	(56,112,567)	(56,112,567)	Pg. 114, c 18.
Taxes 411.4	-\$1,733,624	-\$1,733,624	-\$1,733,624	-\$1,733,624	Pg. 114, c 19.
Taxes - Income Related	\$45,895,015	\$45,895,015	\$45,895,015	\$45,895,015	Sum
Gross Investment in Total Plant	\$2,672,226,878	\$2,672,226,878	\$2,672,226,878	\$2,672,226,878	Pg. 200, b 8.
Gross Investment in Total Plant--Electric	\$2,672,226,878	\$2,672,226,878	\$2,672,226,878	\$2,672,226,878	Pg. 200, c 8.
Accumulated Prov for Deprec.--Total	\$1,104,843,133	\$1,104,843,133	\$1,104,843,133	\$1,104,843,133	Pg. 200, b 22.
Accumulated Prov for Deprec.--Electric	\$1,104,843,133	\$1,104,843,133	\$1,104,843,133	\$1,104,843,133	Pg. 200, c 22.

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate	
Gross Investment in 364	\$110,201,017	\$110,201,017	\$110,201,017	\$110,201,017	Pg. 207, g 64.
Gross Investment in 365	\$114,370,807	\$114,370,807	\$114,370,807	\$114,370,807	Pg. 207, g 65.
Gross Investment in 369	\$87,110,224	\$87,110,224	\$87,110,224	\$87,110,224	Pg. 207, g 69.
Sum	\$311,682,048.00	\$311,682,048.00	\$311,682,048.00	\$311,682,048.00	
Pole Maintenance Expense 593	\$10,440,357	\$10,440,357	\$10,440,357	\$10,440,357	Pg. 322, b 149.
Total Elec Op and Maint Expenses	x	x	\$915,409,686	x	Pg. 323, b. 198.
Total A&G Expenses	x	x	\$89,128,761	x	Pg. 323, b. 197.
Total Operation & Maint (Net of A&G)	x	x	\$826,280,925 (d)	x	Calculation
Ratio Pole Maint. to Total O&M (Net of A&G)			0.0126 (d)		Calculation
Admin & General Salaries 920	x	x	x	\$13,142,445	Pg. 323, b. 181.
Office Supplies & Expenses 921	x	x	x	x	
(Less) Admin Expenses Transfrd Credit 922	x	x	x	x	
Outside Services Employed 923	x	x	x	x	
Property Insurance 924	x	x	x	x	
Injuries & Damages 925	x	x	x	x	
Employee Pensions & Benefits 926	x	x	x	\$15,543,491	Pg. 323, b. 187.
Franchise Requirements 927	x	x	x	x	
Regulatory Commission Expenses 928	x	x	x	x	
(Less) Duplicate Charges 929	x	x	x	x	
General Advertising Expenses 930.1	x	x	x	x	
Miscellaneous General Expenses 930.2	x	x	x	x	
Rents 931	x	x	x	x	
Subtotal Administrative - Operations					
Administrative Expense 935 - Maint.					
Total Administrative Expenses	\$89,128,761	\$89,128,761	\$89,128,761	\$89,128,761	Pg. 323, b. 197.
Depreciation Rate for Poles	5.40%	x	5.40%	x	Pg. 337.1, e 26.
Accumulated Deferred Taxes (Prorated to 364)	\$10,795,870	\$10,795,870	\$10,795,870	\$10,795,870	Calculation
Accumulated Deferred Taxes (Prorated to 365)	\$11,204,364	\$11,204,364	\$11,204,364	\$11,204,364	Calculation
Accumulated Deferred Taxes (Prorated to 369)	\$8,533,775	\$8,533,775	\$8,533,775	\$8,533,775	Calculation
Total Accumulated Deferred Taxes (prorated)	\$30,534,008	\$30,534,008	\$30,534,008	\$30,534,008	Sum
Depreciation Reserve for 364 (prorated)	\$45,563,061	\$45,563,061	\$45,563,061	\$45,563,061	Calculation
Depreciation Reserve for 365 (prorated)	\$47,287,078	\$47,287,078	\$47,287,078	\$47,287,078	Calculation
Depreciation Reserve for 369 (prorated)	\$36,016,078	\$36,016,078	\$36,016,078	\$36,016,078	Calculation
Total Depreciation Reserve	\$128,866,218	\$128,866,218	\$128,866,218	\$128,866,218	Sum
FCC Default Rate of Return (IRS Payment Rate in Col. 3)	11.25%	x	8.00% (f)	x	FCC; IRS
Embedded Tax Factor	x	x	3.52% (e)	x	Calculation
Gross - Up Rate - Embedded	x	x	1.0364 (e)	x	Calculation
Number of Poles	246,434	246,434	246,434	246,434	Utility
Number attaching entities	4	4	4 (i)	4 (h)	Presumption
Usable Space Factor	13.5	13.5	16 (g)	16 (h)	Presumption
Pole Height	37.5	37.5	40 (g)	40 (h)	Presumption

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate	
Direct Admin Expenses Attributable to Poles:	x	x	x		
No. of Directly assigned FTE employees (Poles >650K)	x	x	x	5 (c)	CT Light & Power, Dkt 09-12-05.
Avg. Line Worker Salary	x	x	x	\$58,530 (c)	Bureau Labor Statistics
Load Factor	x	x	x	2.18 (c)	Calculation
Loaded Salaries and Benefits	x	x	x	\$638,765.40	Calculation

Notes:

- (a) See Report at para. 34.
- (b) See Report at para. 70.
- (c) See Report at para. 72.
- (d) See Report at para. 37.
- (e) See Report at para. 39.
- (f) See Report at para. 43.
- (g) See Report at para. 46.
- (h) See Report at para. 73.
- (i) See Report at para. 47.

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate
POLE ATT. RATE CALCULATION: AT&T FL Year End 2007 ARMIS/4 Attachers				
Net Investment Per Bare Pole:				
Gross Investment in Pole Plant	194,162,000.00	194,162,000.00	194,162,000.00	194,162,000.00
-Depreciation Reserve for Poles	154,459,000.00	154,459,000.00	154,459,000.00	154,459,000.00
-Accumulated Deferred Taxes	-1,012,000.00	-1,012,000.00	-1,012,000.00	-1,012,000.00
=Net Investment in Pole Plant	40,715,000.00	40,715,000.00	40,715,000.00	40,715,000.00
-Net Investment in Appurtenances (5%)	2,035,750.00	2,035,750.00	2,035,750.00	2,035,750.00
=Net Investment in Bare Pole Plant	38,679,250.00	38,679,250.00	38,679,250.00	38,679,250.00
/Number of Poles	454,029.00	454,029.00	454,029.00	454,029.00
=Net Investment per Bare Pole	\$85.19	\$85.19	\$85.19	\$85.19
Carrying Charges:				
Maintenance				
Chargeable Maintenance Expenses	\$3,971,000	\$3,971,000	\$3,971,000	\$3,971,000
/Net Investment in Pole Plant	\$40,715,000	\$40,715,000	\$40,715,000	\$40,715,000
=Maintenance Carrying Charge	9.75%	9.75%	9.75%	9.75%
Depreciation				
Annual Depreciation Rate for Poles	6.50%		6.50%	
Gross Investment in Pole Plant	\$194,162,000		\$194,162,000	
/Net Investment in Pole Plant	\$40,715,000		\$40,715,000	
=Gross/Net Adjustment	4.77		4.77	
Deprec Rate Applied to Net Pole Plant	31.00%	x	31.00%	x
Administrative				
Total A&G Expenses (or Dedicated FTE in Col. 4))	\$379,578,000	\$379,578,000	\$379,578,000	\$548,600 (a)
Ratio Direct Pole Exp. to Total Utility Direct Exp.			0.261% (b)	
A&G Attributable to Pole			\$991,138.91 (b)	
Total Plant In Service	\$15,799,395,000	\$15,799,395,000		
-Depreciation Reserve for TPIS	\$12,071,220,000	\$12,071,220,000		
-Accumulated Deferred Taxes	\$432,677,000	\$432,677,000		
=Total Net Plant in Service (or Net Pole Plant in Cols. 3 & 4)	\$3,295,498,000	\$3,295,498,000	\$40,715,000 (b)	\$40,715,000 (a)
Administrative Carrying Charge	11.52%	11.52%	2.434%	1.35%
Taxes				
Tax Expense (or Taxes Other than Income in Col. 3)	\$476,040,000		\$79,954,000 (c)	
Total Plant In Service	\$15,799,395,000		\$15,799,395,000	
-Depreciation Reserve for TPIS	\$12,071,220,000		\$12,071,220,000	
-Accumulated Deferred Taxes	\$432,677,000		\$432,677,000	
=Net Plant in Service	\$3,295,498,000		\$3,295,498,000	
Tax Carrying Charge	14.45%	x	2.43%	x
Return				
FCC Default Rate (or IRS Payment Rate in Col. 3)	11.25%	x	8.0% (d)	x
Avg Embedded Tax Factor			12.02% (c)	
Gross up Rate			1.137 (c)	
Return Grossed Up for Income Taxes			9.09%	
TOTAL CARRYING CHARGES	77.96%	21.27%	54.70%	11.10%

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate	
ALLOCATION OF ANNUAL CARRYING COSTS					
Space Occupied by Cable	1	1	1	1	
/Total Useable Space 37.5' pole (or 40' pole in Cols. 3 & 4)	13.5	13.5	16 (e)	16 (f)	
=Space Allocation Factor - Cable	7.41%	7.41%	6.25%	6.25%	
Statutory Factor	0.667	0.667	0.667	0.667	
x Unusable Space	24.00	24.00	24.00	24.00	
/ No attaching entities	4.00	4.00	4.00 (g)	4.00 (f)	
=Unusable Space Allocated to Telecom	4.00	4.00	4.00	4.00	
+ Usable Space Occupied by Telecom	1.00	1.00	1.00	1.00	
=Total Space Allocated to Telecom	5.00	5.00	5.00	5.00	
/Height of Pole	37.50	37.50	40.00 (e)	40.00 (f)	
=Space Allocation Factor - Telecom	13.33%	13.33%	12.50%	12.50%	
Maximum Cable Rate					
Net Investment Per Bare Pole	\$85.19				
*Carrying Charges	77.96%				
*Charge Factor	7.41%				
=MAXIMUM RATE	\$4.92				
Maximum Telecom Rate					
Net Investment Per Bare Pole	\$85.19	\$85.19	\$85.19	\$85.19	
*Carrying Charges	77.96%	21.27%	54.70%	11.10%	
*Charge Factor	13.33%	13.33%	12.50%	12.50%	
=MAXIMUM RATE	\$8.86	\$2.42	\$5.83	\$1.18	
DATA ENTRY AND SOURCE					ARMIS OR OTHER:
Gross Investment in Total Plant	15,799,395,000	15,799,395,000	15,799,395,000	15,799,395,000	43-01: Table III, Row 101(b)
Depreciation Reserve for TPIS	12,071,220,000	12,071,220,000	12,071,220,000	12,071,220,000	43-01: Table III, Row 100(b)
Gross Investment in Pole Plant	194,162,000	194,162,000	194,162,000	194,162,000	43-01: Table III, Row 201(b)
Depreciation Reserve for Pole Plant	154,459,000	154,459,000	154,459,000	154,459,000	43-01: Table III, Row 200(b)
Chargeable Pole Maintenance	3,971,000	3,971,000	3,971,000	3,971,000	43-01: Table III, Row 501.1(b)
Total Operations & Maintenance	x	x	1,520,780,000	x	43-03: Table I, Rows 6100-6620, excl. 6560
Ratio Pole Maint. to Total O&M	x	x	0.261% (b)	x	Calculation
Depreciation Rate for Poles	6.50%	x	6.50%	x	43-01: Table III, Row 301(b)
Total General and Administrative	379,578,000	379,578,000	379,578,000	x	43-01: Table III, Row 503(b)
Taxes	476,040,000	x	x	x	43-01: Table III, Row 504(b)
Non-Income Related Taxes	x	x	79,954,000	x	43-03: Table I, Row 7240
Income Related Taxes	x	x	\$396,086,000	x	Calculation

	Col. (1) Existing FCC Cable and Telecom Rates	Col. (2) FNPRM No Capital Cost Telecom Rate	Col.(3) High End Cost-Causative Fully Allocated Telecom Rate	Col.(4) Low End Marginal Cost Proxy Telecom Rate	ARMIS:
Current Accumulated Deferred Taxes	-1,882,000	-1,882,000	-1,882,000	-1,882,000	43-01: Table III, Row 403(b)
Noncurrent Accumulated Deferred Taxes	434,559,000	434,559,000	434,559,000	434,559,000	43-01: Table III, Row 406(b)
Total Accumulated Deferred Taxes	\$432,677,000	\$432,677,000	\$432,677,000	\$432,677,000	Sum
Current Accumulated Deferred Taxes (Poles)	5000	5000	5000	5000	43-01: Table III, Row 401(b)
Noncurrent Accumulated Deferred Taxes (Poles)	-1,017,000	-1,017,000	-1,017,000	-1,017,000	43-01: Table III, Row 404(b)
Total Accumulated Deferred Taxes (Poles)	-\$1,012,000	-\$1,012,000	-\$1,012,000	-\$1,012,000	Sum
FCC Default Rate of Return (or IRS Payment Rate in Col. 3)	11.25%	x	8.00% (d)	x	FCC, IRS
Avg Embedded Tax Factor	x	x	12.02% (c)	x	Calculation
Gross - Up Rate - Embedded	x	x	1.1366 (c)	x	Calculation
Number of Poles	454,029	454,029	454,029	454,029	43-01: Table III, Row 601(b)
Number attaching entities	4	4	4 (g)	4 (f)	Presumption
Usable Space Factor	13.5	13.5	16 (e)	16 (f)	Presumption
Pole Height	37.5	37.5	40 (e)	40 (f)	Presumption
Direct Admin Expenses Attributable to Poles:	x	x	x		
Number directly assigned FTE employees	x	x	x	5 (a)	CT Light & Power, Dkt 09-12-05.
Avg. Line Worker Salary per BLS	x	x	x	\$54,860 (a)	Bureau Labor Statistics
Load Factor	x	x	x	2.00 (a)	Calculation
Loaded Salaries and Benefits	x	x	x	\$548,600.00	Calculation

Notes:

- (a) See Report at para. 72.
- (b) See Report at para. 37.
- (c) See Report at para. 39.
- (d) See Report at para. 43.
- (e) See Report at para. 46.
- (f) See Report at para. 73.
- (g) See Report at para. 47.

**Comparison of Existing Cable Formula and Upper and Lower Bound Telecom Rate Methodology
For FNPRM Sample of Electric Utilities**

All Costs	Gulf Power	Alabama Power	Georgia Power	Tampa Electric	Jersey Central	Metro Edison	Penn Electric	NSTAR	AVG	% of High End
High End: Cost Causative Fully Allocated Cost	\$ 7.13	\$ 8.36	\$ 6.10	\$ 9.58	\$ 7.54	\$ 8.73	\$ 8.61	\$ 6.97	\$ 7.88	100.0%
Existing Cable Rate	\$ 6.31	\$ 8.00	\$ 5.77	\$ 8.24	\$ 8.21	\$ 8.69	\$ 8.01	\$ 6.90	\$ 7.52	95.4%
Low End: Marginal Cost Proxy	\$ 0.95	\$ 1.28	\$ 0.96	\$ 1.35	\$ 1.33	\$ 1.27	\$ 0.78	\$ 1.02	\$ 1.12	14.2%

ATTACHMENT B

ATTACHMENT B

EXAMPLES OF FCC, STATE AND COURT DECISIONS ADDRESSING REASONABLENESS OF CABLE POLE ATTACHMENT RATES

Supreme Court

NCTA v. Gulf Power, 534 U.S. 327 (2002) – affirming FCC decision to apply the cable rate formula to attachments used by a cable operator to provide broadband services

FCC v. Florida Power, 480 U.S. 245 (1987) – finding that FCC regulation of pole attachment rates is not an unconstitutional taking of property and that the cable rate formula is not confiscatory

Courts of Appeals

Alabama Power v. FCC, 311 F.3d 1357 (11th Cir. 2002), *cert. denied*, 124 S.Ct. 50 (2003) – affirming FCC’s decision that utility’s rates were unreasonable and that the cable rate formula provides just compensation and is not an unconstitutional taking of property

Southern Co. Services v. FCC, 313 F.3d 574 (D.C. Cir. 2002) – affirming FCC’s implementation of changes to Section 224 that were adopted as part of the Telecommunications Act of 1996

Texas Utilities Electric Co. v. FCC, 997 F.2d 925 (D.C. Cir. 1993) – affirming FCC’s decision to apply cable rate formula to non-video attachments

Monongahela Power v. FCC, 655 F.2d 1254 (D.C. Cir. 1981) – affirming FCC’s original rules implementing the cable rate formula contained in Section 224(d)

Federal Communications Commission

A. Rulemakings

Implementation of Section 703(e) of the Telecommunications Act of 1996; Amendment of Rules and Policies Governing Pole Attachments, 16 FCC Rcd 12103 (2001) (*Consolidated Reconsideration Order*) – rejecting utilities’ arguments that regulation of pole attachment agreements no longer is necessary and reaffirming the validity and importance of the FCC’s rate formulas

Implementation of Section 703(e) of the Telecommunications Act of 1996; Amendment of Rules and Policies Governing Pole Attachments, 15 FCC Rcd 6453 (2000) (*Fee Order*) – reaffirming the use of rate formulas based on historical costs and declining to modify the usable space presumptions

Implementation of Section 703(e) of the Telecommunications Act of 1996; Amendment of Rules and Policies Governing Pole Attachments, 13 FCC Rcd 6777 (1998) (*Telecom Order*) –

establishing the telecom rate formula and deciding that the cable rate formula will continue to apply when a cable operator provides commingled cable and Internet services

Amendment of Rules and Policies Governing the Attachment of Cable Television Hardware to Utility Poles, 2 FCC Rcd 4387 (1987) – making minor adjustments to the cable rate formula and clarifying that make-ready fees may not recover costs already recovered in the annual pole rental fee

Petition to Adopt Rules Concerning Usable Space on Utility Poles, 56 Rad. Reg. 2d 707 (1984) – declining to reconsider assumptions underlying the cable rate formula adopted in 1978-80

B. Adjudications¹

FCTA v. Gulf Power, 22 FCC Rcd 1997 (ALJ 2007) – rejecting utility arguments that poles were at full capacity and therefore it was appropriate to charge an unregulated attachment rate

FCTA v. Gulf Power, 18 FCC Rcd 9599 (EB 2003) – granting complaint that utility violated FCC rules by unilaterally imposing attachment rate and finding that payment of rent based on cable rate formula plus make-ready expenses exceeds just compensation

Teleport Communications Atlanta v. Georgia Power, 16 FCC Rcd 20238 (EB 2001), *affirmed* 17 FCC Rcd 19859 (2002) – granting complaint that utility violated FCC rules by using its own formula to calculate pole attachment rates rather than using cable or telecom rate formula and reaffirming that both formulas provide just compensation to pole owners

RCN Telecom Services of Philadelphia, Inc. v. PECO Energy Co., 17 FCC Rcd 25238 (EB 2002) – rejecting utility's \$47.25 pole attachment rate as unjust and unreasonable and calculating a maximum just and reasonable annual cable rate of \$6.79 per pole attachment

Nevada State Cable Television Ass'n v. Nevada Bell, 17 FCC Rcd 15534 (EB 2002) – affirming a Cable Services Bureau Order that calculated a maximum per pole attachment rate of \$1.26 for poles owned by Nevada Bell

Cable Television Ass'n of Georgia v. BellSouth Telecommunications, 17 FCC Rcd 13807 (EB 2002) – finding unjust and unreasonable an annual pole attachment rate of \$5.03 and setting the proper rate at \$4.27

ACTA v. Alabama Power, 15 FCC Rcd 17346 (EB 2000), *affirmed* 16 FCC Rcd 12209 (2001) – granting complaint that utility's proposed attachment rate was unreasonable and affirming that cable rate formula plus the payment of make-ready expenses provides the pole owner with compensation that exceeds the just compensation required under the Constitution

¹ This list only includes examples of adjudications following the Supreme Court's 1987 decision in *Florida Power*. There are literally dozens of decisions prior to *Florida Power* applying the cable rate formula and finding that rates proposed by utilities were unreasonable.

TCTA v. GTE Southwest, 14 FCC Rcd 2975 (CSB 1999) – reaffirming that a utility cannot recover in make-ready charges any costs that it recovers through the annual pole fee

Time Warner Entertainment v. Florida Power & Light Co., 14 FCC Rcd 9149 (CSB 1999) – rejecting a pole attachment rate of \$6.00 as unjust and unreasonable and calculating the maximum just and reasonable rate at \$5.79 per pole

Texas Cable & Telecommunications Association, et al. v. Entergy Services Inc., et al., 14 FCC Rcd 9138 (CSB 1999) – ordering Entergy to reimburse cable company complainants the difference between the parties prior negotiated rate of \$3.50 and a non-negotiated rate of \$4.34 per pole charged by Entergy

Heritage Cablevision v. Texas Utilities Electric Co., 6 FCC Rcd 7099 (1991) – finding that it is unreasonable for a pole owner to charge a cable operator higher pole attachment rates for attachments that carry commingled cable and data services; *see also Selkirk Communications v. Florida Power & Light*, 8 FCC Rcd 387 (CCB 1993); *WB Cable Assoc. v. Florida Power & Light*, 8 FCC Rcd 383 (CCB 1993)

State Public Utility Commissions

Alaska

In the Matter of the Consideration of Rules Governing Joint Use of Utility Facilities and Amending Joint-Use Regulations Adopted Under 3 AAC 52.900 – 3 AAC 52.940, Order Adopting Regulations, 2002 Alas. PUC LEXIS 489 (Alas. PUC Oct. 2, 2002) – finding that the cable rate formula “provides the right balance given the significant power and control of the pole owner over its facilities” and that “changing the formula to increase the revenues to the pole owner may inadvertently increase overall costs to consumers”

California

Order Instituting Rulemaking on the Commission’s Own Motion Into Competition of Local Exchange Service, R.95-04-043, I.95-04-044, Decision 98-10-058, 1998 Cal. PUC LEXIS 879, pp. 53-56, 82 CPUC 2d 510 (Oct. 22, 1998) (internal citations omitted) – finding “that the adoption of attachment rates based on the [cable rate] formula provides reasonable compensation to the utility owner, and there is no basis to find that the utility would be lawfully deprived of any property rights.”

Connecticut

Petition of the United Illuminating Company for a Declaratory Ruling Regarding Availability of Cable Tariff Rate for Pole Attachments by Cable Systems Providing Telecommunications Service and Internet Access, Docket No. 05-06-01, pp. 5-6, 2005 Conn. PUC Lexis 295 (Dep’t of Pub. Util. Control 2005) – upholding cost-based attachment rate and finding that the provision of additional services by a cable operators does not impose costs on the pole owner.

District of Columbia

Formal Case No. 815, In the Matter of Investigation Into The Conditions For Cable Television Use of Utility Poles In The District of Columbia, Order No. 12796 (2003) – finding that FCC regulations should be followed in determining reasonable rates

Massachusetts

A Complaint and Request for Hearing of Cablevision of Boston Co., D.P.U./D.T.E. 97-82 at 18-19 (Apr. 15, 1998) – finding that FCC formula “meets Massachusetts statutory standards as it adequately assures that [the utility] recovers any additional costs caused by the attachment of [] cables . . . while assuring that the [attachers] are required to pay no more than the fully allocated costs for the pole space occupied by them.”

Michigan

In the Matter of the Application of Consumer Power Company, Case Nos. U-10741, U-10816, U-10831 at 27, 1997 Mich. PSC Lexis 26 (1997), *reh’g denied*, 1997 Mich. PSC LEXIS 119 (April 24, 1997), *aff’d Detroit Edison Co. v. Mich. Pub. Serv. Comm’n*, No. 203421 (Mich. Court of Appeals, Nov. 24, 1998); *aff’d Consumers Energy Co. v. Mich. Pub. Serv. Comm’n*, No. 113689 (Mich. Sup. Ct. Aug. 31, 1999) – adopting FCC standard and finding that the FCC cable rate formula aligns pole rates in Michigan “more closely with other states that already adhere to this standard.”

New Jersey

Regulations of Cable Television Readoption with Amendments: N.J.A.C. 14:18, Docket No. CX02040265 (2003) – affirming use of a cost-based attachment rate and adopting the FCC formula

New York

In the Matter of Certain Pole Attachment Issues Which Arose in Case No. 94-C-0095, 997 N.Y. PUC Lexis 364 (1997) – adopting FCC approach to pole attachments

Proceeding on Motion of the Commission as to New York State Electric & Gas Corporation’s Proposed Tariff Filing to Revise the Annual Rental Charges for Cable Television Pole Attachments and to Establish a Pole Attachment Rental Rate for Competitive Local Exchange Carriers, Case 01-E-0026 (2001) – rejecting a higher telecom rate formula based on concerns that competition would suffer

Ohio

Re: Columbus and Southern Electric Company, 50 PUR 4th 37 (1982) – adopting the FCC cable formula for attachments by cable operators

Oregon

Oregon Rulemaking to Amend and Adopt Rules in OAR 860, Divisions 024 and 028, regarding Pole Attachment Use and Safety, AR 506; 510 at p. 10 (2007) – adopting FCC cable rate formula and finding that “the cable formula has been found to fairly compensate pole owners for use of space on the pole.”

Utah

In the Matter of an Investigation into Pole Attachments, 2006 Utah PUC Lexis 213 (2006) – adopting the FCC cable rate formula following a comprehensive pole attachment rulemaking, later codified at UTAH ADMIN. CODE R746-345-5(A) Pole Attachments (2006).

Vermont

Vermont Policy Paper and Comment Summary on PSB Rule 3.700 (2001) at 6 – finding that a reduction in pole attachment costs to cable companies will lead to increased deployment of advanced services and “lead to cable services becoming available in some additional low-density rural areas. . . . [Thus creating] even more value for Vermonters as cable TV companies are increasingly offering high-speed Internet service to new customers.”

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**APPLICATION OF KENTUCKY)
UTILITIES COMPANY FOR AN)
ADJUSTMENT OF ITS BASE RATES)**

**CASE NO.
2009-00548**

DIRECT TESTIMONY
OF
PATRICIA D. KRAVTIN

Submitted on

Behalf of

The Kentucky Cable Telecommunications Association

April 22, 2010

Q: PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

A: My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue, Swampscott, Massachusetts. I am an economist in private practice specializing in the analysis of telecommunications regulation and markets.

Q: PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A: I received a B.A. with Distinction in Economics from the George Washington University. I studied in the Ph.D. program in Economics under a National Science Foundation Fellowship at the Massachusetts Institute of Technology (“M.I.T.”). My fields of concentration at M.I.T. were government regulation of industry, industrial organization, and urban and regional economics. My professional background includes a wide range of consulting experiences in regulated industries. Prior to starting my own consulting practice, I was a consultant at the national economic research and consulting firm of Economics and Technology, Inc. (“ETI”) in that firm’s regulatory consulting group, where I held positions of increasing responsibility, including Senior Vice President/Senior Economist.

Q: WHAT IS YOUR EXPERIENCE SERVING AS AN EXPERT IN PROCEEDINGS RELATED TO TELECOMMUNICATIONS MATTERS?

A: I have testified or served as an expert on telecommunications matters in proceedings before over thirty state regulatory commissions. I have also provided expert testimony and reports in proceedings before the Federal Communications Commission (“FCC”) and before international agencies including the Canadian Radio-television and

Telecommunications Commission, the Ontario Energy Board, and the Guam Public Utilities Commission. In addition, I have testified as an expert witness in antitrust litigation in federal district court, and also before a number of state legislative committees. A detailed resume summarizing my educational background and previous experience is provided in Attachment 1 to my testimony.

Over the course of my career, I have been actively involved in a number of state and federal regulatory commission proceedings involving cost methodologies and the allocation of costs of incumbent local exchange carriers (“ILECs”) and electric utilities. One local network component, essential for the provision of competitive communications services, with which I am also very familiar, is access to poles, ducts, conduits, and rights-of-way. I have testified extensively on matters pertaining to these essential facilities before state and federal regulatory agencies and district courts. I have also been actively involved in related issues pertaining to broadband deployment. I have authored a number of reports dealing with this subject and participated as a grant reviewer for the Broadband Technology Opportunities Program (“BTOP”) administered by National Telecommunications and Information Administration (“NTIA”).

Q: CAN YOU DESCRIBE YOUR EXPERIENCE IN POLE ATTACHMENTS PROCEEDINGS?

A: Yes. I have submitted reports in pole proceedings before the FCC, including its most recent rulemaking proceeding, *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 (FCC 2008 NPRM Proceeding). I have

served as an expert or advisor on pole attachment matters in proceedings involving investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned utilities, and before the following state regulatory commissions: the Arkansas Public Service Commission, the Public Utilities Commission of Ohio, the Public Utilities Commission of Texas, the Georgia Public Service Commission, the South Carolina Public Service Commission, the Public Service Commission of the District of Columbia, the New Jersey Board of Public Utilities, and the New York Public Service Commission.

Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A: Yes, I testified before the Kentucky Public Service Commission (KPSC or Commission) in connection with two South Central Bell Telephone Company rate cases, Case No. 8847 (1984) and Case No. 8467 (1982), on behalf of the KPSC staff and the Commonwealth of Kentucky, respectively.

Q: WHY HAS THE KENTUCKY CABLE TELECOMMUNICATIONS ASSOCIATION ASKED YOU TO PRESENT TESTIMONY IN THIS PROCEEDING?

A: I was asked by the Kentucky Cable Telecommunications Association (KCTA) to address matters raised in this proceeding relating to the pole attachment rental rates that Kentucky Utilities Company (KU) charges cable operators. In particular, my testimony provides calculations of fair, just and reasonable pole attachment rental rates applicable to KU. I have based my testimony on the uniform formula methodology for calculating cable

attachment charges established by the KPSC in Administrative Case No. 251,¹ and in subsequent KPSC rulings addressing the application of its pole rate formula.

Q: PLEASE SUMMARIZE YOUR TESTIMONY.

A: The need for effective pole regulation arose, because cable operators and other third-parties had no practical alternative but to attach to existing pole lines – a condition as relevant today as it was decades ago. In the absence of effective pole regulation, pole-owning utilities, because of their historical incumbency, would be in a position to limit access to these essential bottleneck facilities and/or to extract excessive monopoly rents. Moreover, without effective regulation, a utility’s monopoly control over poles makes it a gatekeeper controlling the availability of new advanced broadband services and applications in its service area. This scenario is precisely the type of behavior that pole regulation, nationally, and here in Kentucky following the state’s certification to self-regulate pursuant to Administrative Case No. 251, was designed to address.

In Administrative Case No. 251, the KPSC established a uniform pole rate formula designed to “produce a fair, just and reasonable rate, based on the fully allocated costs of the utility in furnishing pole attachment services.”² The KPSC formula consists of three basic components: “(1) embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of a CATV attachment (2) multiplied

¹ *In the Matter of the Adoption of a Standard Methodology for Establishing Rates for CATV Pole Attachments*, Administrative Case No. 251, Amended Order (Admin. 251), Kentucky Public Service Commission, September 17, 1982.

² *Id.* at 8.

by an annual carrying charge, and (3) this product multiplied by the percentage of usable space used for CATV pole attachments.”³

Applying the KPSC formula methodology to KU’s data, I have calculated the maximum pole attachment rates that KU should be permitted to charge third-party cable operators to attach to its poles. My calculations are consistent with the fair, just and reasonable standard set forth in Administrative Case No. 251 and in subsequent KPSC rulings. The rate results are summarized below, with supporting calculations provided in Attachment 2 to this testimony.

Maximum KU Cable Pole Attachment Rates For Test Year Ending October 31, 2009		
Two-User	Three-User	Weighted Average
\$5.39	\$4.99	\$5.07

Rates calculated using the KPSC formula methodology are cost-based, subsidy-free, and fully compensatory to the utility. Accordingly, permitting rates to increase to levels any higher than those produced by a proper application of that formula, as shown in the table above, would fail to serve the ultimate purposes of effective pole rate regulation.

As with any formulaic approach, the accuracy and integrity of the KPSC formula depends on the accuracy and integrity of the underlying data inputs. For this reason, it is very important that the data inputs are subjected to careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be verified.

³ Id.

In this case, KU's calculations of its proposed pole attachment rates contain a number of errors with regard to key data inputs, including the adjustment for minor appurtenances applied to bare pole costs, and the rate of return, income tax, depreciation sinking fund, and operation and maintenance elements of the carrying charge factor. Based on these erroneous data inputs, KU calculates a pole attachment rate for cable of \$8.70. This rate represents a 221% increase over the current pole rate, and exceeds the fair, just and reasonable rate pursuant to the KPSC formula methodology by 72%.

Q: WHAT IS THE PURPOSE OF POLE RATE REGULATION?

A: The primary purpose of pole rate regulation has historically been, and continues to be, about protecting cable operators and other third-party attachers against monopoly abuses of pole-owning utilities. In this important context, the purpose of pole rate regulation has *not* been about maximizing third-party contribution to the revenue requirement for the utility's core electric services (which is properly recoverable from the utility's ratepayers for whom the pole network was built and maintained), but rather to *limit* the rents that utilities are permitted to charge third-party attachers to levels more in line with what a competitive market (if one existed, which it does not) would produce.

Fundamental to pole rate regulation is recognition of the fact that pole-owning utilities, by virtue of historical incumbency, own and control existing pole plant to which cable operators and other third-parties have no practical alternative but to attach. Where a utility has absolute control over essential bottleneck facilities, in the absence of effective pole regulation, pole-owning utilities are in a position to limit access to these essential

bottleneck facilities and/or to extract excessive monopoly rents.⁴ This control of the essential bottleneck pole facility effectively affords the utility a key gatekeeper role with respect to the roll-out and availability of new advanced broadband services and applications in its service area. Preventing a pole-owning utility from charging excessive rates to the detriment of competition and the consuming public, is precisely what pole regulation nationally, and here in Kentucky following the state's certification to self-regulate pursuant to Administrative Case No. 251, was designed to address.

Q: ARE THERE PUBLIC POLICY REASONS FOR PREVENTING UTILITIES FROM CHARGING EXCESSIVE RATES?

A: Yes. Excessive rates serve no valid economic or public policy purpose. To the contrary, such excessive rates work at cross purposes to important public policy goals - namely, to promote effective competition and widespread broadband deployment. This is particularly the case in rural areas, where the economic conditions for broadband deployment (e.g., lower population densities resulting in higher construction costs per capita) are the most unfavorable.⁵

⁴ See *NCTA v. Gulf Power*, 534 U.S. 327, 330 (2002) (“Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.”).

⁵ These are all points emphasized in the FCC's just-released National Broadband Plan, which recommends rates for pole attachments be set as low and as close to uniform (in the vicinity of the current cable rate) as possible to support the goal of broadband deployment, particularly in rural areas where the “impact of these rates can be particularly acute.” See *Connecting America: The National Broadband Plan*, March 16, 2010, at 110. <http://www.broadband.gov/plan/#read-the-plan>

Q: HOW IMPORTANT IS THE PROPER APPLICATION OF THE KPSC POLE RATE FORMULA TO KU?

A: Given the increased opportunities for utilities to compete with third-party attachers and the economic and social benefits of accelerated and enhanced broadband deployment, effective pole rate regulation is more important than ever. For that regulation to be effective, it is essential that the utility's implementation of the KPSC formula be carefully scrutinized.

As with any formulaic approach, the accuracy and integrity of the formula depends on the accuracy and integrity of the underlying data inputs. For this reason, it is very important that the data inputs to the formula are subjected to careful scrutiny and held to a high standard as to their reliability, accuracy, consistency, and ability to be verified. This is also consistent with the KPSC's directive that the "various cost factors needed to apply the formula should be readily available public information, such as disclosed in the utility's required reports to the Commission or other public agencies."⁶

Q: PLEASE DESCRIBE THE KPSC FORMULA METHODOLOGY.

A: The KPSC formula methodology for calculating pole attachment rates applicable to third-party cable operators consists of three basic components as follows: "(1) embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of a CATV attachment (2) multiplied by an annual carrying charge, and (3) this

⁶ Admin. 251 at 8.

product multiplied by the percentage of usable space used for CATV pole attachments.”⁷

Expressed as an equation, the basic KPSC formula methodology is as follows:

$$\text{Cable Pole Attachment Rate} = \frac{[\text{Average Bare Pole Cost} \times \text{Investment Percentage}] \times \text{Carrying Charge Factor} \times \text{Usable Space Factor}}{\text{Usable Space Factor}}$$

In Administrative Case No. 251, and in subsequent rulings addressing the application of its pole rate formula, the KPSC identified with specificity the manner in which these basic components are to be calculated.

Q: PLEASE DESCRIBE HOW THE FIRST TWO COMPONENTS OF THE FORMULA, THE EMBEDDED COST OF AN AVERAGE BARE POLE AND THE INVESTMENT PERCENTAGE, ARE CALCULATED FOR ELECTRIC UTILITIES UNDER THE KPSC FORMULA METHODOLOGY.

A: Under the KPSC methodology, the average bare pole cost is based on the “weighted average cost of two-user and three-user poles...For electric utilities, the average cost of a two-user pole will be assumed to be the weighted average cost of 35-foot and 40-foot poles, and for a three-user pole, the weighted average cost of 40-foot and 45-foot poles.”⁸ The KPSC’s methodology specifically excludes from the calculation the costs for poles with heights lower or higher than this range because the KPSC found them to be used so infrequently for cable attachments.⁹

⁷ Id.

⁸ Id. at 10-11.

⁹ Id. at 9.

In addition, the KPSC's methodology specifically excludes costs associated with appurtenances not installed for CATV purposes.¹⁰ The KPSC methodology distinguishes between two types of appurtenances – major and minor – as follows: Costs associated with major appurtenances, such as cross arms, and which “can be specifically identified in sub-accounts of the Federal Energy Regulatory Commission (“FERC”) Form 1, Account 364” are to be directly excluded from the bare pole cost calculation.¹¹ Costs associated with minor appurtenances, consisting of miscellaneous hardware not segregated in the basic pole accounts (e.g., aerial cable clamps and pole top pins) are to be excluded by application of a 15% investment percentage factor to the bare pole cost (net of major appurtenances).¹²

Q: PLEASE DESCRIBE THE SECOND COMPONENT OF THE KPSC FORMULA, THE ANNUAL CARRYING CHARGE FACTOR, AND HOW IT IS APPLIED.

A: The annual carrying charge factor (CCF) is used to convert the bare pole cost figure into an annual rental amount. The CCF was “designed to recover the utility’s cost in providing service,” including items “represent[ing] an equitable share of all operating and maintenance expenses, taxes, and depreciation, and a cost of money component,” and a “contribution by CATV toward the common costs of the utility.”¹³ The Commission specified that the cost of money factor “should be equal to the return on investment (or

¹⁰ Id.

¹¹ Id. at 9, Appendix A at 5.

¹² See id. at 9-10, Appendix A at 4-5. See also *In the Matter of Application of Jackson Purchase Energy Corporation for Adjustments in Existing Cable Television Attachment Tariff*, Case No. 2004-00319, September 14, 2005, at 2-3 (“ULS&P should reconstruct separate cost records for major appurtenances, such as anchors, cross-arms and braces, and estimate bare pole costs by deducting the cost of the major appurtenances plus 15 percent for minor appurtenances, such as aerial cable clamps and pole top pins...”).

¹³ Admin. 251 at 11-12.

margin) allowed in the utility's last rate case.”¹⁴ The Commission further specified that “[t]he costs included in the annual carrying charge calculation should be identifiable by specific account number as established in the Uniform System of Accounts prescribed by this Commission and utilized by each utility.”¹⁵

Q: PLEASE DESCRIBE HOW THE THIRD COMPONENT, THE USABLE SPACE FACTOR, IS APPLIED TO ELECTRIC UTILITIES UNDER THE KPSC METHODOLOGY.

A: The usable space factor is the percentage of pole capacity attributable to the attacher, as determined by the ratio of space occupied by attacher (agreed to be one foot) to total usable space on the pole. The KPSC methodology applies a different usage space factor to two-user and three-user poles, consistent with its differing height presumptions for the two categories of poles. Specifically, the KPSC methodology establishes a usage space factor of .1224 (1/8.17) for the typical two-user pole and .0759 (1/13.17) for the typical three-user pole.

Q: HAVE YOU CALCULATED FAIR, JUST AND REASONABLE POLE ATTACHMENT RENTAL RATES APPLICABLE TO KU BASED ON THE KPSC RATE FORMULA METHODOLOGY AS DESCRIBED ABOVE?

A: Yes. Once the various pieces of input data are properly identified, the calculation of the maximum fair, just and reasonable rate pursuant to the KPSC formula methodology is a straightforward multiplication of the three major components: *weighted average bare pole cost (net of major and minor appurtenances)* multiplied by the *carrying charge*

¹⁴ Id. at 12.

factor multiplied by the *usable space factor*. As allowed by the Commission, I have calculated a single “composite billing rate based on relative pole populations” of two-user and three-user poles, in addition to the required two and three-user pole rates.¹⁶ My calculations (provided in Attachment 2 to this testimony) fully adhere to the KPSC rate formula methodology as prescribed in Administrative Case No. 251, and as clarified in subsequent orders addressing the pole rate formula.

Q: WHAT DATA HAVE YOU USED TO CALCULATE POLE ATTACHMENT RATES FOR KU?

A: I have relied upon data provided by KU in its filing and in response to discovery requests from KCTA. These include Seelye Exhibit 8, as revised in response to KCTA’s Supplemental Data Request dated April 2, 2010, and the underlying accounting records for the relevant accounts and sub-accounts of the Federal Energy Regulatory Commission (“FERC”) Uniform System of Accounts, i.e., FERC Form 1, that KU provided in response to KCTA’s Initial Data Request dated March 1, 2010.

Q: BASED ON YOUR CALCULATIONS, WHAT RATES WOULD BE FAIR, JUST AND REASONABLE FOR CABLE ATTACHMENTS TO KU’S POLES?

A: Table 1 on the following page presents the results of my rate calculations using data for the test year ending October 31, 2009. In my opinion, permitting rates to increase to levels higher than shown on Table 1 would be inconsistent with the fair, just and

¹⁵ Id. at 11.

¹⁶ Id. at 16. (“Although we require that a two-user and three-user rate be developed and filed by each affected utility, the Commission will allow a composite billing rate based on relative pole populations when a complete inventory of CATV pole attachments is not presently available.”)

reasonable standard set forth in Administrative Case No. 251 and in subsequent KPSC rulings pertaining to cable attachments.

Table 1 Maximum KU Pole Rental Rates For Test Year Ending October 31, 2009		
	Two-User Pole	Three-User Pole
Avg. Bare Pole Cost	\$341.03	\$509.04
x Carrying Charges	12.91%	12.91%
x Space Factor	12.24%	7.59%
=Maximum Rate	\$5.39	\$4.99
No. Att. Entities	30,517	118,345
Weight	20.5%	79.5%
= Weighted Max Rate	\$5.07	

Q: DO YOUR CALCULATIONS AND RESULTING RATE RESULTS DIFFER FROM THOSE PROVIDED BY KU IN THIS CASE?

A: Yes, they differ as to a number of data inputs to the formula. The calculations underlying KU's proposed pole attachment rates contain a number of errors with regard to inputs to the formula, including the adjustment for minor appurtenances applied to bare pole costs, and the rate of return, income tax, depreciation sinking fund, and operation and maintenance elements of the carrying charge factor. My calculations correct for these errors in a manner fully consistent with the Commission's decision in Administrative Case. No. 251 and in subsequent rulings of the Commission that address the pole rate formula. Relying on a number of erroneous data inputs, KU calculates a pole attachment

rate for cable of \$8.70. This rate represents a 221% increase over the current pole rate, and exceeds a fair, just and reasonable rate by 72%.

Q: PLEASE DESCRIBE THE ERROR IN KU'S CALCULATIONS RELATING TO BARE POLE COSTS, AND HOW IT IS CORRECTED IN YOUR RATE CALCULATIONS.

A: As discussed earlier in this testimony, the KPSC methodology specifically excludes costs associated with *both* major and minor appurtenances from the calculation of the bare pole cost. Under the KPSC methodology, the utility is expected to separately track the costs of major appurtenances in various sub-accounts of Account 364 such that those costs can be excluded on a direct basis using the accounting records of the utility.¹⁷ By contrast, the costs associated with minor appurtenances, consisting of miscellaneous hardware, are neither required nor expected by the Commission to be separately tracked in the pole accounting records of the utility. Under the KPSC methodology, these costs are to be excluded by application of a 15% investment percentage factor to the bare pole cost amount (net of major appurtenances).

KU's rate calculations do not apply the required 15% reduction to remove the costs of minor appurtenances. Accordingly, KU's bare pole cost formula inputs are overstated by 15%. My calculations correct for this error by applying the Commission's mandated 15% reduction to KU's recorded investment in the relevant pole plant categories. This

¹⁷ See *In the Matter of: The CATV Pole Attachment Tariffs of the Union Light, Heat and Power Company*, Administrative Case No. 251-27, July 14, 1983, at 2-3. ("Therefore, to conform to the Commission's Amended Order of September 17, 1982, ULH&P should reconstruct separate cost records for major appurtenances, such as anchors, cross-arms, and braces, and estimate bare pole costs by deducting the cost of the major appurtenances plus 15 percent for minor appurtenances, such as aerial cable clamps and pole top pins....").

correction reduces the average bare pole cost from \$401.21 to \$341.03 for two-user poles, and from \$598.87 to \$509.04 for three-user poles.

KU asserted in response to a KCTA discovery request that the costs of minor appurtenances have been directly excluded in the same manner as major appurtenances, claiming these costs have been separately recorded in its continuing property records.¹⁸ The continuing property records provided by KU in discovery, however, do not reveal any separate recording of the costs of minor appurtenances.¹⁹ Absent accounting records that can specifically confirm the separate identification and removal of minor appurtenances from the pole plant investment recorded in Account 364, a proper application of the KPSC methodology dictates that the 15% percentage reduction be applied consistent with the Commission's ruling in Administrative Case No. 251 and in subsequent rulings.²⁰

Q: PLEASE DESCRIBE THE ERROR IN KU'S CALCULATIONS RELATING TO THE RATE OF RETURN ELEMENT OF THE CARRYING CHARGE FACTOR, AND HOW IT IS CORRECTED IN YOUR RATE CALCULATIONS.

¹⁸ KU Response to KCTA Supplemental Data Request, dated April 2, 2010, Question No. 30.

¹⁹ See Attachment to KU Response to KCTA 1-2. According to KU's response, this attachment (provided in CD format) contains KU's complete continuing property records for Account 364. The following is a complete list of the types of property separately recorded in the account: brackets, cross-arms, fences, guys, platforms, poles of varying sizes and materials, and towers.

²⁰ See *In the Matter of: The CATV Pole Attachment Tariff of Kentucky Power Company*, Administrative Case No. 251-24, July 6, 1983, at 3 (Holding that the utility "should either show" data supporting its actual bare pole costs "or deduct 15 percent for minor appurtenances according to the Commission's uniform method of estimating bare pole costs.")

A: For the rate of return component of the carrying charge factor, KU uses its proposed rate of return of 8.32%. As an initial matter, any rate of return input at this time is only a placeholder for the authorized rate of return ultimately allowed by the Commission in its decision regarding this case.²¹ Accordingly, the pole attachment rates I have calculated will need to be adjusted to reflect the final rate of return authorized by the Commission.

More importantly, KU's rate of return element contains a fundamental error by applying to gross pole costs a rate of return that is intended to apply to net plant investment.²² The effect of KU's application of a "net" rate of return number to a gross investment number is to significantly overstate the carrying costs associated with the cost of money element.

My calculations correct for this error by adjusting KU's proposed rate of return so that the calculation is performed on an "apples-to-apples" basis. I do this by simply applying a net-to-gross percentage based on the ratio of net pole plant (i.e. gross plant less accumulated depreciation) in Account 364 to gross pole plant in Account 364 in order to restate the rate of return element as a number that can be properly applied to gross investment. This net-to-gross ratio of .481, multiplied by KU's "net" rate of return of 8.32%, yields an adjusted rate of return of 4.00%.

²¹ See Admin. 251 at 12 ("For convenience and certainty of computation, the Commission finds that this return should be equal to the return on investment (or margin) allowed in the utility's last rate case.")

²² See *In the Matter of: Application of Blue Grass Energy Cooperative Corporation to Adjust Its Rates*, Case No. 2000-414, May 30, 2001, at 4. ("It is today, and has for decades been, a basic rate-making principle in Kentucky that a utility's rate of return is determined based on net rather than gross investment.")

The adjustment I have applied is fully consistent with prior rulings of the KPSC. In 2001, the Commission issued two rulings to “definitively resolve this issue.”²³ As stated by the Commission in one of those decisions:

Regardless of any uncertainty as to the intent in Admin. 251, basic rate-making involves establishing, directly or indirectly, an overall rate of return based on net investment rate base. That is how the overall rate of return of 9.20 percent proposed by Blue Grass was developed in Fox Creek RECC’s last general rate case, as well as how the 10.73 percent overall rate of return was developed in Blue Grass RECC’s last general rate case. We can find no authoritative support for applying a utility’s investment in gross plant to a return derived from net plant.²⁴

The Commission specifically endorsed the methodology proposed by KCTA in both the aforementioned cases – the same methodology I have applied in my calculations. That methodology requires the utility to “adjust the rate of return to reflect the ratio of [the utility’s] net plant investment recorded in Account 364, Poles, Towers, and Fixtures, to its gross plant investment in Account 364 and then apply the resulting ‘net-to-gross ratio’ to the ‘gross’ average pole cost amounts.”²⁵

Because the rate of return input is also used in the calculation of the income tax and depreciation sinking fund elements of the carrying charge factor, KU’s error in applying a net rate of return figure to gross pole investment also affects these two components of the carrying charge factor, as explained below.

²³ See *In the Matter of Application of Cumberland Valley Electric, Inc. to Adjust Its Rates*, Case No. 2000-359, February 26, 2001, at 4.

²⁴ See *In the Matter of Application of Blue Grass Energy Cooperative Corporation to Adjust Its Rates*, Case No. 2000-414, April 4, 2001, at 4-5.

²⁵ *Id.* at 4.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE INCOME TAX ELEMENT OF THE CARRYING CHARGE FACTOR AS IT PERTAINS TO THE RATE OF RETURN DATA INPUT.

A: The income tax element of the carrying charge factor is intended to recover the income tax liability theoretically imposed on the equity component of the utility's allowed return.²⁶ In other words, this factor ensures that the utility has the opportunity to earn the allowed rate of return after accounting for taxes. For the same reason the Commission found it improper to apply a "net" overall rate of return figure to gross pole investment, it is similarly improper to apply a "net" return on equity figure (as KU has done) in the calculation of the income tax factor.²⁷ And similarly, the effect of KU's application of a "net" return on equity to gross pole investment is to significantly overstate the carrying costs associated with the income tax element.

To correct for this problem, I simply apply to the income tax element the same net-to-gross ratio I used to correct the rate of return element of the carrying charge. This generates a return on equity for the income tax element that can be properly applied to gross pole investment. Specifically, I multiply a net-to-gross ratio of .481 times KU's "net" return on equity of 6.19% to yield an adjusted return on equity of 2.98%. Making this correction reduces the income tax element of the carrying charge factor from 3.63% to 1.75%. While I have used KU's proposed return on equity (adjusted to apply to gross pole investment) in my calculations, as with the overall rate of return, this figure is only a

²⁶The debt component of the return does not generate a tax liability.

²⁷ The income tax factor is calculated using the following formula: $\text{Income Tax} = [\text{Composite Federal and State Income Tax Rate} / (1 - \text{Composite Federal and State Income Tax Rate})] \times \text{Return on Equity}$. See Seelye, Exhibit 8, page 2.

placeholder for the allowed return on equity ultimately authorized by the Commission in this case.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE DEPRECIATION SINKING FUND ELEMENT OF THE CARRYING CHARGE FACTOR AS IT PERTAINS TO THE RATE OF RETURN DATA INPUT.

A: The depreciation sinking fund is a method of calculating depreciation that determines the payment required annually to generate a future dollar amount (e.g., the amount needed to replace the plant being depreciated), when accumulated at a given rate of interest for a period corresponding to the service life of the plant. In its calculation, KU uses its proposed rate of return (8.32%) in the sinking fund formula as the interest rate with which annual payments accumulate over the life of the plant. As in the case of both the rate of return and income tax elements, KU incorrectly applies a “net” return figure in its calculations. In the case of the depreciation sinking fund, however, the effect of KU’s error is to understate the carrying costs associated with this element. This is because the accumulation of annual payments at the higher “net” return, all else being equal, would require smaller annual payments over the life of the plant to generate the desired future amount.

Consistent with my corrections to the other rate of return inputs to the pole formula, I have corrected the sinking fund element of the carrying charge by substituting an adjusted rate of return of 4.00% (calculated by multiplying the same net-to-gross ratio of .481 to KU’s proposed rate of return of 8.32%) in place of KU’s proposed rate of return

of 8.32% in the formula used to calculate this element.²⁸ This produces a sinking fund factor that is properly applied to gross investment. As noted above, substituting a lower “gross” rate of return in the calculation of the sinking fund factor actually increases this factor (from 0.54% to 1.36%). Again, while I have used KU’s proposed rate of return (adjusted to apply to gross pole investment) in my calculations, this figure is only a placeholder for the allowed rate of return ultimately authorized by the Commission in this case.

Q: PLEASE EXPLAIN YOUR CORRECTION TO THE OPERATIONS AND MAINTENANCE ELEMENT OF THE CARRYING CHARGE FACTOR.

A: KU calculates the Operations and Maintenance (O&M) element of the carrying charge factor by taking the sum of the following three types of expenses: (1) Maintenance of Poles, Towers, and Fixtures as recorded in subaccount 593001; (2) Tree Trimming of Electric Distribution routes as recorded in subaccount 593004; and (3) an assignment of total utility Administrative and General expenses to poles (based on the ratio of labor charged to subaccounts 593001 and 593004 to total utility labor expenses), and then dividing that sum by the gross plant in service in Account 364.²⁹

KU’s data input for Maintenance of Poles, Towers, and Fixtures in subaccount 593001 (\$342,914) reconciles with the accounting records provided by KU in response to KCTA

²⁸ The sinking fund factor is calculated using the following formula: $\text{Sinking Fund Factor} = \frac{\text{Proposed Rate of Return}}{[(1 + \text{Proposed Rate of Return})^{\text{Number of Years in Service}} - 1]}$.

²⁹ See Seelye Exhibit 8, page 3.

discovery.³⁰ Similarly, KU's data inputs for the amounts of pole-related labor in 593001 (\$225,691) and 593004 (\$635,116) used to assign total Administrative and General expenses to poles reconcile with the accounting records provided by KU in response to KCTA discovery.³¹ However, that is not the case for KU's data inputs for Tree Trimming of Electric Distribution Routes in subaccount 593004 or for the gross pole plant in Account 364. The figures used by KU (as identified in Seelye Exhibit 8), \$12,689,424 for tree trimming and \$227,809,902 for gross pole plant, differ from amounts reported in the accounting records of the Company.

It is essential to the integrity of the KPSC formula methodology that the utility not be allowed to make adjustments at will to its booked and audited accounting records, as KU appears to have done in this case. Accordingly, I have corrected KU's data inputs for tree trimming and gross pole plant to conform to the amounts actually reported in KU's underlying accounting records for the test year. As shown in Attachments 3 and 4, respectively, to this testimony (containing the relevant pages from KU's accounting records provided to KCTA in discovery), the corrected amounts are \$12,341,623 for tree trimming expenses,³² and \$244,022,288 for gross pole plant investment.³³ Using these

³⁰ See Attachment to KU's Response to KCTA 1-20, "Test Year" Worksheet, Row 6776, which identifies the "Total: Account 593001" expense as \$342,914, the same dollar amount identified by KU in Seelye Exhibit 8, page 3 for "Maintenance of Poles, Towers, and Fixtures Subaccount 593001." This attachment was provided in an excel format that verifies the number appearing in Row 6776 is the numerical sum of all entries recorded in this subaccount.

³¹ See Attachment to KU's Response to KCTA 2-35, "KU Detail" Worksheet, Row 1829, and Attachment to KU's Response to KCTA 2-36, "KU Detail" Worksheet, Row 1617.

³² See Attachment to KU's Response to KCTA 1-20, "Test Year" Worksheet, Row 24691 (reproduced in Attachment 3 to this testimony), which identifies the "Total: Account 593004" (tree trimming expense) as \$12,341,623. Attachment to KU's Response to KCTA 1-20 was provided in an excel format that verifies the number appearing in Row 24691 is the numerical sum of all entries recorded in this subaccount.

corrected data inputs has the effect of reducing the O&M element of the carrying charge factor from 6.13% to 5.58%.

Q: WHAT IS THE EXPLANATION FOR KU'S USE OF DATA INPUTS THAT DO NOT RECONCILE TO ITS ACCOUNTING RECORDS?

A: In the case of its tree trimming expense figure, KU has apparently adjusted its booked 593004 accounting records to remove credits associated with certain storm related regulatory assets.³⁴ In the case of its gross pole plant figure, KU has purportedly adjusted its booked 364 accounting records to remove "the value of property completed but not classified."³⁵ In neither instance do KU's explanations have merit or justify KU's deviations from its booked accounting records.

Q: PLEASE EXPLAIN WHY KU'S ADJUSTMENT TO RECORDED TREE TRIMMING EXPENSES IS ERRONEOUS?

A: In allowing KU to create regulatory assets for accounting purposes pertaining to the cost recovery of storm-related expenses, the KPSC has recognized these expenses are extraordinary in nature, and are more appropriately amortized over a number of years in order to minimize the severity of the impact in any given year on the utility's financial

³³ See Attachment to KU's Response to KCTA 1-2, "KU KCTA 1-2 364 Oct 09" Worksheet, Row 2730 (reproduced in Attachment 4 to this testimony), which identifies the "Total" of Account 364.00 Poles, Towers and Fixtures plant investment as \$244,022,288. This attachment was provided in an excel format that verifies the number appearing in Row 2730 is the numerical sum of all entries recorded in this account.

³⁴ See Attachment to KU's Response to KCTA 1-20, "Test Year" Worksheet, see also LGE Response to KCTA Supplemental Data Request, April 2, 2010, Question No. 38.

³⁵ KU Response to KCTA Supplemental Data Request, April 2, 2010, Question No. 32.

records.³⁶ That is why the KPSC has allowed KU to remove storm-related expenses from its FERC accounts and place them in a regulatory asset, for amortization over time. In adjusting its tree trimming expenses, KU has in effect undone that accounting adjustment. In other words, KU has taken the expenses it had moved into its regulatory asset and effectively reinserted them into Account 593 for purposes of its pole rate calculations. This results in what amounts to a double counting of these storm-related expenses.

As customers of the utility, there is no reason why cable attachers should be singled out for disparate treatment with respect to the amortization and rate recovery of storm-related tree trimming expenses. It would be unjust and unreasonable for cable attachers to be charged rates that include recovery of expenses deemed extraordinary, and accordingly, in excess of those appropriately recognized in the test year. Moreover, because the Commission has allowed cost recovery of these expenses to be amortized over multiple years, there would be double recovery of these expenses if on an annualized basis, cable attachment rates were based on the unadjusted total amount of particular storm-related expenses.

Q: PLEASE EXPLAIN WHY KU'S ADJUSTMENT TO RECORDED POLE PLANT ACCOUNT 364 IS ERRONEOUS?

A: KU's adjustment to the gross pole plant amounts booked to Account 364 purportedly to remove "plant not yet classified" makes the utility's O&M calculation (as part of the

³⁶ See *Re: Kentucky Utilities Company*, Case No. 2009-00174 (Ky. PSC Sep. 30, 2009); see also *Application of Kentucky Utilities Company for an Order Approving the Establishment of a Regulatory Asset*, Case No. 2008-00457 (Ky. PSC Dec. 22, 2008).

carrying charge factor calculation) inconsistent with its bare pole cost calculations. For purposes of the O&M calculation, KU uses a gross Account 364 pole plant figure of \$227 million.³⁷ However, KU's bare pole cost calculations are tied to gross pole costs of \$244 million.

For three reasons, it is clear that KU's bare pole cost calculations are tied to different data than its O&M calculations. First, KU itself identified \$244 million as the "original cost" when asked in discovery to "provide the embedded costs in KU Account[] 364... as of Oct. 31, 2009"³⁸ (a copy of KU's response is provided in Attachment 5 to this testimony). Second, as indicated above (and shown in Attachment 4 to this testimony), the \$244 million amount is the figure identified in KU's continuing property records as the total Account 364 plant in service. Third, the figures used by KU to calculate average bare pole costs are derived from the same Account 364 continuing property records that in the aggregate total to the \$244 million figure.

Using the data reported in KU's Account 364 continuing property records, it can be demonstrated that the figures KU has used to calculate average installed bare pole costs for 35, 40, and 45 foot poles reconcile precisely to the amounts identified in KU's continuing property records. I have performed such a reconciliation between the numbers shown on the revised Seelye Exhibit 8 - a copy of which is provided in

³⁷ Gross pole plant is used as the denominator of the O&M element of the carrying charge component which is calculated as follows: O&M Expenses Assigned to Poles / Gross Pole Plant in Service.

³⁸ KU Response to KCTA Data Request dated March 1, 2010, Question No. 1 (provided in Attachment 5 testimony).

Attachment 6 to this testimony³⁹ - and KU's continuing property record data. That analysis is provided in Attachment 7 to this testimony. As shown in Attachment 7, I have summed up all the individual recorded entries pertaining to each category of poles for the columns labeled "Quantity" and "Cost." The sums I have calculated (on pages 32, 35, and 38 of Attachment 7), are identical to the figures identified in the revised Seelye Exhibit 8. Moreover, the continuing property record data for pole plant in service in the aggregate (which include the cost data for the three pole sizes used in the rate formula) total exactly to the "original" \$244 million gross pole plant figure.

Adjusting pole plant for purposes of the carrying charge calculation (as KU does), without doing so for the calculation of the bare pole cost component, introduces an internal inconsistency in the rate calculations. This inconsistency in key data inputs undermines the integrity of the formula methodology and results in an overstatement of the carrying charge factor (since gross pole investment is used as the denominator of the expense ratio, and a lower figure in the denominator will increase the calculated ratio). To correct for this gross inconsistency, I have used the original embedded cost figure of \$244 million - as reported by KU itself - in place of KU's adjusted gross pole plant figure of \$227 million.⁴⁰

³⁹ Seelye Exhibit 8 was revised in KU's Response to KCTA Data Request dated April 2, 2010, Question No. 29a to reflect test year amounts. KU had previously provided data as of November 30, 2009 instead of October 31, 2009.

⁴⁰ It should be noted that even if KU was able to justify its lower pole investment figure of \$227 million, that would not change the fact its calculations suffer from an internal inconsistency. KU would still need to correct the quantity and installed cost data shown in Seelye Exhibit 8 (and used to calculate attachment charges) to correspond to the lower \$227 million figure.

Q: DOES THIS CONCLUDE YOUR TESTIMONY?

A: Yes, it does.

Attachment 1

Patricia D. Kravtin

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Summary

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

Experience

CONSULTING ECONOMIST

2000–Present Independent Consulting Swampscott, MA

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

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, 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; and access to pole attachments 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 numerous industry reports and papers on topics including market structure and competition, alternative forms of regulation, patterns of investment, telecommunications modernization, and broadband deployment (see listing of Reports and Studies).
- Invited speaker before various national organizations, state legislative committees and participant in industry symposiums.
- Grant Reviewer for 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 related to allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis of 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)

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 the California Association of Competitive Telecommunications Companies (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-Term 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, evidence 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 Pops 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

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, 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 submitted September 18, 2009, Reply Report submitted October 16, 2009.

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 filed March 31, 2006, Deposition March 15, 2006, Cross-Examination 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 (jointly with 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 December 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 filed 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 filed January 23, 2002; Rebuttal Testimony filed 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 December 7, 2001, Rebuttal Expert Report filed December 20, 2001, Deposition January 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 September 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 October 9, 1998, cross-examination 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.93-04-002AT&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 February 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 February 10, 1994.

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

1992

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

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

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

1991

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

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

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

1990

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

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

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

1989

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

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

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

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

1988

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

1987

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.

1986-1982

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

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).

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

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.

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.

Attachment 2

Rate Calculations

CATV Attachment Charges

(KU - Test Year Ending October 31, 2009)

**CALCULATION OF MAXIMUM CATV
POLE ATTACHMENT RATES
UNDER KPSC FORMULA
DATA FOR YR ENDING 10/31/09
Kentucky Utilities Company**

**Kravtin Att. 2
Page 1/3**

Weighted Average Bare Pole Cost	Two- User	Three-User
Installed Costs		
35' Poles	\$17,215,691.21	n/a
40' Poles	\$77,391,311.47	\$77,391,311.47
45" Poles	<u>n/a</u>	<u>\$45,668,508.50</u>
Sum Installed Costs	\$94,607,002.68	\$123,059,819.97
- Investment in Minor Appurtenances	<u>\$14,191,050.40</u>	<u>\$18,458,973.00</u>
= Investment in Bare Pole Plant	\$80,415,952.28	\$104,600,846.97
Quantity of Poles		
35' Poles	93,470	n/a
40' Poles	142,334	142,334
45" Poles	<u>n/a</u>	<u>63,153</u>
/ Sum Quantity	235,804	205,487
=Weighted Average Cost per Bare Pole	\$341.03	\$509.04

Carrying Charges

Rate of Return

Rate of Return	8.32%	8.32%
Net Investment Acct 364 Pole Plant/	\$117,464,289.15	\$117,464,289.15
Gross Investment Acct 364 Pole Plant	\$244,022,288.15	\$244,022,288.15
Ratio Net to Gross Plant	0.481	0.481
Rate of Return Applied to Gross Pole Plant	4.00%	4.00%

Depreciation

Rate of Return Applied to Gross Pole Plant	4.00%	4.00%
Number of Years Plant in Service	35	35
Sinking Fund Factor (formula per Resp KCTA Q-15)	1.36%	1.36%

Income Tax

Return on Equity Component of ROR	11.50%	11.50%
x Percentage Equity	53.85%	53.85%
= Return on Equity Component	6.19%	6.19%
Net Investment Acct 364 Pole Plant	\$117,464,289.15	\$117,464,289.15
Gross Investment Acct 364 Pole Plant /	\$244,022,288.15	\$244,022,288.15
Ratio Net to Gross Plant	0.481	0.481
Return on Equity Applied to Gross Pole Plant	2.98%	2.98%
Composite Fed. And State Income Tax Rate	36.93%	36.93%
Income Tax Factor (formula per Seelye Exh. 8)	1.75%	1.75%

Property Tax and Insurance

Percentage Applicable to Poles (Resp KCTA Q-18)	0.22%	0.22%
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Operation and Maintenance

Labor Charged to Maintenance Accts 593001+593004	\$860,807.00	\$860,807.00
Total Labor	\$71,018,516.00	\$71,018,516.00
Ratio Designated 593 Labor to Total Labor	1.21%	1.21%
Total A&G Expenses	\$77,056,654.00	\$77,056,654.00
A&G Expenses Assigned to Poles Maintenance of Poles, Towers & Fixtures Acct 593001	\$933,994.55	\$933,994.55
Tree Trimming Elec. Distribution Routes Acct 593004	\$342,913.78	\$342,913.78
Sum Expenses Assigned to Poles	\$12,341,622.73	\$12,341,622.73
Gross Investment Acct 364 Pole Plant	\$13,618,531.06	\$13,618,531.06
O&M Expense Factor	\$244,022,288.15	\$244,022,288.15
	5.58%	5.58%

Total Carrying Charges	12.91%	12.91%
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Usage Space Factor

KPSC Usage Space Factor	0.1224	0.0759
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Maximum Pole Attachment Rates

Investment Per Bare Pole	\$341.03	\$509.04
*Carrying Charges	12.91%	12.91%
*Charge Factor	12.24%	7.59%
Maximum Pole Attachment Rate	\$5.39	\$4.99

Estimated Number of Attachments	30,517	118,345
Percentage of Total Attachments	20.50%	79.50%

Maximum Weighted Pole Attachment Rate

\$5.07

DATA ENTRY AND SOURCE

Gross Investment in 364	\$244,022,288.15	Attach. to KU Resp. to KCTA 1-2
Depreciation Reserve for 364	\$126,557,999.00	KU Resp. to KCTA Q-8
Overall Rate of Return	8.32%	Placeholder KPSC No.
Return on Equity Component of ROR	11.50%	Placeholder KPSC No.
Percentage Equity Component	53.85%	Placeholder KPSC No.
Composite Fed. And State Income Tax Rate	36.93%	KU Resp. to KCTA Q-16
Percentage Reduction Appurtenances	15%	KPSC Formula
Maintenance of Poles, Towers & Fixtures Acct 593001	342,913.78	Attach. to KU Resp. to KCTA 1-20
Tree Trimming Elec. Distribution Routes Acct 593004	12,341,622.73	Attach. to KU Resp. to KCTA 1-20
Total A& G Expenses	77,056,654.00	Seelye Ex. 8
Labor Charged to 593001	225,691.00	Seelye Ex. 8
Labor Charged to 593004	635,116.00	Seelye Ex. 8
Sum Labor 593001,593004	860,807.00	
Total Labor	71,018,516.00	Seelye Ex. 8
Ratio 593 Labor / Total Labor	0.01212	
Estimated Number of Attachments - Two User	30,517	Seelye Ex. 8
Estimated Number of Attachments - Three User	118,345	Seelye Ex. 8
Installed Costs		
35' Poles	\$17,215,691.21	Attach. to KU Resp. to KCTA 1-2
40' Poles	\$77,391,311.47	Attach. to KU Resp. to KCTA 1-2
45" Poles	\$45,668,508.50	Attach. to KU Resp. to KCTA 1-2
Quantity of Poles		
35' Poles	93,470	Attach. to KU Resp. to KCTA 1-2
40' Poles	142,334	Attach. to KU Resp. to KCTA 1-2
45" Poles	63,153	Attach. to KU Resp. to KCTA 1-2

Attachment 3

Attachment to KU Response to KCTA 1-20

KU Activity in Accounts 592 and 593

Page 358 (of 359)

Kentucky Utilities Company
 Activity in Accounts 592 and 593
 For Twelve Months Ending October 31, 2009

Account	Account Name	Net Amount	GL Journal Name	Description	AP Vendor Name	AP Invoice Number
593004	TREE TRIMMING	55,149.96	Purchase Invoices USD 03-DEC-08	LABOR 0301	PHILLIPS TREE EXPERTS INC	K5706
593004	TREE TRIMMING	55,439.20	Purchase Invoices USD 08-MAY-09	INVOICE NO. 071517 - LABOR	ASPLUNDH TREE EXPERT CO	071517
593004	TREE TRIMMING	56,000.00	Purchase Invoices USD 21-DEC-08	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	122710308A
593004	TREE TRIMMING	56,152.81	Purchase Invoices USD 15-JUN-09	EQUIP 0303	PHILLIPS TREE SERVICE INC	0D6102
593004	TREE TRIMMING	56,570.11	Purchase Invoices USD 19-MAR-09	INVOICE NO. 143833-5855 - LABOR	TOWNSEND TREE SERVICE COMPANY INC	163938365
593004	TREE TRIMMING	57,266.79	Purchase Invoices USD 18-MAR-09	INVOICE E-5892 - STORM RESTORATION /ICE & WIND STORM	PHILLIPS TREE EXPERTS INC	E5892
593004	TREE TRIMMING	57,565.57	Purchase Invoices USD 24-APR-09	INVOICE NO. 30918601 - STORM WORK - EQUIP	WRIGHT TREE SERVICE INC	30918601
593004	TREE TRIMMING	57,828.40	Purchase Invoices USD 19-MAR-09	INVOICE OF-5880 ICE STORM RESTORATION WORK	PHILLIPS TREE EXPERTS INC	CF5880
593004	TREE TRIMMING	58,998.18	Purchase Invoices USD 19-DEC-08	INVOICE NO. 642351 - labor	NEILSON TREE SERVICE INC	642351
593004	TREE TRIMMING	60,010.65	Purchase Invoices USD 08-MAY-09	LABOR 0301	TOWNSEND TREE SERVICE COMPANY INC	1159878988
593004	TREE TRIMMING	60,593.14	Purchase Invoices USD 16-APR-09	INVOICE NO. 071590 - LABOR	ASPLUNDH TREE EXPERT CO	071590
593004	TREE TRIMMING	60,991.20	Purchase Invoices USD 19-MAR-09	INVOICE D-5890 - ICE STORM RESTORATION WORK	NEILSON TREE SERVICE INC	642385
593004	TREE TRIMMING	62,256.78	Purchase Invoices USD 25-MAR-09	INVOICE 30951542 - EQUIP	PHILLIPS TREE EXPERTS INC	D5890
593004	TREE TRIMMING	62,351.10	Purchase Invoices USD 02-DEC-08	LABOR 0301	PHILLIPS TREE SERVICE INC	30951542
593004	TREE TRIMMING	62,394.65	Purchase Invoices USD 25-MAR-09	INVOICE 20960485 - Equip	PHILLIPS TREE SERVICE INC	CF79709
593004	TREE TRIMMING	62,738.67	Purchase Invoices USD 31-MAR-09	INVOICE NO. 642357 - labor	NEILSON TREE SERVICE INC	20960485
593004	TREE TRIMMING	67,188.12	Purchase Invoices USD 07-APR-09	INVOICE E-5935 - ICE STORM RESTORATION WORK	WRIGHT TREE SERVICE INC	642357
593004	TREE TRIMMING	69,266.04	Purchase Invoices USD 07-APR-09	INVOICE NO. 3967869 - STORM WORK - LABOR	PHILLIPS TREE EXPERTS INC	E5935
593004	TREE TRIMMING	70,047.70	Purchase Invoices USD 08-MAY-09	INVOICE NO. 071589 - LABOR	WOLF TREE INC	3967869
593004	TREE TRIMMING	70,530.19	Purchase Invoices USD 19-OCT-09	EQUIP 0303	ASPLUNDH TREE EXPERT CO	071589
593004	TREE TRIMMING	72,018.24	Purchase Invoices USD 19-OCT-09	LABOR - 0301	PHILLIPS TREE EXPERTS INC	E6417
593004	TREE TRIMMING	72,211.47	Purchase Invoices USD 25-MAR-09	INVOICE 20960486 - labor	PHILLIPS TREE SERVICE INC	20960488
593004	TREE TRIMMING	72,541.79	Purchase Invoices USD 16-APR-09	INVOICE NO. 642388 - STORM WORK - LABOR	NEILSON TREE SERVICE INC	K6244
593004	TREE TRIMMING	72,833.86	Purchase Invoices USD 28-JUL-08	LABOR 0301	PHILLIPS TREE SERVICE INC	642388
593004	TREE TRIMMING	73,538.24	Purchase Invoices USD 28-JUL-08	INVOICE 20960486 - labor	WRIGHT TREE SERVICE INC	K6225
593004	TREE TRIMMING	75,155.28	Purchase Invoices USD 17-APR-09	LABOR 0301	PHILLIPS TREE EXPERTS INC	163608361
593004	TREE TRIMMING	77,000.00	Purchase Invoices USD 12-MAY-09	INVOICE NO. 091518 - LABOR	TOWNSEND TREE SERVICE COMPANY INC	091518
593004	TREE TRIMMING	77,673.31	Purchase Invoices USD 20-FEB-09	INVOICE NO. 091518 - LABOR	PHILLIPS TREE EXPERTS INC	E64269
593004	TREE TRIMMING	78,558.08	Purchase Invoices USD 31-MAR-09	INVOICE E-5899 - STORM RESTORATION - LABOR	PHILLIPS TREE EXPERTS INC	E64269
593004	TREE TRIMMING	80,807.80	Purchase Invoices USD 08-MAY-09	INVOICE NO. 642360 - labor	ASPLUNDH TREE EXPERT CO	091515
593004	TREE TRIMMING	81,058.50	Purchase Invoices USD 08-MAY-09	INVOICE NO. 071595 - LABOR	NEILSON TREE SERVICE INC	071595
593004	TREE TRIMMING	82,593.32	Purchase Invoices USD 23-DEC-08	INVOICE NO. 091517 - LABOR	ASPLUNDH TREE EXPERT CO	091517
593004	TREE TRIMMING	89,309.78	Purchase Invoices USD 16-APR-09	INVOICE no. 16431-6438 - labor	TOWNSEND TREE SERVICE COMPANY INC	164317438
593004	TREE TRIMMING	113,995.74	Purchase Invoices USD 01-MAY-09	EQUIP 0303	NEILSON TREE SERVICE INC	642408
593004	TREE TRIMMING	118,765.60	Purchase Invoices USD 31-MAR-09	INVOICE NO. 642308 - STORM WORK - LABOR	ASPLUNDH TREE EXPERT CO	160571220A
593004	TREE TRIMMING	133,920.56	Purchase Invoices USD 24-APR-09	INVOICE NO. 30918601 - STORM WORK	TOWNSEND TREE SERVICE COMPANY INC	30918601
593004	TREE TRIMMING	138,582.11	Purchase Invoices USD 01-SEP-09	Writer Ice Storm Reg Asset Credit	NEILSON TREE SERVICE INC	642384
593004	TREE TRIMMING	146,700.64	Purchase Invoices USD 16-APR-09	INVOICE NO. 642384 - STORM WORK - LABOR	WRIGHT TREE SERVICE INC	30918601CM
593004	TREE TRIMMING	147,731.36	Purchase Invoices USD 26-JUN-09	NULL	PHILLIPS TREE SERVICE INC	E6888
593004	TREE TRIMMING	162,391.79	Purchase Invoices USD 20-FEB-09	INVOICE E-5888 - STORM RESTORATION - LABOR	PHILLIPS TREE SERVICE INC	30951542
593004	TREE TRIMMING	164,131.51	Purchase Invoices USD 25-MAR-09	INVOICE 30951542 - labor	WRIGHT TREE SERVICE INC	30951542
593004	TREE TRIMMING	176,270.66	Purchase Invoices USD 20-FEB-09	INVOICE 30912801 - labor	WRIGHT TREE SERVICE INC	30912801
593004	TREE TRIMMING	205,631.05	Purchase Invoices USD 25-MAR-09	INVOICE E-5888 - STORM RESTORATION - LABOR	WRIGHT TREE SERVICE INC	30951942
593004	TREE TRIMMING	215,416.23	Purchase Invoices USD 25-MAR-09	Writer Wind Storm Reg Asset Credit	WRIGHT TREE SERVICE INC	20950485
593004	TREE TRIMMING	315,000.00	Reverses 31255-0110-1008 Adjustment USD 01-OCT-08*	INVOICE 30951542 - LABOR	WRIGHT TREE SERVICE INC	30951542
593004	TREE TRIMMING	343,818.85	Purchase Invoices USD 01-DEC-08	INVOICE 30912801 - labor	WRIGHT TREE SERVICE INC	30912801
593004	TREE TRIMMING	469,942.52	Purchase Invoices USD 25-MAR-09	Contract Services Tree Trimming - Ice Storm	WRIGHT TREE SERVICE INC	30912801
593004	TREE TRIMMING	750,000.00	Adjustment USD 01-AUG-09	INVOICE 20950485 - Labor	WRIGHT TREE SERVICE INC	20950485
593004	TREE TRIMMING	6,313,947.90	Adjustment USD 01-SEP-09	Townsend - ED	WRIGHT TREE SERVICE INC	20950485
593004	TREE TRIMMING		Adjustment USD 01-SEP-09	Writer Ice Storm Reg Asset Credit	WRIGHT TREE SERVICE INC	20950485
Total: Account 593003		\$ 12,341,822.73				
593005	MINOR EXEMPT EXPENSE	0.20	Purchase Invoices USD 30-SEP-09	31373006444447	KENTUCKY STATE TREASURER	01-OCT-2009 08:14KY U
593005	MINOR EXEMPT EXPENSE	1.13	Purchase Invoices USD 30-SEP-09	313730064444412	KENTUCKY STATE TREASURER	01-OCT-2009 08:14KY U
593005	MINOR EXEMPT EXPENSE	3.36	Purchase Invoices USD 31-MAY-09	INSULATOR SECONDARY SP00L 3' PORCELAIN WHITE ANSIL CLASS 53-2	BROWNS TOWN ELECTRIC SUPPLY CO INC	0644404
593005	MINOR EXEMPT EXPENSE	6.00	Purchase Invoices USD 31-MAY-09	313730063199179	KENTUCKY STATE TREASURER	01-JUN-2009 08:35KY U
593005	MINOR EXEMPT EXPENSE	6.48	Purchase Invoices USD 30-SEP-09	313730064444415	KENTUCKY STATE TREASURER	01-OCT-2009 08:14KY U
593005	MINOR EXEMPT EXPENSE	7.47	Purchase Invoices USD 31-MAY-09	313730063199179	KENTUCKY STATE TREASURER	01-JUN-2009 08:35KY U
593005	MINOR EXEMPT EXPENSE	7.77	Purchase Invoices USD 31-MAY-09	313730063199174	KENTUCKY STATE TREASURER	01-JUN-2009 08:35KY U
593005	MINOR EXEMPT EXPENSE	8.86	Purchase Invoices USD 31-JAN-09	313730063536072	KENTUCKY STATE TREASURER	01-FEB-2009 10:34KY U
593005	MINOR EXEMPT EXPENSE	10.66	Purchase Invoices USD 30-JUN-09	313730063536072	KENTUCKY STATE TREASURER	01-FEB-2009 10:34KY U
593005	MINOR EXEMPT EXPENSE	13.48	Purchase Invoices USD 31-JAN-09	313730063536072	KENTUCKY STATE TREASURER	01-FEB-2009 10:34KY U
593005	MINOR EXEMPT EXPENSE	14.16	Purchase Invoices USD 30-JUN-09	313730063536072	KENTUCKY STATE TREASURER	01-FEB-2009 10:34KY U
593005	MINOR EXEMPT EXPENSE	14.98	Purchase Invoices USD 31-MAY-09	313730063536072	KENTUCKY STATE TREASURER	01-JUL-2009 08:35KY U
593005	MINOR EXEMPT EXPENSE	15.81	Purchase Invoices USD 31-AUG-09	417860061264UN1	KENTUCKY STATE TREASURER	01-JUN-2009 08:35KY U
593005	MINOR EXEMPT EXPENSE	17.27	Purchase Invoices USD 31-MAY-09	313730063199177	KENTUCKY STATE TREASURER	01-SEP-2009 08:14KY U

Attachment 4

Attachment to KU Response to KCTA 1-2

KU Plant Account 364 – Poles, Towers, and Fixtures

As of October 31, 2009, Page 50 (of 50)

Kentucky Utilities Company
Plant Account 364 - Poles, Towers, and Fixtures
As of October 31, 2009

<u>Account</u>	<u>In-Service Date</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>
E364.00-Poles, Towers, and Fixtures	30-Apr-02	STEEL POLES	1	42,121
E364.00-Poles, Towers, and Fixtures	1-Jan-03	STEEL POLES	53	96,300
E364.00-Poles, Towers, and Fixtures	1-Jan-04	STEEL POLES	20	19,880
E364.00-Poles, Towers, and Fixtures	1-Jan-06	STEEL POLES	1	669
E364.00-Poles, Towers, and Fixtures	25-Apr-06	STEEL POLES	2	0
E364.00-Poles, Towers, and Fixtures	26-Apr-06	STEEL POLES	1	0
E364.00-Poles, Towers, and Fixtures	1-Jan-07	STEEL POLES	2	7,490
E364.00-Poles, Towers, and Fixtures	1-Jan-08	STEEL POLES	3	2,131
E364.00-Poles, Towers, and Fixtures	30-Sep-08	STEEL POLES	1	1,656
E364.00-Poles, Towers, and Fixtures	31-Oct-08	STEEL POLES	1	2,101
E364.00-Poles, Towers, and Fixtures	31-Dec-08	STEEL POLES	1	2,243
E364.00-Poles, Towers, and Fixtures	30-Jul-09	STEEL POLES	1	1,841
E364.00-Poles, Towers, and Fixtures	31-Jul-09	STEEL POLES	2	4,567
E364.00-Poles, Towers, and Fixtures	12-Aug-09	STEEL POLES	3	6,413
E364.00-Poles, Towers, and Fixtures	1-Sep-09	STEEL POLES	13	22,518
E364.00-Poles, Towers, and Fixtures	1-Oct-09	STEEL POLES	6	19,422
E364.00-Poles, Towers, and Fixtures	16-Oct-09	STEEL POLES	2	254
E364.00-Poles, Towers, and Fixtures	31-Oct-09	STEEL POLES	2	5,529
E364.00-Poles, Towers, and Fixtures	10-Nov-09	STEEL POLES	1	2,521
E364.00-Poles, Towers, and Fixtures	31-Dec-09	TOWERS	1	3,110
E364.00-Poles, Towers, and Fixtures	31-Dec-41	TOWERS	2	2,291
E364.00-Poles, Towers, and Fixtures	31-Dec-56	TOWERS	1,870	255
E364.00-Poles, Towers, and Fixtures	31-Dec-60	TOWERS	150	45
E364.00-Poles, Towers, and Fixtures	31-Dec-72	TOWERS	100	42
E364.00-Poles, Towers, and Fixtures	31-Dec-81	TOWERS	2	42,088
E364.00-Poles, Towers, and Fixtures	1-Jan-99	TOWERS	2	5,838,921
E364.00-Poles, Towers, and Fixtures	1-Jan-00	TOWERS	4	298
E364.00-Poles, Towers, and Fixtures	1-Jan-04	TOWERS	1	116
Total				<u>\$ 244,022,288</u>

Attachment 5

KU Response to KCTA Data Request, Dated March 1, 2020

Question No. 1

KENTUCKY UTILITIES COMPANY

CASE NO. 2009-00548

**Response to Data Request of
The Kentucky Cable Telecommunications Association
Dated March 1, 2010**

Question No. 1

Responding Witness: Shannon L. Charnas

- Q-1. Please provide the embedded costs in KU Accounts 364, 365, and 369 as of Oct. 31, 2009 and year-end 2009. If data is not available for year-end 2009, please provide it as of Oct. 31, 2009 and year-end 2008.
- A-1. Please see the table below for original cost.

<u>Account</u>	<u>Oct 31, 2009</u>	<u>Dec 31, 2009</u>
364.00	\$244,022,288	\$249,862,383
365.00	240,864,386	248,040,961
369.00	83,132,396	83,147,151

Attachment 6

Attachment to KU Response to

KCTA-2 Question No. 29a

Page 1 of 3

(Revised Seelye Exhibit 8)

KENTUCKY UTILITIES COMPANY

Calculation Of Attachment Charges for CATV

<u>Pole Size</u>	<u>Quantity</u>	<u>Installed Cost</u>	<u>Average Installed Cost</u>
<u>Weighted Average Bare Pole Cost as of 10/31/2009</u>			
35'	93,470	\$ 17,215,691	\$ 184.18
40'	<u>142,334</u>	<u>77,391,311</u>	<u>543.73</u>
	235,804	94,607,002	401.21
<u>Three-User Poles</u>			
40'	142,334	\$ 77,391,311	\$ 543.73
45'	<u>63,153</u>	<u>45,668,509</u>	<u>723.14</u>
	205,487	123,059,820	598.87
<u>Two-User Pole Cost</u>			
			Estimated Number of Attachments
\$401.21 x .1224 Usage Space Factor = \$ 49.11			
\$ 49.11 x .1884 Annual Carrying Charge = \$ 9.25			
			30,517
			\$ 282,292
<u>Three-User Pole Cost</u>			
			Estimated Number of Attachments
\$598.87 x .0759 Usage Space Factor = \$45.45			
\$ 45.45 x .1884 Annual Carrying Charge = \$8.56			
			118,345
			1,013,284
Weighted Total			<u>148,862</u>
Weighted Average Monthly Cost			\$ 8.70

Attachment 7

Attachment to KU Response to KCTA 1-2

Pages 29-38 (of 61)

Note: This attachment is as provided by KU with the exception of additional summary calculations I have performed at pages 32, 35, and 38, which reconcile the amounts shown in these continuing property records to the bare pole cost figures used in Seelye Exhibit 8 to calculate attachment charges.

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost
E364.00-Poles, Towers, and Fixtures	9-Nov-09	POLE WOOD 30 FT	165	54,114
E364.00-Poles, Towers, and Fixtures	10-Nov-09	POLE WOOD 30 FT	4	9,691
E364.00-Poles, Towers, and Fixtures	19-Nov-09	POLE WOOD 30 FT	144	68,025
E364.00-Poles, Towers, and Fixtures	21-Nov-09	POLE WOOD 30 FT	87	44,828
E364.00-Poles, Towers, and Fixtures	23-Nov-09	POLE WOOD 30 FT	1	117
E364.00-Poles, Towers, and Fixtures	25-Nov-09	POLE WOOD 30 FT	99	80,159
E364.00-Poles, Towers, and Fixtures	30-Nov-09	POLE WOOD 30 FT	680	392,276
E364.00-Poles, Towers, and Fixtures	2-Dec-09	POLE WOOD 30 FT	759	386,007
E364.00-Poles, Towers, and Fixtures	3-Dec-09	POLE WOOD 30 FT	1	654
E364.00-Poles, Towers, and Fixtures	7-Dec-09	POLE WOOD 30 FT	35	26,930
E364.00-Poles, Towers, and Fixtures	9-Dec-09	POLE WOOD 30 FT	1	258
E364.00-Poles, Towers, and Fixtures	17-Dec-09	POLE WOOD 30 FT	5	7,941
E364.00-Poles, Towers, and Fixtures	22-Dec-09	POLE WOOD 30 FT	1	1,219
E364.00-Poles, Towers, and Fixtures	31-Dec-09	POLE WOOD 30 FT	1	418
E364.00-Poles, Towers, and Fixtures	1-Jan-41	POLE WOOD 35 FT	3	39
E364.00-Poles, Towers, and Fixtures	1-Jan-41	POLE WOOD 35 FT	112	2,676
E364.00-Poles, Towers, and Fixtures	1-Jan-42	POLE WOOD 35 FT	202	10,443
E364.00-Poles, Towers, and Fixtures	1-Jan-43	POLE WOOD 35 FT	15	624
E364.00-Poles, Towers, and Fixtures	1-Jan-44	POLE WOOD 35 FT	36	2,394
E364.00-Poles, Towers, and Fixtures	1-Jan-45	POLE WOOD 35 FT	19	525
E364.00-Poles, Towers, and Fixtures	1-Jan-46	POLE WOOD 35 FT	469	15,006
E364.00-Poles, Towers, and Fixtures	1-Jan-47	POLE WOOD 35 FT	454	21,017
E364.00-Poles, Towers, and Fixtures	1-Jan-48	POLE WOOD 35 FT	693	33,164
E364.00-Poles, Towers, and Fixtures	1-Jan-49	POLE WOOD 35 FT	4,896	282,062
E364.00-Poles, Towers, and Fixtures	1-Jan-50	POLE WOOD 35 FT	6,543	378,195
E364.00-Poles, Towers, and Fixtures	1-Jan-51	POLE WOOD 35 FT	4,844	315,028
E364.00-Poles, Towers, and Fixtures	1-Jan-52	POLE WOOD 35 FT	5,424	356,684
E364.00-Poles, Towers, and Fixtures	1-Jan-53	POLE WOOD 35 FT	2,419	220,825
E364.00-Poles, Towers, and Fixtures	1-Jan-54	POLE WOOD 35 FT	299	15,654
E364.00-Poles, Towers, and Fixtures	1-Jan-55	POLE WOOD 35 FT	1,246	60,219
E364.00-Poles, Towers, and Fixtures	1-Jan-56	POLE WOOD 35 FT	1,236	63,798
E364.00-Poles, Towers, and Fixtures	1-Jan-57	POLE WOOD 35 FT	1,957	221,193
E364.00-Poles, Towers, and Fixtures	1-Jan-58	POLE WOOD 35 FT	1,619	160,605
E364.00-Poles, Towers, and Fixtures	1-Jan-59	POLE WOOD 35 FT	1,089	79,251
E364.00-Poles, Towers, and Fixtures	1-Jan-61	POLE WOOD 35 FT	1,621	94,716
E364.00-Poles, Towers, and Fixtures	1-Jan-62	POLE WOOD 35 FT	1,724	105,338
E364.00-Poles, Towers, and Fixtures	1-Jan-63	POLE WOOD 35 FT	1,807	117,726
E364.00-Poles, Towers, and Fixtures	1-Jan-64	POLE WOOD 35 FT	2,187	142,550
E364.00-Poles, Towers, and Fixtures	1-Jan-65	POLE WOOD 35 FT	1,609	103,152
E364.00-Poles, Towers, and Fixtures	1-Jan-66	POLE WOOD 35 FT	1,874	124,856
E364.00-Poles, Towers, and Fixtures	1-Jan-67	POLE WOOD 35 FT	1,950	142,884
E364.00-Poles, Towers, and Fixtures	1-Jan-68	POLE WOOD 35 FT	1,651	126,094
E364.00-Poles, Towers, and Fixtures	1-Jan-69	POLE WOOD 35 FT	1,759	151,365
E364.00-Poles, Towers, and Fixtures	1-Jan-70	POLE WOOD 35 FT	1,048	86,657
E364.00-Poles, Towers, and Fixtures	1-Jan-71	POLE WOOD 35 FT	2,128	182,953

Kentucky Utilities Company
Plant Account 364 - Poles, Towers, and Fixtures
As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost
E364-00-Poles, Towers, and Fixtures	1-Jan-72	POLE WOOD 35 FT	1,859	170,929
E364-00-Poles, Towers, and Fixtures	1-Jan-73	POLE WOOD 35 FT	2,021	212,015
E364-00-Poles, Towers, and Fixtures	1-Jan-74	POLE WOOD 35 FT	1,828	200,990
E364-00-Poles, Towers, and Fixtures	1-Jan-75	POLE WOOD 35 FT	1,490	197,689
E364-00-Poles, Towers, and Fixtures	1-Jan-76	POLE WOOD 35 FT	1,654	212,707
E364-00-Poles, Towers, and Fixtures	1-Jan-77	POLE WOOD 35 FT	1,552	204,122
E364-00-Poles, Towers, and Fixtures	1-Jan-78	POLE WOOD 35 FT	1,296	182,468
E364-00-Poles, Towers, and Fixtures	1-Jan-79	POLE WOOD 35 FT	1,611	257,746
E364-00-Poles, Towers, and Fixtures	1-Jan-80	POLE WOOD 35 FT	1,170	206,542
E364-00-Poles, Towers, and Fixtures	1-Jan-81	POLE WOOD 35 FT	1,126	220,127
E364-00-Poles, Towers, and Fixtures	1-Jan-82	POLE WOOD 35 FT	1,052	232,693
E364-00-Poles, Towers, and Fixtures	1-Jan-83	POLE WOOD 35 FT	1,283	334,424
E364-00-Poles, Towers, and Fixtures	1-Jan-84	POLE WOOD 35 FT	941	226,468
E364-00-Poles, Towers, and Fixtures	1-Jan-85	POLE WOOD 35 FT	850	206,880
E364-00-Poles, Towers, and Fixtures	1-Jan-86	POLE WOOD 35 FT	1,192	322,314
E364-00-Poles, Towers, and Fixtures	1-Jan-87	POLE WOOD 35 FT	1,178	315,713
E364-00-Poles, Towers, and Fixtures	1-Jan-88	POLE WOOD 35 FT	921	279,899
E364-00-Poles, Towers, and Fixtures	1-Jan-89	POLE WOOD 35 FT	1,080	306,340
E364-00-Poles, Towers, and Fixtures	1-Jan-90	POLE WOOD 35 FT	1,143	355,834
E364-00-Poles, Towers, and Fixtures	1-Jan-91	POLE WOOD 35 FT	1,139	347,966
E364-00-Poles, Towers, and Fixtures	1-Jan-92	POLE WOOD 35 FT	1,175	370,932
E364-00-Poles, Towers, and Fixtures	1-Jan-93	POLE WOOD 35 FT	1,284	453,131
E364-00-Poles, Towers, and Fixtures	1-Jan-94	POLE WOOD 35 FT	1,308	461,346
E364-00-Poles, Towers, and Fixtures	1-Jan-95	POLE WOOD 35 FT	1,213	455,191
E364-00-Poles, Towers, and Fixtures	1-Jan-96	POLE WOOD 35 FT	1,023	490,115
E364-00-Poles, Towers, and Fixtures	1-Jan-97	POLE WOOD 35 FT	1,070	485,467
E364-00-Poles, Towers, and Fixtures	1-Jan-98	POLE WOOD 35 FT	972	433,573
E364-00-Poles, Towers, and Fixtures	1-Jan-99	POLE WOOD 35 FT	102	128,153
E364-00-Poles, Towers, and Fixtures	1-Jan-00	POLE WOOD 35 FT	878	498,243
E364-00-Poles, Towers, and Fixtures	1-Jan-01	POLE WOOD 35 FT	591	210,985
E364-00-Poles, Towers, and Fixtures	1-Jan-02	POLE WOOD 35 FT	574	391,491
E364-00-Poles, Towers, and Fixtures	1-Jan-03	POLE WOOD 35 FT	666	855,591
E364-00-Poles, Towers, and Fixtures	1-Jan-04	POLE WOOD 35 FT	557	580,729
E364-00-Poles, Towers, and Fixtures	1-Jan-05	POLE WOOD 35 FT	47	41,885
E364-00-Poles, Towers, and Fixtures	1-Jan-06	POLE WOOD 35 FT	20	21,519
E364-00-Poles, Towers, and Fixtures	6-Dec-06	POLE WOOD 35 FT	2	3,012
E364-00-Poles, Towers, and Fixtures	1-Jan-07	POLE WOOD 35 FT	510	622,257
E364-00-Poles, Towers, and Fixtures	31-Aug-07	POLE WOOD 35 FT	1	5,159
E364-00-Poles, Towers, and Fixtures	1-Oct-07	POLE WOOD 35 FT	3	(19)
E364-00-Poles, Towers, and Fixtures	25-Nov-07	POLE WOOD 35 FT	1	488
E364-00-Poles, Towers, and Fixtures	30-Nov-07	POLE WOOD 35 FT	1	331
E364-00-Poles, Towers, and Fixtures	1-Jan-08	POLE WOOD 35 FT	266	349,542
E364-00-Poles, Towers, and Fixtures	22-Feb-08	POLE WOOD 35 FT	15	16,728
E364-00-Poles, Towers, and Fixtures	13-Mar-08	POLE WOOD 35 FT	2	2,439
E364-00-Poles, Towers, and Fixtures	3-Apr-08	POLE WOOD 35 FT	1	8

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

<u>Account</u>	<u>In-Service Date</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>
E364-00-Poles, Towers, and Fixtures	1-Aug-08	POLE WOOD 35 FT	2	665
E364-00-Poles, Towers, and Fixtures	31-Aug-08	POLE WOOD 35 FT	8	10,994
E364-00-Poles, Towers, and Fixtures	30-Sep-08	POLE WOOD 35 FT	22	18,543
E364-00-Poles, Towers, and Fixtures	1-Oct-08	POLE WOOD 35 FT	3	4,873
E364-00-Poles, Towers, and Fixtures	31-Oct-08	POLE WOOD 35 FT	82	101,824
E364-00-Poles, Towers, and Fixtures	30-Nov-08	POLE WOOD 35 FT	12	13,680
E364-00-Poles, Towers, and Fixtures	31-Dec-08	POLE WOOD 35 FT	68	121,639
E364-00-Poles, Towers, and Fixtures	31-Jan-09	POLE WOOD 35 FT	3	25,825
E364-00-Poles, Towers, and Fixtures	16-Jun-09	POLE WOOD 35 FT	12	15,286
E364-00-Poles, Towers, and Fixtures	19-Jul-09	POLE WOOD 35 FT	1	643
E364-00-Poles, Towers, and Fixtures	22-Jul-09	POLE WOOD 35 FT	1	0
E364-00-Poles, Towers, and Fixtures	27-Jul-09	POLE WOOD 35 FT	1	1,108
E364-00-Poles, Towers, and Fixtures	28-Jul-09	POLE WOOD 35 FT	2	1,654
E364-00-Poles, Towers, and Fixtures	29-Jul-09	POLE WOOD 35 FT	3	1,662
E364-00-Poles, Towers, and Fixtures	31-Jul-09	POLE WOOD 35 FT	5	3,828
E364-00-Poles, Towers, and Fixtures	1-Aug-09	POLE WOOD 35 FT	72	85,689
E364-00-Poles, Towers, and Fixtures	3-Aug-09	POLE WOOD 35 FT	2	0
E364-00-Poles, Towers, and Fixtures	4-Aug-09	POLE WOOD 35 FT	2	4,108
E364-00-Poles, Towers, and Fixtures	7-Aug-09	POLE WOOD 35 FT	3	2,383
E364-00-Poles, Towers, and Fixtures	10-Aug-09	POLE WOOD 35 FT	5	2,231
E364-00-Poles, Towers, and Fixtures	1-Sep-09	POLE WOOD 35 FT	22	11,264
E364-00-Poles, Towers, and Fixtures	6-Oct-09	POLE WOOD 35 FT	1	(11,264)
E364-00-Poles, Towers, and Fixtures	7-Oct-09	POLE WOOD 35 FT	2	(7,415)
E364-00-Poles, Towers, and Fixtures	13-Oct-09	POLE WOOD 35 FT	7	4,744
E364-00-Poles, Towers, and Fixtures	14-Oct-09	POLE WOOD 35 FT	2	2,396
E364-00-Poles, Towers, and Fixtures	16-Oct-09	POLE WOOD 35 FT	4	2,205
E364-00-Poles, Towers, and Fixtures	20-Oct-09	POLE WOOD 35 FT	2	1,037
E364-00-Poles, Towers, and Fixtures	21-Oct-09	POLE WOOD 35 FT	1	240
E364-00-Poles, Towers, and Fixtures	26-Oct-09	POLE WOOD 35 FT	1	(258)
E364-00-Poles, Towers, and Fixtures	29-Oct-09	POLE WOOD 35 FT	1	1,261
E364-00-Poles, Towers, and Fixtures	30-Oct-09	POLE WOOD 35 FT	1	241
E364-00-Poles, Towers, and Fixtures	31-Oct-09	POLE WOOD 35 FT	136	95,320
E364-00-Poles, Towers, and Fixtures	5-Nov-09	POLE WOOD 35 FT	10	11,839
E364-00-Poles, Towers, and Fixtures	9-Nov-09	POLE WOOD 35 FT	1	3,078
E364-00-Poles, Towers, and Fixtures	12-Nov-09	POLE WOOD 35 FT	319	234,718
E364-00-Poles, Towers, and Fixtures	13-Nov-09	POLE WOOD 35 FT	14	20,915
E364-00-Poles, Towers, and Fixtures	16-Nov-09	POLE WOOD 35 FT	7	3,404
E364-00-Poles, Towers, and Fixtures	17-Nov-09	POLE WOOD 35 FT	3	5,677
E364-00-Poles, Towers, and Fixtures	19-Nov-09	POLE WOOD 35 FT	4	2,801
E364-00-Poles, Towers, and Fixtures	20-Nov-09	POLE WOOD 35 FT	114	86,187
E364-00-Poles, Towers, and Fixtures	21-Nov-09	POLE WOOD 35 FT	1	285
E364-00-Poles, Towers, and Fixtures	30-Nov-09	POLE WOOD 35 FT	77	67,846
E364-00-Poles, Towers, and Fixtures	1-Dec-09	POLE WOOD 35 FT	75	114,247
E364-00-Poles, Towers, and Fixtures	2-Dec-09	POLE WOOD 35 FT	79	88,813
E364-00-Poles, Towers, and Fixtures			505	437,077

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost	Qty	Installed Cost	Avg. Cost
E364.00-Poles, Towers, and Fixtures	4-Dec-09	POLE WOOD 35 FT	7	7,810			
E364.00-Poles, Towers, and Fixtures	7-Dec-09	POLE WOOD 35 FT	10	11,074			
E364.00-Poles, Towers, and Fixtures	8-Dec-09	POLE WOOD 35 FT	17	20,103			
E364.00-Poles, Towers, and Fixtures	9-Dec-09	POLE WOOD 35 FT	2	2,022	SUM 35' POLES (ROWS 1281-1407)		
E364.00-Poles, Towers, and Fixtures	16-Dec-09	POLE WOOD 35 FT	134	88,199	93,470	\$17,215,691	\$ 184,18
E364.00-Poles, Towers, and Fixtures	29-Dec-09	POLE WOOD 35 FT	1	3,336			
E364.00-Poles, Towers, and Fixtures	1-Jan-41	POLE WOOD 40 FT	10	251			
E364.00-Poles, Towers, and Fixtures	1-Jan-42	POLE WOOD 40 FT	4	0			
E364.00-Poles, Towers, and Fixtures	1-Jan-43	POLE WOOD 40 FT	4	0			
E364.00-Poles, Towers, and Fixtures	1-Jan-44	POLE WOOD 40 FT	33	1,698			
E364.00-Poles, Towers, and Fixtures	1-Jan-45	POLE WOOD 40 FT	29	1,371			
E364.00-Poles, Towers, and Fixtures	1-Jan-46	POLE WOOD 40 FT	42	1,855			
E364.00-Poles, Towers, and Fixtures	1-Jan-47	POLE WOOD 40 FT	37	2,363			
E364.00-Poles, Towers, and Fixtures	1-Jan-49	POLE WOOD 40 FT	787	34,179			
E364.00-Poles, Towers, and Fixtures	1-Jan-50	POLE WOOD 40 FT	37	2,363			
E364.00-Poles, Towers, and Fixtures	1-Jan-51	POLE WOOD 40 FT	1,479	73,389			
E364.00-Poles, Towers, and Fixtures	1-Jan-52	POLE WOOD 40 FT	1,790	92,290			
E364.00-Poles, Towers, and Fixtures	1-Jan-53	POLE WOOD 40 FT	580	37,858			
E364.00-Poles, Towers, and Fixtures	1-Jan-54	POLE WOOD 40 FT	472	87,520			
E364.00-Poles, Towers, and Fixtures	1-Jan-55	POLE WOOD 40 FT	1,140	157,358			
E364.00-Poles, Towers, and Fixtures	1-Jan-56	POLE WOOD 40 FT	1,383	173,125			
E364.00-Poles, Towers, and Fixtures	1-Jan-57	POLE WOOD 40 FT	1,443	101,844			
E364.00-Poles, Towers, and Fixtures	1-Jan-58	POLE WOOD 40 FT	785	57,740			
E364.00-Poles, Towers, and Fixtures	1-Jan-59	POLE WOOD 40 FT	1,372	101,651			
E364.00-Poles, Towers, and Fixtures	1-Jan-60	POLE WOOD 40 FT	510	83,001			
E364.00-Poles, Towers, and Fixtures	1-Jan-61	POLE WOOD 40 FT	1,794	237,743			
E364.00-Poles, Towers, and Fixtures	1-Jan-62	POLE WOOD 40 FT	1,362	183,804			
E364.00-Poles, Towers, and Fixtures	1-Jan-63	POLE WOOD 40 FT	2,150	278,878			
E364.00-Poles, Towers, and Fixtures	1-Jan-64	POLE WOOD 40 FT	2,466	313,905			
E364.00-Poles, Towers, and Fixtures	1-Jan-65	POLE WOOD 40 FT	2,585	330,171			
E364.00-Poles, Towers, and Fixtures	1-Jan-66	POLE WOOD 40 FT	2,479	350,568			
E364.00-Poles, Towers, and Fixtures	1-Jan-67	POLE WOOD 40 FT	2,563	357,163			
E364.00-Poles, Towers, and Fixtures	1-Jan-68	POLE WOOD 40 FT	3,092	450,095			
E364.00-Poles, Towers, and Fixtures	1-Jan-69	POLE WOOD 40 FT	3,124	466,212			
E364.00-Poles, Towers, and Fixtures	1-Jan-70	POLE WOOD 40 FT	2,556	410,679			
E364.00-Poles, Towers, and Fixtures	1-Jan-71	POLE WOOD 40 FT	2,906	493,695			
E364.00-Poles, Towers, and Fixtures	1-Jan-72	POLE WOOD 40 FT	3,449	656,596			
E364.00-Poles, Towers, and Fixtures	1-Jan-73	POLE WOOD 40 FT	3,380	746,993			
E364.00-Poles, Towers, and Fixtures	1-Jan-74	POLE WOOD 40 FT	3,174	738,795			
E364.00-Poles, Towers, and Fixtures	1-Jan-75	POLE WOOD 40 FT	2,448	586,636			
E364.00-Poles, Towers, and Fixtures	1-Jan-76	POLE WOOD 40 FT	2,789	719,300			
E364.00-Poles, Towers, and Fixtures	1-Jan-77	POLE WOOD 40 FT	3,244	842,799			
E364.00-Poles, Towers, and Fixtures	1-Jan-78	POLE WOOD 40 FT	2,745	791,670			
E364.00-Poles, Towers, and Fixtures	1-Jan-79	POLE WOOD 40 FT	2,980	1,021,787			
E364.00-Poles, Towers, and Fixtures	1-Jan-80	POLE WOOD 40 FT	3,067	1,062,792			
E364.00-Poles, Towers, and Fixtures	1-Jan-81	POLE WOOD 40 FT	2,807	1,064,093			

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost
E364-00-Poles, Towers, and Fixtures	1-Jan-82	POLE WOOD 40 FT	2,749	1,159,162
E364-00-Poles, Towers, and Fixtures	1-Jan-83	POLE WOOD 40 FT	3,290	1,861,038
E364-00-Poles, Towers, and Fixtures	1-Jan-84	POLE WOOD 40 FT	2,572	1,273,693
E364-00-Poles, Towers, and Fixtures	1-Jan-85	POLE WOOD 40 FT	2,711	1,372,504
E364-00-Poles, Towers, and Fixtures	1-Jan-86	POLE WOOD 40 FT	3,072	1,672,247
E364-00-Poles, Towers, and Fixtures	1-Jan-87	POLE WOOD 40 FT	3,462	1,865,759
E364-00-Poles, Towers, and Fixtures	1-Jan-88	POLE WOOD 40 FT	3,013	1,822,863
E364-00-Poles, Towers, and Fixtures	1-Jan-89	POLE WOOD 40 FT	3,331	1,935,954
E364-00-Poles, Towers, and Fixtures	1-Jan-90	POLE WOOD 40 FT	3,269	1,988,193
E364-00-Poles, Towers, and Fixtures	1-Jan-91	POLE WOOD 40 FT	3,240	2,079,475
E364-00-Poles, Towers, and Fixtures	1-Jan-92	POLE WOOD 40 FT	3,833	2,448,471
E364-00-Poles, Towers, and Fixtures	1-Jan-93	POLE WOOD 40 FT	3,569	2,667,164
E364-00-Poles, Towers, and Fixtures	1-Jan-94	POLE WOOD 40 FT	4,122	3,235,740
E364-00-Poles, Towers, and Fixtures	1-Jan-95	POLE WOOD 40 FT	4,126	3,430,457
E364-00-Poles, Towers, and Fixtures	1-Jan-96	POLE WOOD 40 FT	2,958	3,217,843
E364-00-Poles, Towers, and Fixtures	1-Jan-97	POLE WOOD 40 FT	3,316	3,382,737
E364-00-Poles, Towers, and Fixtures	1-Jan-98	POLE WOOD 40 FT	2,608	2,805,758
E364-00-Poles, Towers, and Fixtures	1-Jan-99	POLE WOOD 40 FT	341	488,576
E364-00-Poles, Towers, and Fixtures	1-Jan-00	POLE WOOD 40 FT	2,053	2,479,762
E364-00-Poles, Towers, and Fixtures	1-Jan-01	POLE WOOD 40 FT	1,527	1,005,340
E364-00-Poles, Towers, and Fixtures	28-Feb-01	POLE WOOD 40 FT	1	6,179
E364-00-Poles, Towers, and Fixtures	31-Oct-01	POLE WOOD 40 FT	1	1,157
E364-00-Poles, Towers, and Fixtures	1-Jan-02	POLE WOOD 40 FT	1,751	2,141,003
E364-00-Poles, Towers, and Fixtures	1-Jan-03	POLE WOOD 40 FT	2,465	2,997,762
E364-00-Poles, Towers, and Fixtures	31-May-03	POLE WOOD 40 FT	1	13,324
E364-00-Poles, Towers, and Fixtures	30-Jun-03	POLE WOOD 40 FT	1	1,542
E364-00-Poles, Towers, and Fixtures	31-Aug-03	POLE WOOD 40 FT	1	6,888
E364-00-Poles, Towers, and Fixtures	1-Jan-04	POLE WOOD 40 FT	1,500	2,481,118
E364-00-Poles, Towers, and Fixtures	31-Dec-04	POLE WOOD 40 FT	1	2,217
E364-00-Poles, Towers, and Fixtures	31-Dec-04	POLE WOOD 40 FT	2	205
E364-00-Poles, Towers, and Fixtures	1-Jan-05	POLE WOOD 40 FT	159	225,968
E364-00-Poles, Towers, and Fixtures	1-Jan-06	POLE WOOD 40 FT	58	75,741
E364-00-Poles, Towers, and Fixtures	30-Nov-06	POLE WOOD 40 FT	1	4,348
E364-00-Poles, Towers, and Fixtures	6-Dec-06	POLE WOOD 40 FT	1	2,457
E364-00-Poles, Towers, and Fixtures	1-Jan-07	POLE WOOD 40 FT	1,623	2,656,450
E364-00-Poles, Towers, and Fixtures	26-Feb-07	POLE WOOD 40 FT	1	0
E364-00-Poles, Towers, and Fixtures	1-Oct-07	POLE WOOD 40 FT	29	(290)
E364-00-Poles, Towers, and Fixtures	14-Nov-07	POLE WOOD 40 FT	1	2,783
E364-00-Poles, Towers, and Fixtures	25-Nov-07	POLE WOOD 40 FT	3	2,403
E364-00-Poles, Towers, and Fixtures	30-Nov-07	POLE WOOD 40 FT	30	31,441
E364-00-Poles, Towers, and Fixtures	31-Dec-07	POLE WOOD 40 FT	13	76,236
E364-00-Poles, Towers, and Fixtures	1-Jan-08	POLE WOOD 40 FT	1,171	2,302,666
E364-00-Poles, Towers, and Fixtures	22-Feb-08	POLE WOOD 40 FT	104	313,442
E364-00-Poles, Towers, and Fixtures	1-Aug-08	POLE WOOD 40 FT	1	683
E364-00-Poles, Towers, and Fixtures	31-Aug-08	POLE WOOD 40 FT	36	79,773

Kentucky Utilities Company
Plant Account 364 - Poles, Towers, and Fixtures
As of October 31, 2009

<u>Account</u>	<u>In-Service Date</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>
E364-00-Poles, Towers, and Fixtures	30-Sep-08	POLE WOOD 40 FT	87	145,422
E364-00-Poles, Towers, and Fixtures	1-Oct-08	POLE WOOD 40 FT	7	20,322
E364-00-Poles, Towers, and Fixtures	15-Oct-08	POLE WOOD 40 FT	2	5,650
E364-00-Poles, Towers, and Fixtures	31-Oct-08	POLE WOOD 40 FT	53	196,192
E364-00-Poles, Towers, and Fixtures	30-Nov-08	POLE WOOD 40 FT	47	132,503
E364-00-Poles, Towers, and Fixtures	31-Dec-08	POLE WOOD 40 FT	454	1,065,257
E364-00-Poles, Towers, and Fixtures	31-Jan-09	POLE WOOD 40 FT	13	120,293
E364-00-Poles, Towers, and Fixtures	1-Feb-09	POLE WOOD 40 FT	2	2,143
E364-00-Poles, Towers, and Fixtures	16-Jun-09	POLE WOOD 40 FT	75	96,161
E364-00-Poles, Towers, and Fixtures	17-Jul-09	POLE WOOD 40 FT	4	10,286
E364-00-Poles, Towers, and Fixtures	19-Jul-09	POLE WOOD 40 FT	3	6,444
E364-00-Poles, Towers, and Fixtures	22-Jul-09	POLE WOOD 40 FT	3	0
E364-00-Poles, Towers, and Fixtures	27-Jul-09	POLE WOOD 40 FT	20	43,543
E364-00-Poles, Towers, and Fixtures	28-Jul-09	POLE WOOD 40 FT	1	656
E364-00-Poles, Towers, and Fixtures	29-Jul-09	POLE WOOD 40 FT	12	14,047
E364-00-Poles, Towers, and Fixtures	30-Jul-09	POLE WOOD 40 FT	2	954
E364-00-Poles, Towers, and Fixtures	31-Jul-09	POLE WOOD 40 FT	16	20,995
E364-00-Poles, Towers, and Fixtures	1-Aug-09	POLE WOOD 40 FT	159	259,276
E364-00-Poles, Towers, and Fixtures	3-Aug-09	POLE WOOD 40 FT	10	27,461
E364-00-Poles, Towers, and Fixtures	4-Aug-09	POLE WOOD 40 FT	11	23,814
E364-00-Poles, Towers, and Fixtures	6-Aug-09	POLE WOOD 40 FT	2	1,259
E364-00-Poles, Towers, and Fixtures	7-Aug-09	POLE WOOD 40 FT	18	30,406
E364-00-Poles, Towers, and Fixtures	10-Aug-09	POLE WOOD 40 FT	13	11,578
E364-00-Poles, Towers, and Fixtures	1-Sep-09	POLE WOOD 40 FT	1	908
E364-00-Poles, Towers, and Fixtures	29-Sep-09	POLE WOOD 40 FT	1	1,867
E364-00-Poles, Towers, and Fixtures	1-Oct-09	POLE WOOD 40 FT	1	2,314
E364-00-Poles, Towers, and Fixtures	5-Oct-09	POLE WOOD 40 FT	38	38,299
E364-00-Poles, Towers, and Fixtures	7-Oct-09	POLE WOOD 40 FT	1	36,832
E364-00-Poles, Towers, and Fixtures	12-Oct-09	POLE WOOD 40 FT	1	756
E364-00-Poles, Towers, and Fixtures	13-Oct-09	POLE WOOD 40 FT	1	1,950
E364-00-Poles, Towers, and Fixtures	14-Oct-09	POLE WOOD 40 FT	9	13,988
E364-00-Poles, Towers, and Fixtures	16-Oct-09	POLE WOOD 40 FT	4	4,239
E364-00-Poles, Towers, and Fixtures	20-Oct-09	POLE WOOD 40 FT	29	221,915
E364-00-Poles, Towers, and Fixtures	23-Oct-09	POLE WOOD 40 FT	1	(46)
E364-00-Poles, Towers, and Fixtures	26-Oct-09	POLE WOOD 40 FT	12	12,475
E364-00-Poles, Towers, and Fixtures	27-Oct-09	POLE WOOD 40 FT	3	7,055
E364-00-Poles, Towers, and Fixtures	29-Oct-09	POLE WOOD 40 FT	1	1,736
E364-00-Poles, Towers, and Fixtures	31-Oct-09	POLE WOOD 40 FT	379	513,400
E364-00-Poles, Towers, and Fixtures	2-Nov-09	POLE WOOD 40 FT	48	55,751
E364-00-Poles, Towers, and Fixtures	3-Nov-09	POLE WOOD 40 FT	8	13,753
E364-00-Poles, Towers, and Fixtures	4-Nov-09	POLE WOOD 40 FT	1	4,988
E364-00-Poles, Towers, and Fixtures	5-Nov-09	POLE WOOD 40 FT	3	1,214
E364-00-Poles, Towers, and Fixtures	6-Nov-09	POLE WOOD 40 FT	9	7,111
E364-00-Poles, Towers, and Fixtures	9-Nov-09	POLE WOOD 40 FT	6	21,388
E364-00-Poles, Towers, and Fixtures	10-Nov-09	POLE WOOD 40 FT	8	25,114

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost
E364 00-Poles, Towers, and Fixtures	11-Nov-09	POLE WOOD 40 FT	126	192,121
E364 00-Poles, Towers, and Fixtures	12-Nov-09	POLE WOOD 40 FT	2	9,909
E364 00-Poles, Towers, and Fixtures	13-Nov-09	POLE WOOD 40 FT	7	5,251
E364 00-Poles, Towers, and Fixtures	16-Nov-09	POLE WOOD 40 FT	6	17,990
E364 00-Poles, Towers, and Fixtures	17-Nov-09	POLE WOOD 40 FT	4	15,227
E364 00-Poles, Towers, and Fixtures	19-Nov-09	POLE WOOD 40 FT	23	44,903
E364 00-Poles, Towers, and Fixtures	23-Nov-09	POLE WOOD 40 FT	155	289,391
E364 00-Poles, Towers, and Fixtures	24-Nov-09	POLE WOOD 40 FT	1	4,712
E364 00-Poles, Towers, and Fixtures	30-Nov-09	POLE WOOD 40 FT	299	418,339
E364 00-Poles, Towers, and Fixtures	1-Dec-09	POLE WOOD 40 FT	223	455,953
E364 00-Poles, Towers, and Fixtures	2-Dec-09	POLE WOOD 40 FT	1,842	2,465,130
E364 00-Poles, Towers, and Fixtures	3-Dec-09	POLE WOOD 40 FT	5	8,684
E364 00-Poles, Towers, and Fixtures	4-Dec-09	POLE WOOD 40 FT	33	65,391
E364 00-Poles, Towers, and Fixtures	7-Dec-09	POLE WOOD 40 FT	235	468,442
E364 00-Poles, Towers, and Fixtures	8-Dec-09	POLE WOOD 40 FT	312	487,990
E364 00-Poles, Towers, and Fixtures	9-Dec-09	POLE WOOD 40 FT	19	(44,730)
E364 00-Poles, Towers, and Fixtures	16-Dec-09	POLE WOOD 40 FT	268	397,518
E364 00-Poles, Towers, and Fixtures	19-Dec-09	POLE WOOD 40 FT	6	9,574
E364 00-Poles, Towers, and Fixtures	31-Dec-09	POLE WOOD 40 FT	12	127,747
E364 00-Poles, Towers, and Fixtures	1-Jan-42	POLE WOOD 45 FT	3	89
E364 00-Poles, Towers, and Fixtures	1-Jan-44	POLE WOOD 45 FT	3	137
E364 00-Poles, Towers, and Fixtures	1-Jan-48	POLE WOOD 45 FT	68	3,582
E364 00-Poles, Towers, and Fixtures	1-Jan-49	POLE WOOD 45 FT	81	4,377
E364 00-Poles, Towers, and Fixtures	1-Jan-50	POLE WOOD 45 FT	432	23,444
E364 00-Poles, Towers, and Fixtures	1-Jan-51	POLE WOOD 45 FT	393	24,290
E364 00-Poles, Towers, and Fixtures	1-Jan-52	POLE WOOD 45 FT	443	27,993
E364 00-Poles, Towers, and Fixtures	1-Jan-53	POLE WOOD 45 FT	87	8,958
E364 00-Poles, Towers, and Fixtures	1-Jan-54	POLE WOOD 45 FT	72	5,801
E364 00-Poles, Towers, and Fixtures	1-Jan-55	POLE WOOD 45 FT	243	17,511
E364 00-Poles, Towers, and Fixtures	1-Jan-56	POLE WOOD 45 FT	369	29,413
E364 00-Poles, Towers, and Fixtures	1-Jan-57	POLE WOOD 45 FT	379	32,446
E364 00-Poles, Towers, and Fixtures	1-Jan-58	POLE WOOD 45 FT	173	15,326
E364 00-Poles, Towers, and Fixtures	1-Jan-59	POLE WOOD 45 FT	287	25,578
E364 00-Poles, Towers, and Fixtures	1-Jan-60	POLE WOOD 45 FT	121	11,017
E364 00-Poles, Towers, and Fixtures	1-Jan-61	POLE WOOD 45 FT	355	28,909
E364 00-Poles, Towers, and Fixtures	1-Jan-62	POLE WOOD 45 FT	340	29,784
E364 00-Poles, Towers, and Fixtures	1-Jan-63	POLE WOOD 45 FT	706	65,292
E364 00-Poles, Towers, and Fixtures	1-Jan-64	POLE WOOD 45 FT	558	52,318
E364 00-Poles, Towers, and Fixtures	1-Jan-65	POLE WOOD 45 FT	667	62,659
E364 00-Poles, Towers, and Fixtures	1-Jan-66	POLE WOOD 45 FT	563	58,543
E364 00-Poles, Towers, and Fixtures	1-Jan-67	POLE WOOD 45 FT	672	71,211
E364 00-Poles, Towers, and Fixtures	1-Jan-68	POLE WOOD 45 FT	841	96,489
E364 00-Poles, Towers, and Fixtures	1-Jan-69	POLE WOOD 45 FT	738	85,573
E364 00-Poles, Towers, and Fixtures	1-Jan-70	POLE WOOD 45 FT	734	88,306
E364 00-Poles, Towers, and Fixtures	1-Jan-71	POLE WOOD 45 FT	1,087	141,277

SUM 40' POLES (ROWS 1408-1555)	Qty	Installed Cost	Avg Cost
	142,334	77,391,311	\$ 543.73

Kentucky Utilities Company
Plant Account 364 - Poles, Towers, and Fixtures
As of October 31, 2009

<u>Account</u>	<u>In-Service Date</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>
E364-00-Poles, Towers, and Fixtures	1-Jan-72	POLE WOOD 45 FT	811	112,368
E364-00-Poles, Towers, and Fixtures	1-Jan-73	POLE WOOD 45 FT	913	138,925
E364-00-Poles, Towers, and Fixtures	1-Jan-74	POLE WOOD 45 FT	909	147,555
E364-00-Poles, Towers, and Fixtures	1-Jan-75	POLE WOOD 45 FT	490	92,323
E364-00-Poles, Towers, and Fixtures	1-Jan-76	POLE WOOD 45 FT	587	116,351
E364-00-Poles, Towers, and Fixtures	1-Jan-77	POLE WOOD 45 FT	699	144,657
E364-00-Poles, Towers, and Fixtures	1-Jan-78	POLE WOOD 45 FT	695	156,909
E364-00-Poles, Towers, and Fixtures	1-Jan-79	POLE WOOD 45 FT	931	241,293
E364-00-Poles, Towers, and Fixtures	1-Jan-80	POLE WOOD 45 FT	899	261,580
E364-00-Poles, Towers, and Fixtures	1-Jan-81	POLE WOOD 45 FT	814	256,583
E364-00-Poles, Towers, and Fixtures	1-Jan-82	POLE WOOD 45 FT	882	302,659
E364-00-Poles, Towers, and Fixtures	1-Jan-83	POLE WOOD 45 FT	921	371,386
E364-00-Poles, Towers, and Fixtures	1-Jan-84	POLE WOOD 45 FT	750	297,944
E364-00-Poles, Towers, and Fixtures	1-Jan-85	POLE WOOD 45 FT	887	374,802
E364-00-Poles, Towers, and Fixtures	1-Jan-86	POLE WOOD 45 FT	1,117	471,990
E364-00-Poles, Towers, and Fixtures	1-Jan-87	POLE WOOD 45 FT	1,211	528,927
E364-00-Poles, Towers, and Fixtures	1-Jan-88	POLE WOOD 45 FT	1,237	583,863
E364-00-Poles, Towers, and Fixtures	1-Jan-89	POLE WOOD 45 FT	1,299	599,394
E364-00-Poles, Towers, and Fixtures	1-Jan-90	POLE WOOD 45 FT	1,421	696,256
E364-00-Poles, Towers, and Fixtures	1-Jan-91	POLE WOOD 45 FT	1,214	614,701
E364-00-Poles, Towers, and Fixtures	1-Jan-92	POLE WOOD 45 FT	1,633	820,459
E364-00-Poles, Towers, and Fixtures	1-Jan-93	POLE WOOD 45 FT	1,805	1,010,066
E364-00-Poles, Towers, and Fixtures	1-Jan-94	POLE WOOD 45 FT	2,196	1,250,019
E364-00-Poles, Towers, and Fixtures	1-Jan-95	POLE WOOD 45 FT	2,390	1,574,104
E364-00-Poles, Towers, and Fixtures	1-Jan-96	POLE WOOD 45 FT	2,032	1,498,101
E364-00-Poles, Towers, and Fixtures	1-Jan-97	POLE WOOD 45 FT	1,963	1,364,043
E364-00-Poles, Towers, and Fixtures	1-Jan-98	POLE WOOD 45 FT	1,883	1,555,023
E364-00-Poles, Towers, and Fixtures	1-Jan-99	POLE WOOD 45 FT	527	1,306,308
E364-00-Poles, Towers, and Fixtures	1-Jan-00	POLE WOOD 45 FT	2,095	2,195,179
E364-00-Poles, Towers, and Fixtures	1-Jan-01	POLE WOOD 45 FT	1,498	1,443,616
E364-00-Poles, Towers, and Fixtures	1-Jan-02	POLE WOOD 45 FT	1,328	2,334,102
E364-00-Poles, Towers, and Fixtures	1-Jan-03	POLE WOOD 45 FT	2,254	3,246,237
E364-00-Poles, Towers, and Fixtures	31-Aug-03	POLE WOOD 45 FT	1	12,777
E364-00-Poles, Towers, and Fixtures	1-Jan-04	POLE WOOD 45 FT	1,963	4,041,380
E364-00-Poles, Towers, and Fixtures	1-Jan-05	POLE WOOD 45 FT	439	593,142
E364-00-Poles, Towers, and Fixtures	1-Dec-05	POLE WOOD 45 FT	2	3,187
E364-00-Poles, Towers, and Fixtures	1-Jan-06	POLE WOOD 45 FT	300	283,547
E364-00-Poles, Towers, and Fixtures	31-Dec-06	POLE WOOD 45 FT	1	1,217
E364-00-Poles, Towers, and Fixtures	1-Jan-07	POLE WOOD 45 FT	4,263	3,311,156
E364-00-Poles, Towers, and Fixtures	26-Feb-07	POLE WOOD 45 FT	16	0
E364-00-Poles, Towers, and Fixtures	1-Oct-07	POLE WOOD 45 FT	21	(264)
E364-00-Poles, Towers, and Fixtures	14-Nov-07	POLE WOOD 45 FT	1	3,422
E364-00-Poles, Towers, and Fixtures	25-Nov-07	POLE WOOD 45 FT	11	10,858
E364-00-Poles, Towers, and Fixtures	30-Nov-07	POLE WOOD 45 FT	55	88,142
E364-00-Poles, Towers, and Fixtures	31-Dec-07	POLE WOOD 45 FT	3	16,333

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost
E364 00-Poles, Towers, and Fixtures	1-Jan-08	POLE WOOD 45 FT	1,707	2,817,282
E364 00-Poles, Towers, and Fixtures	3-Apr-08	POLE WOOD 45 FT	7	27,191
E364 00-Poles, Towers, and Fixtures	31-May-08	POLE WOOD 45 FT	6	6,135
E364 00-Poles, Towers, and Fixtures	9-Jun-08	POLE WOOD 45 FT	64	160,075
E364 00-Poles, Towers, and Fixtures	1-Aug-08	POLE WOOD 45 FT	55	47,436
E364 00-Poles, Towers, and Fixtures	31-Aug-08	POLE WOOD 45 FT	56	166,507
E364 00-Poles, Towers, and Fixtures	30-Sep-08	POLE WOOD 45 FT	123	256,308
E364 00-Poles, Towers, and Fixtures	1-Oct-08	POLE WOOD 45 FT	6	6,843
E364 00-Poles, Towers, and Fixtures	15-Oct-08	POLE WOOD 45 FT	3	9,138
E364 00-Poles, Towers, and Fixtures	31-Oct-08	POLE WOOD 45 FT	227	485,879
E364 00-Poles, Towers, and Fixtures	30-Nov-08	POLE WOOD 45 FT	20	47,593
E364 00-Poles, Towers, and Fixtures	31-Dec-08	POLE WOOD 45 FT	214	562,466
E364 00-Poles, Towers, and Fixtures	31-Jan-09	POLE WOOD 45 FT	4	18,706
E364 00-Poles, Towers, and Fixtures	1-Feb-09	POLE WOOD 45 FT	38	50,887
E364 00-Poles, Towers, and Fixtures	28-Feb-09	POLE WOOD 45 FT	2	8,976
E364 00-Poles, Towers, and Fixtures	20-Apr-09	POLE WOOD 45 FT	5	25,798
E364 00-Poles, Towers, and Fixtures	16-Jun-09	POLE WOOD 45 FT	24	33,099
E364 00-Poles, Towers, and Fixtures	17-Jul-09	POLE WOOD 45 FT	2	47,128
E364 00-Poles, Towers, and Fixtures	19-Jul-09	POLE WOOD 45 FT	1	1,292
E364 00-Poles, Towers, and Fixtures	22-Jul-09	POLE WOOD 45 FT	3	0
E364 00-Poles, Towers, and Fixtures	27-Jul-09	POLE WOOD 45 FT	1	2,201
E364 00-Poles, Towers, and Fixtures	29-Jul-09	POLE WOOD 45 FT	2	3,258
E364 00-Poles, Towers, and Fixtures	30-Jul-09	POLE WOOD 45 FT	19	24,186
E364 00-Poles, Towers, and Fixtures	31-Jul-09	POLE WOOD 45 FT	17	30,480
E364 00-Poles, Towers, and Fixtures	1-Aug-09	POLE WOOD 45 FT	80	171,894
E364 00-Poles, Towers, and Fixtures	3-Aug-09	POLE WOOD 45 FT	2	0
E364 00-Poles, Towers, and Fixtures	4-Aug-09	POLE WOOD 45 FT	4	19,223
E364 00-Poles, Towers, and Fixtures	7-Aug-09	POLE WOOD 45 FT	9	21,167
E364 00-Poles, Towers, and Fixtures	10-Aug-09	POLE WOOD 45 FT	7	7,791
E364 00-Poles, Towers, and Fixtures	30-Sep-09	POLE WOOD 45 FT	1	674
E364 00-Poles, Towers, and Fixtures	2-Oct-09	POLE WOOD 45 FT	6	40,197
E364 00-Poles, Towers, and Fixtures	7-Oct-09	POLE WOOD 45 FT	8	(319,435)
E364 00-Poles, Towers, and Fixtures	8-Oct-09	POLE WOOD 45 FT	1	2,090
E364 00-Poles, Towers, and Fixtures	13-Oct-09	POLE WOOD 45 FT	6	12,712
E364 00-Poles, Towers, and Fixtures	14-Oct-09	POLE WOOD 45 FT	4	8,389
E364 00-Poles, Towers, and Fixtures	15-Oct-09	POLE WOOD 45 FT	3	2,587
E364 00-Poles, Towers, and Fixtures	16-Oct-09	POLE WOOD 45 FT	5	1,609
E364 00-Poles, Towers, and Fixtures	21-Oct-09	POLE WOOD 45 FT	5	10,912
E364 00-Poles, Towers, and Fixtures	26-Oct-09	POLE WOOD 45 FT	25	46,048
E364 00-Poles, Towers, and Fixtures	29-Oct-09	POLE WOOD 45 FT	1	7,834
E364 00-Poles, Towers, and Fixtures	30-Oct-09	POLE WOOD 45 FT	10	6,432
E364 00-Poles, Towers, and Fixtures	31-Oct-09	POLE WOOD 45 FT	120	302,384
E364 00-Poles, Towers, and Fixtures	2-Nov-09	POLE WOOD 45 FT	8	8,440
E364 00-Poles, Towers, and Fixtures	3-Nov-09	POLE WOOD 45 FT	26	39,771
E364 00-Poles, Towers, and Fixtures	4-Nov-09	POLE WOOD 45 FT	154	311,543

Kentucky Utilities Company
 Plant Account 364 - Poles, Towers, and Fixtures
 As of October 31, 2009

Account	In-Service Date	Description	Quantity	Cost	Qty	Installed Cost	Ave. Cost
E364.00-Poles, Towers, and Fixtures	5-Nov-09	POLE WOOD 45 FT	16	37,274			
E364.00-Poles, Towers, and Fixtures	9-Nov-09	POLE WOOD 45 FT	154	346,993			
E364.00-Poles, Towers, and Fixtures	11-Nov-09	POLE WOOD 45 FT	99	181,831			
E364.00-Poles, Towers, and Fixtures	12-Nov-09	POLE WOOD 45 FT	2	10,722			
E364.00-Poles, Towers, and Fixtures	13-Nov-09	POLE WOOD 45 FT	113	125,789			
E364.00-Poles, Towers, and Fixtures	17-Nov-09	POLE WOOD 45 FT	24	90,746			
E364.00-Poles, Towers, and Fixtures	23-Nov-09	POLE WOOD 45 FT	73	141,116			
E364.00-Poles, Towers, and Fixtures	24-Nov-09	POLE WOOD 45 FT	1	26			
E364.00-Poles, Towers, and Fixtures	30-Nov-09	POLE WOOD 45 FT	182	457,598			
E364.00-Poles, Towers, and Fixtures	1-Dec-09	POLE WOOD 45 FT	123	305,576			
E364.00-Poles, Towers, and Fixtures	3-Dec-09	POLE WOOD 45 FT	722	1,579,825			
E364.00-Poles, Towers, and Fixtures	4-Dec-09	POLE WOOD 45 FT	52	99,790			
E364.00-Poles, Towers, and Fixtures	7-Dec-09	POLE WOOD 45 FT	80	91,007			
E364.00-Poles, Towers, and Fixtures	8-Dec-09	POLE WOOD 45 FT	286	697,345			
E364.00-Poles, Towers, and Fixtures	9-Dec-09	POLE WOOD 45 FT	104	68,545			
E364.00-Poles, Towers, and Fixtures	28-Dec-09	POLE WOOD 45 FT	246	407,274			
E364.00-Poles, Towers, and Fixtures	31-Dec-09	POLE WOOD 45 FT	3	2,991			
E364.00-Poles, Towers, and Fixtures	1-Jan-41	POLE WOOD 50 FT	115	2,331			
E364.00-Poles, Towers, and Fixtures	1-Jan-42	POLE WOOD 50 FT	32	186			
E364.00-Poles, Towers, and Fixtures	1-Jan-43	POLE WOOD 50 FT	5	101			
E364.00-Poles, Towers, and Fixtures	1-Jan-44	POLE WOOD 50 FT	1	0			
E364.00-Poles, Towers, and Fixtures	1-Jan-45	POLE WOOD 50 FT	24	1,551			
E364.00-Poles, Towers, and Fixtures	1-Jan-46	POLE WOOD 50 FT	22	1,004			
E364.00-Poles, Towers, and Fixtures	1-Jan-47	POLE WOOD 50 FT	41	2,586			
E364.00-Poles, Towers, and Fixtures	1-Jan-48	POLE WOOD 50 FT	227	14,744			
E364.00-Poles, Towers, and Fixtures	1-Jan-49	POLE WOOD 50 FT	101	7,032			
E364.00-Poles, Towers, and Fixtures	1-Jan-50	POLE WOOD 50 FT	61	4,530			
E364.00-Poles, Towers, and Fixtures	1-Jan-51	POLE WOOD 50 FT	76	7,222			
E364.00-Poles, Towers, and Fixtures	1-Jan-52	POLE WOOD 50 FT	54	5,129			
E364.00-Poles, Towers, and Fixtures	1-Jan-53	POLE WOOD 50 FT	2	162			
E364.00-Poles, Towers, and Fixtures	1-Jan-54	POLE WOOD 50 FT	2	202			
E364.00-Poles, Towers, and Fixtures	1-Jan-56	POLE WOOD 50 FT	103	10,969			
E364.00-Poles, Towers, and Fixtures	1-Jan-57	POLE WOOD 50 FT	51	5,793			
E364.00-Poles, Towers, and Fixtures	1-Jan-58	POLE WOOD 50 FT	32	3,778			
E364.00-Poles, Towers, and Fixtures	1-Jan-59	POLE WOOD 50 FT	37	4,288			
E364.00-Poles, Towers, and Fixtures	1-Jan-60	POLE WOOD 50 FT	7	741			
E364.00-Poles, Towers, and Fixtures	1-Jan-61	POLE WOOD 50 FT	48	5,139			
E364.00-Poles, Towers, and Fixtures	1-Jan-62	POLE WOOD 50 FT	121	14,519			
E364.00-Poles, Towers, and Fixtures	1-Jan-63	POLE WOOD 50 FT	180	24,247			
E364.00-Poles, Towers, and Fixtures	1-Jan-64	POLE WOOD 50 FT	168	20,576			
E364.00-Poles, Towers, and Fixtures	1-Jan-65	POLE WOOD 50 FT	192	22,916			
E364.00-Poles, Towers, and Fixtures	1-Jan-66	POLE WOOD 50 FT	103	14,230			
E364.00-Poles, Towers, and Fixtures	1-Jan-67	POLE WOOD 50 FT	123	17,456			
E364.00-Poles, Towers, and Fixtures	1-Jan-68	POLE WOOD 50 FT	70	10,190			
E364.00-Poles, Towers, and Fixtures	1-Jan-69	POLE WOOD 50 FT	76	11,723			
					SUM 45' POLES (ROWS 1556-1688)		
					Qty	63,153	
					Installed Cost	45,668,509	
					Ave. Cost	\$ 723.14	

VERIFICATION

The undersigned, **Patricia D. Kravtin**, being duly sworn, deposes and states that she is the Proprietor of Patricia D. Kravtin Economic Consulting, that she has personal knowledge of the matters set forth in the foregoing testimony and exhibits, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

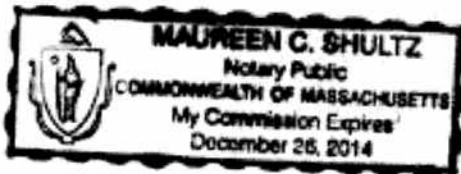
Patricia D. Kravtin

Patricia D. Kravtin

Sworn to before me this
22 day of April, 2010.

Maureen C. Shultz
Notary Public of the
Commonwealth of Massachusetts

My Commission Expires 12/26/2014



Time Warner Cable San Antonio, L.P.
July 23, 2010

SOAH DOCKET NO. 473-09-5470
PUC DOCKET NO. 36633

PETITION OF CPS ENERGY FOR §
ENFORCEMENT AGAINST AT&T § BEFORE THE STATE OFFICE OF
TEXAS AND TIME WARNER CABLE § ADMINISTRATIVE HEARINGS
REGARDING POLE ATTACHMENTS §
§

REDACTED
DIRECT TESTIMONY OF PATRICIA D. KRAVTIN
ON BEHALF OF TIME WARNER CABLE SAN ANTONIO, L.P.

Table of Contents

	<u>Page</u>
Testimony.....	2

Attachments

- Attachment PDK-1 Background and Qualifications of Patricia D. Kravtin (pp. PDK-1-1 through PDK-1-12)
- Attachment PDK-2 Responses to Subpoena Duces Tecum – Excerpts (pp. PDK-2-1 through PDK-2-8) (all filed under seal)
- Attachment PDK-3 Responses to Requests for Information – Excerpts (pp. PDK-3-1 through PDK-3-132) (pp. PDK-3-20 through PDK-3-132 filed under seal)
- Attachment PDK-4 Deposition Excerpts (pp. PDK-4-1 through PDK-4-80) (pp. PDK-4-4 through PDK-4-7; PDK-4-12 through PDK-4-16; PDK-4-27 through PDK-4-28; PDK-4-38 through PDK-4-39; PDK-4-41 through PDK-4-59; PDK-4-51 through PDK-4-80 filed under seal)
- Attachment PDK-5 Excerpts from Technical Conference Transcript (pp. PDK-5-1 through PDK-5-9) (pp. PDK-5-6 through PDK-5-9 filed under seal)
- Attachment PDK-6 Net Bare Pole Costs and Carrying Charge Components (pp. PDK-6-1 through PDK-6-4)
- Attachment PDK-7 Statement of Board of Directors, San Antonio Chamber of Commerce (pp. PDK-7-1 through PDK-7-28)
- Attachment PDK-8 Calculation of Maximum Pole Attachment Rates (pp. PDK-8-1 through PDK-8-2 filed under seal)

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

2 A. My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue,
3 Swampscott, Massachusetts. I am an economist in private practice specializing in the
4 analysis of telecommunications regulation and markets.

5 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL**
6 **BACKGROUND.**

7 A. I received a B.A. with Distinction in Economics from the George Washington University.
8 I studied in the Ph.D. program in Economics under a National Science Foundation
9 Fellowship at the Massachusetts Institute of Technology (“M.I.T.”). My fields of
10 concentration at M.I.T. were government regulation of industry, industrial organization,
11 and urban and regional economics. My professional background includes a wide range of
12 consulting experiences in regulated industries. Prior to starting my own consulting
13 practice, I was a consultant at the national economic research and consulting firm of
14 Economics and Technology, Inc. (“ETI”) in that firm’s regulatory consulting group,
15 where I held positions of increasing responsibility, including Senior Vice
16 President/Senior Economist.

17 **Q. WHAT IS YOUR EXPERIENCE SERVING AS AN EXPERT IN PROCEEDINGS**
18 **RELATED TO TELECOMMUNICATIONS MATTERS?**

19 A. I have testified or served as an expert on telecommunications matters in proceedings
20 before over thirty state regulatory commissions. I have also provided expert testimony
21 and reports in proceedings before the Federal Communications Commission (“FCC”) and
22 before international agencies including the Canadian Radio-television and
23 Telecommunications Commission, the Ontario Energy Board, and the Guam Public
24 Utilities Commission. In addition, I have testified as an expert witness in litigation in
25 federal and state district court, and also before a number of state legislative committees.
26 A detailed resume summarizing my educational background and previous experience is
27 provided in Attachment PDK-1 to my testimony.

28 **Q. PLEASE DESCRIBE YOUR FAMILIARITY WITH POLE ATTACHMENT**
29 **MATTERS.**

1 A. Over the course of my career, I have been actively involved in a number of state and
2 federal regulatory commission proceedings involving cost methodologies and the
3 allocation of costs of incumbent local exchange carriers (“ILECs”) and electric utilities. I
4 have also been actively involved in proceedings, both at the state and federal level,
5 concerning implementation issues in connection with the passage of the
6 Telecommunications Act of 1996 (the Act). One component, essential for the provision
7 of competitive communications services, with which I am also very familiar, and have
8 testified extensively on before state and federal regulatory agencies and before federal
9 and state district courts, is access to poles, ducts, conduits, and rights-of-way.

10 I have submitted reports in pole proceedings before the FCC including the
11 ongoing rulemaking, *In the Matter of Implementation of Section 224 of the Act;*
12 *Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, WC
13 Docket No. 07-245, RM 11293, RM 11303 (FCC 2008 NPRM Proceeding). I have
14 served as an expert or advisor on pole attachment matters in proceedings involving
15 investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned
16 utilities, and before state regulatory commissions including the Arkansas Public Service
17 Commission, the Kentucky Public Service Commission, the Public Utilities Commission
18 of Ohio, the Georgia Public Service Commission, the South Carolina Public Service
19 Commission, the Public Service Commission of the District of Columbia, the New Jersey
20 Board of Public Utilities, and the New York Public Service Commission. I have also
21 been actively involved in the area of broadband deployment, having authored a number
22 of reports dealing with this subject, and most recently, participating as a grant reviewer
23 for the Broadband Technology Opportunities Program (“BTOP”) administered by
24 National Telecommunications and Information Administration (“NTIA”).

25 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

26 A. Yes, I testified before the Public Utility Commission of Texas (“PUCT” or
27 “Commission”) in a generic telecommunications proceeding on reciprocal compensation
28 (Docket No. 21982, *Proceeding to Examine Reciprocal Compensation Pursuant to*
29 *Section 252 of the Federal Telecommunications Act of 1996*,) on behalf of a number of
30 competitive local exchange providers. I also testified in connection with an electric
31 utility case involving Texas-New Mexico Power Company (TNMP) on behalf of Cities

1 Served by TNMP (SOAH Docket No. 473-00-1014, PUC Docket No. 22349, *Application*
2 *of Texas-New Mexico Power Company for Approval of Unbundled Cost of Service Rate*
3 *Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule §25.344).*

4 **Q. HAVE YOU DONE OTHER WORK ON BEHALF OF MUNICIPALITIES IN**
5 **TEXAS?**

6 A. Yes, I worked for the City of Dallas in connection with two cable franchise applications.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

8 A. I was asked by Time Warner Cable San Antonio, L.P. (“TWC”) to address matters raised
9 in this proceeding pertaining to the calculation of pole attachment rental rates that CPS
10 Energy (“CPS”) may charge TWC. Pursuant to the Commission’s *Order on*
11 *Reconsideration of Certified Issues* in this proceeding, these matters include the “review
12 and modif[ication] [of] each input, including defaults and rebuttable presumptions, used
13 to calculate the maximum allowable fee the municipally owned utility (MOU) would be
14 permitted to charge under rules adopted by the FCC under 47 U.S.C. § 224(e) if the
15 MOU’s rates were regulated under federal law and FCC rules.”¹

16 My testimony provides calculations of appropriate maximum permissible pole
17 attachment rental rates applicable to CPS, based on alternative and economically
18 appropriate formula inputs, consistent with the Commission’s ruling that a MOU’s
19 compliance with PURA §54.204 requires “a preponderance of the evidence”
20 demonstrating “the reasonableness of its calculated inputs.”² In my opinion, as an
21 economist with experience in determining just and reasonable rates for pole attachment
22 rentals, a number of key inputs used by CPS in its pole rate calculations require
23 modification to satisfy the standard of reasonableness set by the PUCT, and pursuant to
24 the language in PURA § 54.204 and § 224(e) upon which it relies. In addition, my
25 testimony addresses CPS’s incorrect application of the § 224(e) formula to include an
26 additional gross-up factor for the payment to the City of San Antonio.

¹ *Order on Reconsideration* at 3 (Apr. 28, 2010).

² *Id.*

1 **Q. DO YOU REACH AN ULTIMATE CONCLUSION ABOUT CPS ENERGY'S**
2 **RATE CALCULATIONS?**

3 A. Yes. I conclude that CPS Energy's calculations exceed the maximum levels permitted by
4 PURA. For example, for the year 2007 CPS Energy asserts that it would be justified in
5 charging a pole attachment rate of \$28.20. As set forth more fully below (and in
6 particular at Table 1), I believe that this CPS Energy rate exceeds the statutory maximum
7 by 279% and that the correct rate should be \$7.44.

8 **Q. WHY IS IT IMPORTANT THAT CPS NOT BE PERMITTED TO CHARGE**
9 **THIRD-PARTY ATTACHERS SUCH AS TWC A POLE RATE IN EXCESS OF**
10 **THE LEVEL DETERMINED BY AN ECONOMICALLY APPROPRIATE**
11 **APPLICATION OF THE § 224(E) FORMULA, AS YOU HAVE CALCULATED?**

12 A. In addition to the language in PURA § 54.204 that requires this, pole attachments are a
13 vital input needed for the delivery of new, advanced broadband services and applications.
14 In order to promote the creation of a market environment that encourages infrastructure
15 investment and the provision of a greater array of innovative and advanced broadband
16 services, and at lower rates, pole attachment rates must be set at economically appropriate
17 levels. Rates set at excessive monopoly rate levels such as sought by utilities are
18 detrimental to these important public policy goals. These are all points emphasized in the
19 FCC's recently-released National Broadband Plan ("NBP") Report in which the FCC
20 recommends a revised "application of the telecommunications carrier rate formula to
21 yield rates as close as possible to the cable rate" to support the goal of broadband
22 deployment.³

23 In its Further Notice of Proposed Rulemaking ("FNPRM") which followed closely
24 on the heels of the NBP, the FCC reiterated these points, and introduced a new "lower
25 bound" version of the § 224(e) formula (one that excludes capital cost elements of the
26 carrying charge factor entirely) in order to better reflect economic cost-causation

³ See *FCC National Broadband Report*, submitted to Congress on March 16, 2010, Press Release, Federal Communications Commission, *FCC Sends National Broadband Plan to Congress: Plan Details Actions or Connecting Consumers, Economy with 21st Century Network*, at 110 <http://www.broadband.gov/plan/>

1 principles and to achieve the national goals articulated in the NBP.⁴ As reiterated in the
2 FNPRM, these goals are “to lower the costs of telecommunications, cable and broadband
3 deployment and to promote competition.”⁵

4 **Q. PLEASE SUMMARIZE THE TESTIMONY YOU WILL GIVE.**

5 A. As described in this testimony, CPS’s rate calculations contain errors with regard to key
6 data inputs affecting all three major components of the rate formula (i.e., net bare pole
7 cost, carrying charge factor, and space allocation factor). These inputs include the
8 retirement-related components of accumulated depreciation used in the calculation of net
9 pole cost; the depreciation rate and rate of return elements of the carrying charge factor;
10 and the pole height, unusable space and number of entity figures used to calculate the
11 space allocation factor.

12 In addition, CPS has inappropriately included an additional gross-up factor for
13 city payment. The rate formula is based on a fully allocated cost approach, which by
14 definition, is set to recover costs at the high end of just and reasonable rates. Third-party
15 attachers also pay make-ready charges to CPS over and above the recurring rental rate to
16 cover any direct costs incurred by the utility in connection with accommodating the
17 attachment and which include additional overhead cost recovery. No additional mark-up

⁴ See *In the Matter of Implementation of Section 224 of the Act*, WC Docket No. 07-245, Order and Further Notice of Proposed Rulemaking, FCC 10-84 at para.118 (“We believe that pursuing uniformity by increasing cable operators’ pole rental rates—potentially up to the level yielded by the current telecom formula—would come at the cost of increased broadband prices and reduced incentives for deployment. Instead, by seeking to limit the distortions present in the current pole rental rates by reinterpreting the telecom rate to a lower level consistent with the Act, we expect to increase the availability of, and competition for, advanced services to anchor institutions and as middle-mile inputs to wireless services and other broadband services”), see also FNPRM at para. 135 (“Under our proposal, however, capital costs would be excluded for purposes of identifying a lower bound for the telecom pole rental rate.... As a result, under a cost causation theory, where there is space available on a pole, an attacher would be required to pay for none, or at most a *de minimis* portion, of the capital costs of that pole.”)

⁵ See FNPRM at para. 1 (“In this Order and Further Notice of Proposed Rulemaking, we begin the process of revising the Commission’s pole attachment rules to lower the costs of telecommunications, cable, and broadband deployment and to promote competition, as recommended in the National Broadband Plan.”).

1 or surcharge in excess of the fully allocated cost allocations in the rental rate and the
2 direct cost recovery in the make-ready charges is warranted or permitted under § 224(e).

3 Based on the use of these erroneous data inputs, and its economically
4 inappropriate gross-up to the formula rental rate for the city payment, CPS calculates a
5 set of pole attachment rates using data for fiscal years 2004 through 2009 (shown in
6 Table 1 on the following page). As shown in Table 1, CPS’s rates in all years far exceed
7 (by two to four times) the just and reasonable rates for this same period which I have
8 calculated based on the § 224(e) formula methodology using corrected, economically
9 reasonable input figures and excluding the inappropriate gross-up for city payment.

10 **Q. DESCRIBE YOUR CALCULATIONS OF CPS POLE ATTACHMENT RATES**
11 **BASED ON ECONOMICALLY REASONABLE FORMULA INPUTS AND A**
12 **CORRECT APPLICATION OF THE § 224(E) FORMULA METHODOLOGY?**

13 A. Applying the § 224(e) FCC telecom formula rate methodology to CPS’s summary data,⁶
14 as well as CPS data available from other public sources, I have calculated maximum pole
15 attachment rates that CPS should be permitted to charge TWC as a third-party attacher on
16 its poles, using economically appropriate and reasonable data inputs and a correct
17 application of the § 224(e) rate formula upon which PURA § 54.204 relies. These rates
18 are provided in Table 1, in a side-by-side comparison to rates calculated by CPS:

19 **Table 1**

Comparison of Adjusted Maximum Permissible CPS Pole Attachment Rates With Rates Calculated by CPS (\$ per pole/yr)						
Data for fiscal yr ending	2004	2005	2006	2007	2008	2009
Corrected Rates	\$7.14	\$7.19	\$7.27	\$7.44	\$8.22	\$ 8.10
CPS Calculated Rates w/city payment surcharge	***BEGIN CONF.*** *****	*****	*****	*****	*****	***** ***END CONF.***
% Difference	***BEGIN CONF.*** ****	****	****	****	****	**** ***END CONF.***

⁶ MOU’s such as CPS typically are not required to file publicly detailed FERC-account based data. However, CPS has produced some data in discovery in this proceeding.

1 In my opinion, rates set any higher than the Corrected Rates shown above would
2 fail to serve the ultimate purposes of effective pole rate regulation. That the rate levels
3 produced by a *correct* application of the § 224(e) formula and calculated using *reasonable*
4 data inputs are lower than the rate levels previously “negotiated” between the utility and
5 an attacher, and/or “market benchmark” rates set by other pole owners, is not a valid
6 economic or public policy concern for the reasons described above. Rates calculated
7 using a correct application of the § 224(e) formula as shown in Table 1 are subsidy-free,
8 and much more than fully compensatory to the utility.

9 **Q. WHAT IS THE PURPOSE OF POLE RATE REGULATION?**

10 A. The primary purpose of pole rate regulation has historically been, and continues to be,
11 about protecting cable operators and other third-party attachers against abuses of pole-
12 owning utilities. In this important context, the purpose of pole rate regulation has *not*
13 been about maximizing third-party contribution to the revenue requirement for the
14 utility’s core electric services (which is properly recoverable from the utility’s ratepayers
15 for whom the pole network was built and maintained), but rather to *limit* the rents that
16 utilities are permitted to charge third-party attachers to levels more in line with what a
17 competitive market (if one existed, which it does not) would produce.

18 Fundamental to pole rate regulation is recognition of the fact that pole-owning
19 utilities, by virtue of historical incumbency, own and control existing pole plant to which
20 cable operators and other third-parties have no practical alternative but to attach. Where
21 a utility has absolute control over essential bottleneck facilities, in the absence of
22 effective pole regulation, pole-owning utilities are in a position to limit access to these
23 essential bottleneck facilities and/or to extract excessive monopoly rents.⁷ This control of
24 the essential bottleneck pole facility effectively affords the utility a key gatekeeper role
25 with respect to the roll-out and availability of new advanced broadband services and
26 applications in its service area. Preventing a pole-owning utility from charging excessive

⁷ See *NCTA v. Gulf Power*, 534 U.S. 327, 330 (2002) (“Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.”).

1 rates to the detriment of competition and the consuming public, is precisely what pole
2 regulation nationally for IOUs pursuant to § 224(e), and here in Texas for MOUs
3 pursuant to PURA § 54.204 was designed to address. Excessive rates serve no valid
4 economic or public policy purpose. To the contrary, such excessive rates work at cross
5 purposes to important public policy goals discussed above, i.e., to promote effective
6 competition and widespread broadband deployment.

7 **Q. ARE MUNICIPALLY-OWNED UTILITIES ANY LESS LIKELY THAN**
8 **INVESTOR-OWNED UTILITIES TO SEEK EXCESSIVE RENTS?**

9 A. No. The incentive and opportunity for MOUs to leverage their ownership of poles and to
10 extract excessive monopoly level rents from third-party attachers is inherently the same
11 as that for investor-owned utilities subject to the FCC pole regulation. Moreover, just
12 like their IOU counterparts, the entry, or even the prospect of entry, of MOUs into
13 adjacent telecommunications and broadband markets in recent years provides a
14 heightened incentive for the MOU to charge excessive pole attachment rates. In
15 materials provided in response to Subpoena Duces Tecum, *****BEGIN**
16 **CONFIDENTIAL***** *****
17 *****
18 *****
19 *****
20 *****⁸ ***** END CONFIDENTIAL*****

21 Moreover, any notion that the market dynamics would be different in the case of a
22 MOU such as CPS is belied by the monopoly-level rate increases proposed by CPS and
23 the inappropriate manner (including the use of unreasonable inputs and an incorrect
24 addition of a surcharge) in which CPS has sought to apply the § 224(e) rate formula
25 mandated by PURA § 54.204. PURA § 54.204, by specifically applying pole regulation
26 to MOUs, correctly recognizes that the compelling reasons that gave rise to the need for

⁸ See Gonzalo Martinez Response to Subpoena Duces Tecum, TWC Request 2d, at Bates No. 830
*****BEGIN CONFIDENTIAL***** *****
*****END CONFIDENTIAL*****

1 effective regulation of pole attachments are not dependent on the organizational charter
2 of the pole-owning utility; they apply equally to MOUs such as CPS as they do to
3 investor-owned utilities that have been subject to the FCC’s pole attachment rules for the
4 past several decades – a key shortcoming in federal pole rate regulation the FCC’s NBP
5 seeks to remedy.⁹

6 The need for effective pole regulation has arisen because cable operators and
7 other third-parties such as TWC have no practical alternative but to attach to existing pole
8 lines. In the absence of effective pole regulation, municipally-owned utilities (“MOUs”)
9 such as CPS Energy, because of its historical incumbency - like its investor-owned utility
10 (“IOU”) counterparts - would be in a position to limit access to these essential bottleneck
11 facilities and/or to extract excessive monopoly rents. The entry, or even the prospect of
12 entry, of electric distributors (or their affiliates) into adjacent telecommunications and
13 broadband markets in recent years (e.g., through the provision of broadband over power
14 line (“BPL”) or “Smart Grid”) provides a heightened incentive for utilities to charge
15 excessive pole attachment rates.

16 Without effective regulation, a utility’s monopoly control over poles makes it a
17 gatekeeper controlling the availability of new advanced broadband services and
18 applications in its service area. This scenario is precisely the type of behavior that pole
19 regulation, nationally and here in Texas for CPS and other MOUs pursuant to the state’s
20 regulation of MOUs under PURA § 54.204, was designed to address. Indeed, it is a
21 scenario that is currently playing out here in this proceeding between MOU pole owner
22 CPS and third-party pole attachers such as TWC.

23 Where competitive market conditions do not exist (as is the case with the pole
24 space TWC leases from CPS), there are no competitive pressures to constrain the prices

⁹ See NBP at 112 (“[D]ue to exemptions written into Section 224, a reformed FCC regime would apply to only 49 million of the nation’s 134 million poles. In particular, the statute does not apply in states that adopt their own system of regulation and exempts poles owned by co-operatives, municipalities and non-utilities...The nation needs a coherent and uniform policy for broadband access to privately owned physical infrastructure. Congress should consider amending or replacing Section 224 with a harmonized and simple policy that establishes minimum standards throughout the nation – although states should remain free to enforce standards that are not inconsistent with federal law.”).

1 charged by the utility to levels approximating marginal costs. Under such conditions,
2 there is no such thing as a “free market” rate for poles. Rates that TWC may have agreed
3 to pay other MOUs or IOUs are not free market benchmarks that the Commission should
4 take into consideration in evaluating CPS’s compliance with PURA §54.204 or the
5 reasonableness of CPS’s formula inputs. Instead, such pole rates are being set in a
6 grossly unbalanced negotiating environment where the pole owner, regardless of its size,
7 has an inordinate amount of leverage over the third-party attacher and can impose
8 excessive rates reflecting “supra-normal” monopoly profit for the pole owner. Absent
9 price constraints imposed by regulation, the pole-owning utility has the upper hand in any
10 “negotiation” or rate-setting process between the pole owner and the attacher.

11 As the Commission’s ruling in its *Order on Reconsideration* acknowledges, with
12 any formulaic approach, the accuracy and reasonableness of CPS’s rate calculations
13 depends on the accuracy and reasonableness of the underlying data inputs. For this
14 reason, it is very important that the data inputs are subjected to careful scrutiny and held
15 to a high standard as to their reliability, accuracy, consistency, and ability to be
16 independently verified. CPS’s rate calculations contain a number of data inputs that, in
17 my opinion, do not pass this standard, and that require correction.

18 **Q. HAS CPS ENGAGED IN THE TYPE OF BEHAVIOR THAT POLE RATE**
19 **REGULATION GENERALLY, AND THE STATUTE IN TEXAS FOR MOUS,**
20 **WAS DESIGNED TO PREVENT?**

21 A. Yes. Pole rate regulation is intended to regulate rates that are not subject to competitive
22 market conditions, such as here, in the case of CPS pole attachments regulated pursuant
23 to PURA § 54.204. In the absence of effective regulatory involvement, there are no
24 external pressures or self-imposed discipline on the utility to constrain the prices it
25 charges for these bottleneck facilities to levels remotely approximating marginal costs -
26 the true economic costs to the utility of third party attachment on otherwise vacant space
27 on its poles. Under these conditions, it makes no sense to talk in terms of a “free market”
28 rate. Instead, rates are being set in a grossly unbalanced negotiating environment where
29 the pole owner, regardless of its size, has an inordinate amount of leverage over third-
30 party attachers and can impose excessive monopoly level rates.

1 As evidence of CPS’s monopoly behavior, CPS is seeking to charge third-party
2 attachers such as TWC a pole attachment rate of *****BEGIN CONFIDENTIAL*****
3 ******* ***END CONFIDENTIAL***** for 2009.¹⁰ This rate represents a *****BEGIN**
4 **CONFIDENTIAL***** ***** ***END CONFIDENTIAL***** increase over the current
5 and already excessive \$15.63 pole rate TWC had been paying CPS, and exceeds the just
6 and reasonable rate of \$8.10 calculated for the same period based on the § 224(e) formula
7 methodology but using alternative reasonable input figures by *****BEGIN**
8 **CONFIDENTIAL***** ******* ***END CONFIDENTIAL***** Over the period 2004 to
9 2009, CPS has increased the pole attachment rate it has sought to charge TWC from
10 \$7.37 in 2004 to the *****BEGIN CONFIDENTIAL***** ******* ***END**
11 **CONFIDENTIAL***** based on fiscal year data ending January 2009. This represents a
12 *****BEGIN CONFIDENTIAL***** ******* ***END CONFIDENTIAL***** increase over
13 this period, as compared with the increase in the Consumer Price Index (CPI) over this
14 same period of only 13.5%.¹¹

15 **Q. HOW DOES THE EXISTING FCC § 224(E) TELECOM RATE FORMULA**
16 **WORK?**

17 A. As directed in § 224, the FCC pole rate methodology, applicable to *both* cable and
18 telecom rate attachments, calculates a maximum annual pole attachment rent by taking
19 the sum of the actual capital costs and operating expenses of the utility attributable to the
20 *entire* pole, expressed on an annual basis, and apportioning those costs to the attacher
21 based on an allocation of space on the pole. Operationally, the FCC formula
22 methodology consists of the following three major components: (1) the net investment
23 per bare pole, (2) a carrying charge factor (used to convert the net cost per bare pole
24 figure into an annual rental amount) and (3) a space allocation factor (i.e., the percent of
25 pole capacity attributable to the attacher). Expressed as an equation, the FCC formula
26 methodology is as follows:

¹⁰ See Attachment PDK-3, RFI Responses, CPS Confidential Response to TWC Second Set of Requests for Information.

¹¹ http://www.bls.gov/data/inflation_calculator.htm.

1	FCC Pole Rate Formula (for both cable and telecom) =
2	Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor

3 Under the FCC rules, both the cable and telecom formulas are calculated in
4 exactly the same manner as to the first two components of the rate formula, i.e., the net
5 bare pole cost and the carrying charge factor (“CCF”). These components of the formula
6 are calculated in a straightforward, but multistep process, as described in Attachment
7 PDK-6 to this testimony. The FCC cable and telecom formulas differ, however, in the
8 calculation of the third component, i.e., the space allocation factor.

9 **Q. HOW IS THE SPACE ALLOCATION FACTOR CALCULATED UNDER THE**
10 **FCC’S EXISTING § 224(E) TELECOM FORMULA?**

11 A. The FCC telecom methodology assigns the cost of usable space on the pole based on the
12 proportionate share of usable space occupied by the attacher (same as the cable formula),
13 but assigns costs relating to unusable space on the pole using a per-capita allocator as
14 expressed as an equation on the following page.¹² Specifically, as statutorily prescribed in
15 § 224(e), the FCC telecom methodology takes 2/3 of the unusable space on the pole and
16 divides that equally by the number of attaching entities – which under the FCC rules, is
17 presumed to be 5 for an urbanized area.¹³

¹² This contrasts with the § 224(e) cable formula rate which assigns costs relating to the *entire* pole -- including both usable and unusable space -- on the basis of a proportionate-use allocator.

¹³ FCC rules designate rural areas as those with populations of less than 50,000 and urbanized areas as those with populations of 50,000 or more, and would apply the presumptive number of attaching entities for urbanized areas (i.e., 5) to the utility’s entire service area if any part of that utility’s service area is classified as urbanized. *See FCC Consolidated Partial Order on Reconsideration (“FCC Recon Order”), In the Matter of Amendment of Commission’s Rules and Policies Governing Pole Attachments*, CS Docket 97-98, 97-151, FCC 01-170, ¶¶ 66-67 (May 25, 2001).

1 FCC Telecom Rate Formula =
2 Net Bare Pole Cost x Carrying Charge Factor x [Usable + Unusable Space
3 Percentage]:
4
5 Usable Space Percentage =
6 (Space occupied by attacher / Usable Space) x (Usable Space/Pole Height); and
7
8 Unusable Space Percentage =
9 $\frac{2}{3} \times (\text{Unusable Space} / \text{Pole Height}) \times (1/\text{Number of Attachers})$

10 **Q: HAVE YOU CALCULATED THE SPACE ALLOCATION FACTOR**
11 **APPLICABLE TO CPS UNDER THE FCC § 224(E) FORMULA?**

12 A. Yes. I have. For CPS's average 42.5 feet joint-use pole, and using accepted industry
13 standards for above-ground clearances and below-ground pole setting requirements, the
14 total space allocation factor for the telecom formula is 9.96%.¹⁴ As discussed later,
15 CPS's space allocation factor of *****BEGIN CONFIDENTIAL*** ***** ***END**
16 **CONFIDENTIAL***** is unreasonably high. Figure 1 on the following page provides a
17 graphical illustration of the proper calculation of the space allocation factor for CPS,
18 based on the utility's average 42.5 foot joint-use pole.¹
19

¹⁴ Using the FCC presumption of a 37.5' pole (calculated as a blend of 35 and 40 feet poles), the space allocator factor for 5 attaching entities is 11.2%. However, CPS's pole data effectively rebuts this presumption, and is consistent with widely accepted knowledge that 40 feet is now the minimum pole size for joint-use poles.

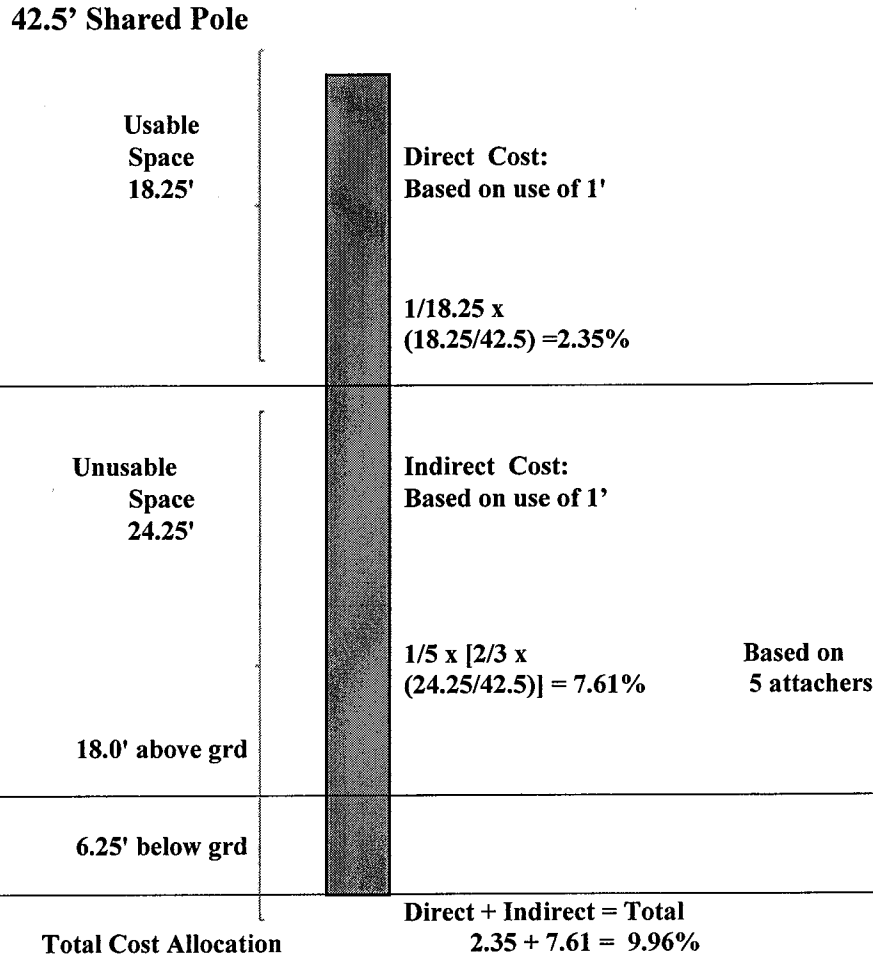
1

Figure 1

2

Derivation of Space Allocation Factor for CPS Under 224(e) Formula

3



1 **Q. HAVE YOU CALCULATED MAXIMUM PERMISSIBLE POLE ATTACHMENT**
2 **RENTAL RATES APPLICABLE TO CPS UNDER THE FCC'S EXISTING § 224**
3 **TELECOM FORMULA METHODOLOGY?**

4 A. Yes, I have calculated maximum permissible rates under a correct application of the
5 FCC's telecom formula and using economically appropriate and reasonable data inputs.

6 **Q. DO YOUR CALCULATIONS ADHERE TO THE FCC RATE FORMULA**
7 **METHODOLOGIES?**

8 A. Yes. Other than the modifications to the tax and return elements of the carrying charge
9 component necessary to reflect CPS's municipal structure as described below, my
10 calculations adhere to the methodology as set forth in the FCC rules and guidelines.

11 **Q. WHAT DATA HAVE YOU USED TO CALCULATE THE POLE ATTACHMENT**
12 **RATES, AND HAS THAT DATA BEEN VERIFIED?**

13 A. I have relied upon data provided by CPS in discovery and in other public sources, such as
14 the CPS Annual Reports. Because much of the data needed to calculate the formula rates
15 was provided by CPS only in summary fashion, it has not been possible to verify the
16 figures as to their accuracy or to tie them to CPS's books of accounts. As noted earlier,
17 one of the hallmarks of the FCC formula methodology is its reliance on verifiable and
18 publicly reported input data, and CPS's data should be subject to the same standards of
19 reliability. This is particularly apparent in the context of CPS's accumulated depreciated
20 figures, which are discussed further below in the context of the corrections I have made
21 to CPS's input figures.

22 **Q. WHAT RATES WOULD BE JUST AND REASONABLE AS MAXIMUM**
23 **PERMISSIBLE RATES FOR CPS TO CHARGE THIRD-PARTY ATTACHERS?**

24 A. Table 2 below presents the results of my rate calculations using data for the period 2004
25 to 2009 (applicable to the setting of pole rates for 2005 to 2010). As shown in Table 2,
26 once the various pieces of input data are properly identified, the calculation of the
27 maximum permissible rates under the FCC telecom formula methodology is a
28 straightforward multiplication of the three major components: *net bare pole cost* times
29 *carrying charge factor* times *space allocation factor*. Supporting calculations are
30 presented in Attachment C to this testimony. In my opinion, rates set any higher than
31 those shown below would be inconsistent with the rate cap at PURA Section 54.204

1 (which incorporates 47 U.S.C. Section 224(e) and fail to serve the ultimate purposes of
2 effective pole rate regulation.

3 **Table 2**
4

Maximum Permissible Pole Attachment Rates for CPS Under Correct Application of § 224(e) Formula and Using Reasonable, Economically Appropriate Inputs						
Data for FY ending Jan	2004	2005	2006	2007	2008	2009
BEGIN CONF.	*****	*****	*****	*****	*****	*****
Net Inv. Per Bare Pole						
x Carrying Charges	*****	*****	*****	*****	*****	*****
x Space Factor	*****	*****	*****	*****	*****	*****
						END CONF.
=Maximum Rate	\$7.14	\$7.19	\$7.27	\$7.44	\$8.22	\$8.10

5 **Q. CAN THE RATES YOU PROPOSE BE JUST AND REASONABLE IF THEY**
6 **ARE LOWER THAN RATE LEVELS PREVIOUSLY NEGOTIATED BETWEEN**
7 **THE UTILITY AND ATTACHER, AND/OR BELOW BENCHMARK RATES**
8 **SET BY OTHER POLE OWNERS?**

9 **A.** That the rate levels produced by a correct application of the FCC telecom formula using
10 reasonable data inputs as shown in Table 2 are lower than the rate levels previously
11 “negotiated” between the utility and attacher, or below “benchmark” rates set by other
12 pole owners, is not a valid economic or public policy concern. First, the FCC formula
13 rate is cost-based, subsidy-free, and much more than fully compensatory to the utility.
14 Second, the latter rates do not reflect “free market” rates at all. Rather, they reflect prices
15 set in a grossly unbalanced market environment where the pole owner, regardless of its
16 size, has an inordinate amount of leverage over third-party attachers, and where, if
17 unchecked by effective pole regulation, can impose excessive monopoly-level rates.
18 Absent price constraints imposed by regulation, the pole-owning utility has the upper
19 hand in any “negotiation” or rate-setting process between the pole owner and the attacher.
20 As such, rates set during such a process do not represent appropriate benchmarks for
21 comparison of just and reasonable pole attachment rates.

1 **Q. PLEASE DESCRIBE THE CORRECTIONS YOU HAVE MADE TO CPS'S**
2 **CALCULATIONS OF § 224(E) FORMULA RATES.**

3 A. As the Commission's ruling in its *Order on Reconsideration* acknowledges, with any
4 formulaic approach, the accuracy and reasonableness of CPS's rate calculations depends
5 on the accuracy and reasonableness of the underlying data inputs. For this reason, it is
6 very important that the data inputs are subjected to careful scrutiny and held to a high
7 standard as to their reliability, accuracy, consistency, and ability to be independently
8 verified. In my opinion, as an economist with experience in determining just and
9 reasonable rates for pole attachment rentals, a number of key inputs used by CPS in its
10 pole rate calculations require modification to satisfy the standard of reasonableness set by
11 the PUCT, and pursuant to the language in PURA § 54.204 and § 224(e) upon which it
12 relies.

13 These inputs include: the retirement-related components of accumulated
14 depreciation used to calculate net pole cost; the depreciation rate, and rate of return
15 elements of the carrying charge factor; and the pole height, unusable space and number of
16 entity figures used to calculate the space allocation factor. In addition, CPS's calculation
17 suffers from an incorrect application of the § 224(e) methodology by including an
18 additional gross-up factor for the city payment. The various problems with CPS's inputs
19 and application of the formula, along with the appropriate corrected values, are detailed
20 below.

21 **Corrections to the Net Bare Pole Cost Component of the Rate Formula**

22 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS'S ACCUMULATED**
23 **DEPRECIATION FIGURES USED AS INPUTS TO THE CALCULATION OF**
24 **NET BARE POLE COSTS.**

25 A. Accumulated depreciation is an important input to the rate formula calculation,
26 specifically in the calculation of the net bare pole cost component. For an MOU, this
27 component is derived by subtracting accumulated depreciation for plant account 364
28 from gross plant investment for plant account 364, and then dividing that amount by the

1 number of poles to arrive at a unitized number.¹⁵ Accordingly, under the § 224(e)
2 methodology, the net bare pole cost varies inversely with the amount of booked
3 accumulated depreciation (i.e., the lower the accumulated depreciation, the higher net
4 bare pole cost). This is appropriate since depreciation is a non-cash expense that
5 provides a source of free cash from which a utility can fund capital purchases including
6 the replacement of plant past its useful life.

7 The problem that arises in this case is that CPS has not presented the information
8 necessary to independently validate the accuracy of the recording of the various
9 retirement-related components of CPS’s accumulated depreciation figures. For most but
10 not all years, *****BEGIN CONFIDENTIAL***** *****

11 *****
12 *****
13 *****
14 *****
15 *****

16 *****¹⁶ *****END CONFIDENTIAL***** As explained above, the lower accumulated
17 depreciation amount has the effect of increasing the net bare pole cost component of the
18 rate formula, which in turn, directly increases the pole rate derived from the formula.¹⁷

19 ***** BEGIN CONFIDENTIAL***** *****
20 *****
21 *****
22 *****

¹⁵ Expressed formulaically: [Net Bare Pole Cost = (Gross Pole Plant Investment – Accumulated Depreciation)/ Number of Poles = Net Plant]. For an IOU, gross pole plant is also reduced by accumulated deferred taxes.

¹⁶ For example, CPS workpapers for the year 2008 show *****BEGIN CONFIDENTIAL***** *****

***** *****END CONFIDENTIAL***** See Attachment PDK-3, CPS First Supplemental Response to AT&T Texas’ Second RFIs Nos. 2-31 and 2-41.

¹⁷ As shown above, the formula pole rate is derived by the straightforward multiplication of the following three components: Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor, so an increase in any one of these three components will increase the pole rate.

1 *****
 2 *****¹⁸ *****
 3 *****¹⁹ *****
 4 *****
 5 *****
 6 *****²⁰ *** **END**

7 **CONFIDENTIAL*****

8 There appears to be nothing inherently wrong per se with CPS’s introduction of a
 9 new accounting system that separately tracks the various components of accumulated
 10 depreciation, or the recording of some of these retirement-related components (i.e., net
 11 salvage and remaining book value for assets prematurely retired before the end of their
 12 service lives) in the FERC 108 “Accumulated Provision for Depreciation of Electric
 13 Utility Plant” account, and others (i.e., reversal of accumulated depreciation for retired
 14 assets) in the FERC 101 “Electric Plant in Service” account in the manner CPS’s
 15 responses suggests.²¹ The problem, however, is that in the process, a number of
 16 significant anomalies in the data have arisen that CPS has been unable to adequately
 17 explain or reconcile. Absent clear and reasonable explanations for the observed
 18 anomalies, it is also as likely that the observed anomalies may be attributable to errors in
 19 the underlying data, the introduction of a new accounting system and the glitches in
 20 recording that can accompany such transitions rather than to actual plant or cost
 21 experience, and/or be the result of an unverified simulated plant life representation of
 22 CPS’s actual retirement experience for pole plant in account 364.

23 **Q. WHAT ANOMALIES ARE YOU REFERRING TO?**

¹⁸ See, e.g., Attachment PDK-3, CPS Response to RFI No. TC 1-3a.

¹⁹ See Attachment PDK -3, CPS Response to RFI No. TC 1-1.

²⁰ See Attachment PDK-3, CPS Supplemental Response to Staff RFI No. NS 4-1d (Exhibit 2, Deposition of Shannon Albert); see also Attachment PDK-4, Deposition Excerpts, Deposition of Shannon Albert, at 59.

²¹ See id.

1 *****²⁴ *****END CONFIDENTIAL*****
 2 Consistent with their long lives, depreciation rates for utility poles are commonly set in
 3 the range of 2.5% to 3%. (Benchmark depreciation rate data for other utilities is
 4 presented in Table 3 in the following section of this testimony addressing the
 5 depreciation element of the carrying charge). By contrast, CPS’s annual depreciation
 6 expenses (which are booked to and grow the primary accumulated depreciation account)
 7 over the 2004 to 2009 period were calculated based on depreciation rates of *****BEGIN**
 8 **CONFIDENTIAL*** ***** *****END CONFIDENTIAL*******

9 These higher depreciation rates, all other things being equal, should generate
 10 annual depreciation expenses large enough to recover as much as *****BEGIN**
 11 **CONFIDENTIAL*** ***** *****END CONFIDENTIAL******* of the original
 12 cost of the plant based on average pole service lives.²⁵ *****BEGIN**
 13 **CONFIDENTIAL*** *******
 14 *****
 15 *****
 16 *****
 17 *****
 18 *****
 19 *****
 20 *****²⁶
 21 *****
 22 *****
 23 *****

²⁴ See also Attachment PDK-3, CPS Response to NS 2-4 identifying average service life for pole asset of 40 years. See also Attachment PDK-4, Deposition of John Moore, at 44.

²⁵ As a simplified example, for a \$100 asset with a thirty year life, a depreciation rate of 4% a year would generate \$4 a year for 30 years for a total of \$120. The first \$100 would go toward recovery of the original cost of \$100, leaving \$20 additional recovery to be applied toward retirement-related expenses.

²⁶ See Attachment PDK-3, CPS Supplemental Response to RFI No. NS 4-1(c) (Exhibit 2, Deposition of Shannon Albert, dated June 24, 2010) *****BEGIN CONFIDENTIAL*** *******

 ***** *****END CONFIDENTIAL*****

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 5 *****²⁷*****
 6 *****
 7 *****
 8 ***** *****END CONFIDENTIAL*****

9 For example, *****BEGIN CONFIDENTIAL***** *****
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 18 *****
 19 *****
 20 ***** *****END CONFIDENTIAL*****

21 As demonstrated by the preceding example, *****BEGIN CONFIDENTIAL*****
 22 *****
 23 *****
 24 *****
 25 *****
 26 *****
 27 ***** *****END CONFIDENTIAL***** Data on other

²⁷ See Attachment PDK-3, CPS Supplemental Response to RFI No. TC1-2. *****BEGIN CONFIDENTIAL***** *****
 ***** *****END CONFIDENTIAL*****

1 utilities with which I am familiar indicate utilities having depreciation rates *****BEGIN**
 2 **CONFIDENTIAL***** *****
 3 *****
 4 *****
 5 ***** 28
 6 *****END CONFIDENTIAL***** This is as expected given the level of annual
 7 depreciation expense booked to the accumulated depreciation account that such high
 8 depreciation rates would generate.

9 **Q. HAVE YOU OBSERVED OTHER ANOMALIES WITH RESPECT TO CPS'S**
 10 **RMR ACCOUNTING FOR POLE PLANT ACCOUNT 364?**

11 A. Yes. In comparing the closely-related distribution accounts 365 “overhead conductors
 12 and devices” and 369 for “services,” respectively, *****BEGIN CONFIDENTIAL*****
 13 *****
 14 *****²⁹
 15 *****
 16 *****³⁰ *****END CONFIDENTIAL***** This is peculiar given the similarity in
 17 the underlying characteristics and plant deployment patterns among these three

²⁸ For example, data for telephone utility, Hawaiian Telecom Communications Inc. which has a 8.9% depreciation rate for poles, as reported in the FCC ARMIS reporting system, shows an accumulated depreciation for poles of \$145,396,000 as compared with gross pole plant of \$146,873,000, or pole plant that is 99% fully depreciated, as of 2009. ARMIS data for QWEST – Colorado, shows a depreciation rate for poles of 7.2%, gross pole of \$32,035,000 and accumulated depreciation of \$44,621,000, for a *negative* net pole plant balance of \$12,586,000, as of 2007.

²⁹ For example, for 2004, *****BEGIN CONFIDENTIAL***** *****

 ***** *****END CONFIDENTIAL*****
 See Attachment PDK-3 Workpapers to Direct Testimony of Albert, Escamilla, Lopez and Ramirez, Bates 3; CPS Confidential Response to TWC Second Set of Requests for Information, Bates 3.

³⁰ For example, for 2004, *****BEGIN CONFIDENTIAL***** *****

*****END CONFIDENTIAL***** See Attachment PDK-3 Workpapers to Direct Testimony of Albert, Escamilla, Lopez and Ramirez, Bates 3; CPS Confidential Response to TWC Second Set of Requests for Information, Bates 3.

1 distribution accounts. After normalizing for the relative amount of dollars booked to
2 these accounts, one would expect to observe comparable patterns of capital recovery for
3 account 369 as observed for accounts 364 and 365 – *****BEGIN CONFIDENTIAL*****
4 *******³¹ ***END CONFIDENTIAL*****

5 Indeed, the FCC methodology does not rely on accumulated depreciation at the
6 detailed subaccount level at all; rather it pro-rates aggregate electric plant accumulated
7 depreciation to the various individual plant accounts (i.e., 364, 365, and 369) based on
8 the percentage of gross plant investment in the individual account relative to total electric
9 plant. It is instructive, therefore, that application of the FCC’s proration methodology
10 results in the *same percentage* of accumulated depreciation to gross plant for each of
11 these three plant accounts. It is also instructive that the percentage of accumulated
12 depreciation to gross plant applied under the FCC proration methodology –and
13 accordingly the dollars of accumulated depreciation to be netted against gross investment
14 - exceeds the corresponding figures derived from CPS’s books of account.³² This is yet
15 another benchmark indicator of something potentially amiss in CPS’s accounting records,
16 and that CPS has failed to provide a thorough explanation for the observed anomalies.

17 **Q. DOES CPS’S ACCUMULATED DEPRECIATION DATA RAISE ANY OTHER**
18 **RED FLAGS CONCERNING THE RMR ACCOUNTING?**

19 **A.** Yes, it does. The more detailed depreciation-related data provided more recently by CPS
20 in response to Staff’s fourth set of discovery indicate several other irregularities in CPS’s
21 RMR accounting. First, *****BEGIN CONFIDENTIAL*** *******

³¹ For example, for 2004, *****BEGIN CONFIDENTIAL*** *******

********* *****END CONFIDENTIAL***** See Attachment PDK-3 Workpapers to Direct Testimony of
Albert, Escamilla, Lopez and Ramirez, Bates 3; CPS Confidential Response to TWC Second Set of
Requests for Information, Bates 3.

³² Applying the FCCs proration methodology for accounts 364, 365, and 369, to CPS *****BEGIN**
CONFIDENTIAL* *******

*****END CONFIDENTIAL*****

1 *****
 2 *****³³ *****END**
 3 **CONFIDENTIAL***** While there may be legitimate reasons *****BEGIN**
 4 **CONFIDENTIAL***** *****
 5 *****
 6 *****³⁴ *****END**
 7 **CONFIDENTIAL*****

8 Second, the more detailed data provided in response to Staff’s fourth set of
 9 discovery *****BEGIN CONFIDENTIAL***** *****
 10 *****³⁵ *****END CONFIDENTIAL***** All
 11 else being equal, one would expect to observe a more consistent relationship between
 12 these two components of depreciation.

13 Third, and related to the previous two observed irregularities, *****BEGIN**
 14 **CONFIDENTIAL***** *****
 15 *****
 16 *****
 17 ***** *****END CONFIDENTIAL***** The magnitude of these values does raise
 18 concerns, particularly in light of the stable nature of pole plant as discussed above.

19 Finally, not only did the detailed data provided in response to Staff’s latest round
 20 of discovery not resolve all the outstanding questions regarding CPS’s accumulated
 21 depreciation data, it appears to have raised more questions about potential errors in the

³³ See Attachment PDK-4, Deposition of Shannon Albert, at 26-27; see also Attachment PDK-3, CPS Supplemental Response to Staff RFI No. NS 4-1f (Exhibit 2, Deposition of Shannon Albert). *****BEGIN CONFIDENTIAL***** *****

 ***** *****END CONFIDENTIAL*****

³⁴ See Attachment PDK-4, Shannon Albert Deposition at 91-92, for example, *****BEGIN CONFIDENTIAL***** ***** *****END CONFIDENTIAL*****

³⁵ See *id.* at 61.

1 data. During questioning by Staff counsel, CPS controller Shannon Albert, *****BEGIN**
 2 **CONFIDENTIAL***** *****
 3 *****
 4 *****
 5 *****³⁶ ***
 6 *****
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 8 *****
 9 ***** *****END**
 10 **CONFIDENTIAL*****

11 Again, because the integrity of the rate formula is only as good as the integrity of
 12 the underlying data, in the absence of clear and justifiable explanations, the anomalies in
 13 CPS’s accumulated depreciation data invalidate the rate results derived based on those
 14 numbers.

15 **Q. IS THERE PARTICULAR REASON TO QUESTION THE INTEGRITY OF**
 16 **CPS’S ACCUMULATED DEPRECIATION DATA PERTAINING TO**
 17 **RETIREMENTS?**

18 **A. Yes. First, as mentioned above, ***BEGIN CONFIDENTIAL***** *****
 19 *****
 20 *****
 21 *****
 22 *****³⁷ *****
 23 *****
 24 *****

³⁶ See *id.* at 110-111, 133-138.

³⁷ See Attachment PDK-4, Deposition of Dane Watson, at 35 *****BEGIN CONFIDENTIAL*****

 ***** *****END**
CONFIDENTIAL***

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 4 ***** 38 ***
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 6 ***** 39

7 *****END CONFIDENTIAL***** As more fully explained in the statistical literature:

8 Ideally mortality data would provide complete age identification of current
 9 and previous retirement experience; each unit of property could be
 10 identified by date of installation and age at retirement. The availability of
 11 these data permits the use of conventional actuarial analysis methods.

12 Custom and cost, however, have influenced many industrial firms to
 13 account for property units in masse; the property records reveal only the
 14 annual gross additions and annual plant or account balances (i.e., plant in
 15 service) with no indication of the age of plant retirements.⁴⁰

16 The literature explains that a number of “semi-actuarial methods have been
 17 devised for analyzing mass data,” the SPR method being notable among them because it
 18 “provides an estimate of both dispersion and average service life.”⁴¹ As defined in the
 19 literature:

20 The SPR method is a trial and error procedure that attempts to duplicate
 21 the annual balances (or cumulative retirements) of a plant account by
 22 distributing the actual annual gross additions over time according to an
 23 assumed mortality distribution [also expressed as survivor tables or
 24 survivor curves]. Specifically, the units (or dollars) remaining in service
 25 at any date are estimated by multiplying each year’s additions by the
 26 successive proportion surviving at any age as given by the assumed
 27 mortality distribution. For a given year, therefore, the accumulation of

³⁸ See Attachment PDK-4, Watson Deposition at 21-22; see also Attachment PDK-4, Deposition of Rhonda Watts, at 43-44.

³⁹ See Attachment PDK-4, Watson Deposition at 21; see also Attachment PDK-4, Watts Deposition at 82-83 *****BEGIN CONFIDENTIAL***** *****
 ***** *****END CONFIDENTIAL*****

⁴⁰ See R.E.White and H.A. Cowles, “A Test Procedure for the Simulated Plant-Record Method of Life Analysis,” *Journal of the American Statistical Association*,” Vol. 65, No. 331 (September 1970) at 1204.

⁴¹ See *id.*

1 survivors from all vintages is an estimate of the actual plant balance for
2 that year. This process is repeated for different mortality distributions until
3 a pattern is found which produces a series of “simulated balances” most
4 nearly duplicating the set of actual plant balances experienced by the
5 account over a test period of years.”⁴²

6 As the literature explains, this method is only as good as the fit between the actual
7 and simulated balances and the assumed mortality distribution selected as a proxy for the
8 plant account’s actual mortality experience. According to the cited literature, “[i]n
9 practice, however, a close approximation is seldom obtained, there is usually a significant
10 difference between the actual and simulated balances making it difficult to select a
11 representative distribution.”⁴³ ***BEGIN CONFIDENTIAL*** *****

12 *****
13 *****⁴⁴ ***END CONFIDENTIAL***

14 In deposition questioning, ***BEGIN CONFIDENTIAL*** *****
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19 *****⁴⁵ *****

20 *****
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22 *****
23 *****⁴⁶ ***END

24 CONFIDENTIAL***

25 Combined with the ***BEGIN CONFIDENTIAL*** *****
26 ***** *** END

⁴² *Id.* at 1205.

⁴³ *Id.* at 1204.

⁴⁴ See Attachment PDK-4, Watson Deposition at 60-61.

⁴⁵ See Attachment PDK-4, Watts Deposition at 68, 78-80; see also Attachment PDK-4, Watson Deposition at 23-24, 27-29, 49-54.

⁴⁶ See Attachment PDK-4, Watts Deposition at 69-75, 81-82.

1 **CONFIDENTIAL***** the preceding discussion gives ample cause to question the
2 validity of the underlying account 364 retirement data generated by the SPR analysis.
3 Results derived from statistical analysis are only as good as the underlying data inputs
4 and the processes used to test and verify the results relative to well-grounded theoretical
5 hypotheses and actual empirical experience – all of which appear lacking and/or
6 undocumented with respect to account 364 retirements based on the deposition
7 questioning of CPS witnesses.

8 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE IN YOUR RATE**
9 **CALCULATIONS TO ADDRESS THE AFORMENTIONED PROBLEMS WITH**
10 **CPS’S ACCUMULATED DEPRECIATION DATA INVOLVING**
11 **RETIREMENTS?**

12 A. Given the problems with CPS’s accumulated depreciation data involving retirements, in
13 particular, those associated with anomalies in the RMR for account 364, in my opinion,
14 CPS has not satisfied the standard of reasonableness established by the Commission for
15 the RMR offset. To do so, would require CPS to provide supporting back-up
16 documentation for a much longer period of time and at a sufficiently granular level that
17 would permit the replication and verification of the dollar amounts identified in the RMR,
18 and that tie those dollar amounts directly to the various vintages of pole plant in service
19 that have experienced premature retirement. In my opinion, in the absence of this kind of
20 detailed documentation, which CPS has heretofore objected to providing, it is
21 appropriate for purposes of the § 224(e) rate calculations to rely on the accumulated
22 depreciation recorded by CPS to the primary FERC 101 account only (i.e., excluding the
23 unsupported RMR offset). As discussed above, the accumulated depreciation booked to
24 the 101 account reflects normal retirement experience and projections.

25 **Q. ARE THERE OTHER CONSIDERATIONS THAT SUPPORT THE**
26 **CORRECTION FOR ACCUMULATED DEPRECIATION YOU ARE**
27 **PROPOSING TO THE RATE FORMULA CALUCATION, I.E., USING ONLY**
28 **AMOUNTS RECORDED BY CPS IN THE PRIMARY FERC 101 ACCOUNTING**
29 **FOR POLES?**

30 A. Yes. As described earlier, according to CPS, *****BEGIN CONFIDENTIAL*****
31 *****
32 ***** *****END CONFIDENTIAL*****

1 Over and above CPS’s failure, in my opinion, to explain and justify the amounts recorded
2 to RMR, there is the added issue that third-party attachers are already paying for these
3 types of costs in the form of make-ready charges. Make- ready refers to the normal and
4 customary process, including rearrangements and pole change-outs, by which the utility
5 is able to readily harness pole capacity to accommodate an additional attachment on the
6 pole. The make-ready process allows the pole owner a mechanism to recover all non-
7 recurring, out-of-pocket capital costs incurred in connection with the accommodation of a
8 third-party attacher.

9 Through the make-ready process, the utility is afforded not only the full recovery
10 of any out-of-pocket costs they incur in connection with a cable attachment, but also the
11 full financial benefit of any improvements made to the pole (including the outright
12 replacement of an existing pole with a new taller pole, on which the cable company then
13 pays rent). The cable attacher still pays rent for the improved pole, but the utility as
14 owner receives sole benefit of those improvements in terms of the increased asset value
15 of its plant, additional realizable rental revenues, and/or the deferral of the utility’s own
16 capital expenditures. Thus, through the make ready process, third-party attachers
17 essentially pay the utility’s full out-of-pocket costs for a pole when they are the cause of
18 the early retirement of that pole. Having them pay a higher rental rate because of the
19 application of the RMR offset effectively charges the attacher twice, once through make-
20 ready (and for the entire asset replacement value) and a second time through the recurring
21 rental rate.

22 **Corrections to the Carrying Charge Factor Component of the Rate Formula**

23 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S INPUT FOR THE**
24 **DEPRECIATION ELEMENT OF THE CARRYING CHARGE FACTOR.**

25 **A.** The depreciation element of the carrying charge factor is calculated by multiplying the
26 utility’s depreciation rate for pole plant by the ratio of gross to net pole plant.⁴⁷

27 *****BEGIN CONFIDENTIAL*** *******

1 ***** 48 ***
2 *****
3 ***** 49 *****
4 ***** *****END CONFIDENTIAL***** a depreciation rate of 8.16% stands
5 out as an unusually high rate for pole plant, given the underlying characteristics of this
6 kind of property account including long average service lives and stable technology.

7 Indeed, on a straight-line basis, a rate of 8.16% corresponds to a service life in the
8 vicinity of only 12 years. Given the service lives widely acknowledged for pole plant (25
9 to 40 year range) – *****BEGIN CONFIDENTIAL***** *****
10 ***** *****END CONFIDENTIAL***** a depreciation
11 rate in the 8% range is presumptively unreasonable. Even accounting for the upward
12 adjustment to the rate to reflect negative net salvage and premature retirement, an 8% rate
13 would still appear to be excessively high, since on a straight-line basis, depreciation rates
14 of 2.5 to 3% would be sufficient to recover the original cost of the pole plant investment.

15 The anomalous nature of CPS’s depreciation rate is further evidenced by a
16 comparison of depreciation rates for other benchmark utilities. Table 3 below compares
17 CPS’s depreciation rates with those of other utility companies in Texas and the
18 southwest. Based on data with which I am familiar, the benchmark results shown below
19 for utilities in the southwest would be similar using a comparison of utility depreciation
20 rates nationwide, not surprisingly given the homogenous or undifferentiated nature of
21 pole plant.

⁴⁷ The gross to net ratio is applied to restate the depreciation (which applies to *gross* investment) as a net number, comparable to the other elements of the carrying charge factor which are expressed on a *net* plant basis.

⁴⁸ See Attachment PDK-3, CPS Response to Staff RFI No. NS1-4, City Public Service of San Antonio, Book Depreciation Study as of January 31, 2002, Deloitte & Touche (“2002 Depreciation Study”).

⁴⁹ See Attachment PDK-3, 2007 Depreciation Study.

1

Table 3

Comparison of CPS 2002 Depreciation Rate with Other Benchmark Depreciation Rates								
Utility	CPS - 2002	City of Austin	AEP Texas Central	AEP Texas North	Entergy Gulf TX	Entergy Gulf LA	Public Service NM	AZ Public Service
Deprec. Rate	8.16%	3.33%	3.67%	3.40%	3.19%	2.97%	2.0%	2.48%

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CPS's 2002 depreciation rate of 8.16% is further suspect *****BEGIN**
CONFIDENTIAL*** *****

 ***** 50 *****

 ***** 51 *****END CONFIDENTIAL*****

The wide swing in the rate between 2002 and 2007 – a span of only five years for an asset with an average service life of seven times that – from a rate right in line with those of other utilities to an outlier, raises serious questions about the underlying accounting data used to develop CPS's depreciation rate. *****BEGIN**
CONFIDENTIAL*** *****

⁵⁰ See Attachment PDK-4, Watts Deposition at 44-45, 64.
⁵¹ See Attachment PDK-3, 2007 Depreciation Study at 87.

1 *****
 2 *****
 3 ***** 52 *****
 4 *****
 5 *****
 6 ***** *****END CONFIDENTIAL*****

7 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE TO THE**
 8 **DEPRECIATION RATE INPUT.**

9 A. Given the anomalous nature of the 2002 depreciation rate of 8.16% – one that CPS in
 10 deposition questioning has not able to adequately explain, and the fact that CPS’s
 11 depreciation rate for pole plant *****BEGIN CONFIDENTIAL***** *****
 12 *****
 13 ***** *****END CONFIDENTIAL*****my formula rate calculations apply
 14 the current CPS depreciation rate of *****BEGIN CONFIDENTIAL***** ***** *****END**
 15 **CONFIDENTIAL***** for all of the years 2004 through 2009.

16 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S INPUT FOR THE RATE OF**
 17 **RETURN ELEMENT OF THE CARRYING CHARGE FACTOR.**

18 A. The rate of return element of the carrying charge factor allows the utility to recover a
 19 normal or fair (economic) return on capital from third-party attachers over and above
 20 actual cost recovery. (Interestingly, and because it provides for additional cost recovery
 21 over and above actual costs, in its recent FNPRM, the FCC has proposed the elimination
 22 of this component from the telecom formula going forward.) Under existing FCC rules
 23 for an investor-owned utility (IOU), the capital cost element of the carrying charge factor
 24 is the most current authorized rate of return set by a state regulatory commission or in the
 25 absence of one, an FCC default rate of return based on the last FCC return proceeding
 26 may be used.

27 As a MOU, CPS has no allowed rate of return and faces a different set of capital
 28 costs than an investor-owned utility. Because CPS is a MOU that is not subject to rate

⁵² See Attachment PDK-4, Watts Deposition at 64- 65.

1 regulation and for which it is not meaningful to talk in terms of a rate of return –
 2 *****BEGIN CONFIDENTIAL***** *****
 3 ***** ⁵³ *****END CONFIDENTIAL***** – it is necessary and economically
 4 reasonable to substitute an effective or imputed “rate of return” based on the MOU’s cost
 5 of money equivalent in lieu of an allowed rate of return set by a regulatory commission.
 6 It makes no sense, however, from a perspective of economic reasonableness, to apply the
 7 FCC’s default rate of return applicable to IOUS, *****BEGIN CONFIDENTIAL***** ***
 8 *****
 9 ***** ⁵⁴ *****END CONFIDENTIAL*****
 10 Ironically, in his testimony on the subject, CPS witness Mr. Escamilla highlights the
 11 reasons why it makes no sense to apply the FCC’s 11.25% default value:

The statutory regulator over CPS Energy’s distribution system, the City of
 San Antonio, determines rates based upon the cash flow model and no rate
 of return is determined under the cash flow method. In addition, no
 marketable equity security is traded for a MOU to indicate a required rate
 of return. Finally, a return based on the MOU’s book balances is not
 reflective of business risk or the time value of money.⁵⁵

What Mr. Escamilla apparently fails to appreciate, however, is that the
 calculations underlying the 11.25% rate of return were based on the very assumptions
 Mr. Escamilla describes as specifically *not* applicable to CPS, since that figure was
 developed in the FCC’s last rate of return proceeding in 1990, based on the calculation of

⁵³ See Attachment PDK-5 Technical Conference Transcript, at 62 (Dec. 9, 2009); see also Direct Testimony of Paul Escamilla, at 6, and Attachment PDK-4, Deposition of Paul Escamilla, at 68-69.

⁵⁴ CPS Energy's Supplemental Response to Staff's Motion To Compel Regarding Staff's Fourth Request for Information, RFI No. NS 4-1, at 8 (May 4, 2010) *****BEGIN CONFIDENTIAL***** *****

 ***** *****END CONFIDENTIAL*****

⁵⁵ Direct Testimony of Paul Escamilla, at 6.

1 actual equity and debt costs facing communications carriers subject to FCC regulation at
2 that time.⁵⁶

3 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE TO THE RATE**
4 **OF RETURN INPUT.**

5 A. As directly acknowledged by CPS witness Escamilla in the passage cited above, as a
6 MOU, CPS faces no actual equity risk. Accordingly, my rate calculations use a “rate of
7 return” that reflects CPS’s cost of debt, as measured by its recorded interest expenses as
8 identified by CPS in response to discovery.⁵⁷ This actual computed average cost of debt
9 reflects the true opportunity cost of money for CPS, as it reflects the actual financing
10 costs that the MOU incurs in the construction of the fixed assets underlying the net
11 investment carried on its books. Accordingly, the cost of debt for a MOU is the most
12 reasonable proxy for the rate of return component of the rate formula.

13 *****BEGIN CONFIDENTIAL*** *******
14 ******* **END**

15 **CONFIDENTIAL***** rather than the FCC default value of 11.25%. The methodology
16 used by CPS attempted to estimate an implicit cost of equity for CPS based on the
17 MOU’s fund net assets. CPS’s cost of capital proxy, while a much more reasonable
18 figure than the FCC default rate of return for IOUs of 11.25%, is inherently less accurate
19 a reflection of CPS’s true cost of money than the cost of debt. In addition, the
20 methodology used by CPS is unsupported in the record.⁵⁸

⁵⁶ See *In re Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, 5 FCC Rcd 7507, (1990) (describing the equivalent process followed by the FCC in arriving at an authorized return applicable to interstate services.) (“In this Order we analyze the cost of debt and capital structure issues separately from the cost of equity issues. From these analyses we determine an embedded cost of debt, a debt/equity ratio, and a range of reasonable estimates of the cost of equity. We combine these components to determine a range of reasonable estimates of the overall weighted average cost of capital for interstate access service. After identifying this "zone of reasonableness," we then decide, based on policy considerations, where within that zone to prescribe the unitary rate of return.”).

⁵⁷ See Attachment PDK-3, CPS Response to TWC RFI No. 3-7. CPS identifies its cost of debt over the 2004 to 2009 period as ranging from *****BEGIN CONFIDENTIAL*** *******
CONFIDENTIAL***

⁵⁸ See Attachment PDK-5 Technical Conference Transcript, at 60-62 *****BEGIN**
CONFIDENTIAL* *******
******* **END CONFIDENTIAL*****

1 **Corrections to the Space Allocation Factor Component of the Rate Formula**

2 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S POLE HEIGHT FIGURE**
3 **USED AS AN INPUT TO THE CALCULATION OF THE SPACE ALLOCATION**
4 **FACTOR.**

5 A. For the years 2004 and 2005, *****BEGIN CONFIDENTIAL*** *******
6 ******* **END CONFIDENTIAL***** in the computation
7 of the space allocation factor component of the telecom formula.⁵⁹ For the years, 2006
8 through 2009, *****BEGIN CONFIDENTIAL*** *******
9 ******* **END CONFIDENTIAL***** According to CPS witness Lopez, 42.5 feet is the
10 average pole height for the company’s electric distribution system based on data provided
11 in CPS’s GIS [geographical information system].⁶⁰ In deposition questioning, Mr. Lopez
12 further explained the GIS as a system put in place by the Company for the past five years
13 or so that can “identify and map these poles” and that provides “a breakdown quantity of
14 poles by pole height.”⁶¹

15 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE TO THE POLE**
16 **HEIGHT INPUT.**

17 A. Given Mr. Lopez’s testimony, my rate calculations use the 42.5 foot average pole height
18 figure for all of the years 2004 through 2009, as that would be the most accurate and
19 reasonable figure for this input.

20 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S UNUSABLE SPACE**
21 **FIGURE USED AS AN INPUT TO THE CALCULATION OF THE SPACE**
22 **ALLOCATION FACTOR.**

23 A. As described earlier, the unusable space on the pole includes below-ground support and
24 above-ground clearance space associated with a joint-use pole. For the years 2004 and

⁵⁹ As illustrated in Figure 1 above, the space allocation formula of the telecom factor is calculated by taking the sum of a usable space percentage and an unusable space percentage both calculated by dividing the usable and unusable space attributable to the attacher by total pole height.

⁶⁰ See Direct Testimony of Ricardo Lopez, at 8 (“According to CPS Energy’s GIS data, the average pole height for our electric distribution system is 42-1/2 feet.”); *see also* Attachment PDK-3 Workpapers to Direct Testimony of Albert, Escamilla, Lopez and Ramirez, Bates 243.

⁶¹ *See* Attachment PDK-4, Deposition of Ricardo Lopez, at 104.

1 2005, *****BEGIN CONFIDENTIAL***** *****
2 ***** *****END CONFIDENTIAL***** For the years 2006
3 through 2009, *****BEGIN CONFIDENTIAL***** *****
4 *****
5 *****
6 ***** *****END CONFIDENTIAL***** The FCC rules presume 6 feet of
7 below-ground support and 18 feet of above-ground clearance space, for a 37.5 foot pole
8 (a derived blend of 35’ and 40’ poles).⁶² The number of feet required for above-ground
9 clearance (e.g., to clear railroad or street crossings) – 18 feet according to the well-
10 established FCC presumptive average based on NESC standards⁶³ - is generally
11 independent of pole height, whereas the number of feet required for below-ground
12 support increases with pole height. Specifically, under the standard industry guideline
13 with which I am familiar, the number of feet required for pole setting depth is calculated
14 as 10% of total pole height plus 2 feet.⁶⁴

15 The problem with CPS’s input values, therefore, is not that the amount of
16 unusable space exceeds the FCC presumption of 24 feet (since the FCC value
17 corresponds to a shorter pole height of 37.5 feet), but the amount by which it does.

18 *****BEGIN CONFIDENTIAL***** *****
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24 ***** ⁶⁵ *****

⁶² See *FCC Recon Order* at ¶48.

⁶³ See *id.* at ¶52.

⁶⁴ See ANSI-O5.1-2002, American National Standard for Wood Poles – Specifications and Dimensions, American National Standards Institute, Inc., New York. ANSI-O5.1 provides the recommended depth of burial for the poles as a function of total length. For distribution poles of length 40 ft. or greater, the recommended depth is equal to 10% the pole length, plus 2 feet. For poles shorter than 40 feet the recommendation is generally 10% the pole length, plus 2.5 ft.

⁶⁵ See Attachment PDK-4, Deposition of Ricardo Lopez, at 110.

***** **END CONFIDENTIAL** *****

3 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE TO THE**
4 **UNUSABLE SPACE INPUT.**

5 A. Following standard industry guidelines described above, my rate calculations incorporate
6 an unusable space figure of 24.25 feet for a pole height of 42.5 feet.

7 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S INPUT FOR THE NUMBER**
8 **OF ENTITIES USED TO CALCULATE THE SPACE ALLOCATION FACTOR.**

9 A. As described above, the space allocation factor component of the telecom formula (in
10 particular, the unusable space percentage of that formula) requires as an input the number
11 of attaching entities on the pole. Specifically, the number of attaching entities is used to
12 divide unusable space on the pole, in order to apportion the costs of that space on a per-
13 capita basis as required by § 224 (e).

14 The problem that arises in this case involves CPS’s decision to use a number of
15 attaching entities of 3.0 as the average number of attachments, based on a calculation it
16 performed comparing the estimated number of distribution poles in its system with the
17 number of invoiced poles attachments.⁶⁶ Dividing the former by the latter yielded the
18 number 1.14, which CPS then added one in order to include itself as an attachment on
19 each pole, for a total of 2.14. CPS then rounded this number up to 3.0, in its words “to be
20 conservative.”⁶⁷ In my opinion, there is nothing conservative about CPS’s figure, as
21 there are reasons to believe it understates the true number of attaching entities on joint
22 use poles. At the very least, it is a figure that cannot be relied upon as an accurate
23 representation of attaching entities on CPS’s joint-use poles.

24 **Q. PLEASE EXPLAIN WHY THE NUMBER OF ATTACHING ENTITIES**
25 **DERIVED FROM CPS INVOICE DATA IS AN UNRELIABLE FIGURE?**

26 A. First, neither the number of distribution poles, nor the number of invoiced pole
27 attachments which CPS uses as the basis of its calculation is a verifiable number. In

⁶⁶ See Attachment PDK-3, CPS Response to AT&T Texas RFI No. 1-33.

⁶⁷ *Id.*

1 cases where utilities choose to rebut the FCC presumptive number for attaching entities,
2 FCC rules require that utilities support their alternative number with either a full audit or
3 inventory of poles, or a statistically valid sampling of poles, where a full audit is not
4 practical.⁶⁸ By its own admission, CPS has done neither.⁶⁹ Accordingly, there is no
5 reason to believe that the average number of attaching entities that CPS has derived from
6 a simple calculation based on billing data, would be validated by a field inventory or a
7 statistically reliable sampling of the relevant sub-populations of poles on which a third-
8 party entity was attached, as required under FCC rules in cases where a party chooses to
9 rebut the FCC’s presumptive values. There is any number of reasons why billing counts
10 would differ from field inventory counts.

11 Indeed, in deposition questioning, *****BEGIN CONFIDENTIAL***** ***
12 *****
13 *****
14 ***** 70 *****
15 ***** 71 *****
16 *****
17 *****
18 *****
19 ***** 72 *****END**
20 **CONFIDENTIAL*****

⁶⁸ See, e.g., FCC, *In the Matter of Teleport Communications Atlanta, Inc. Complainant, v. Georgia Power Company, Respondent Application for Review, Order on Review*, File No. PA 00-005 Adopted: September 27, 2002.

⁶⁹ See Attachment PDK-4, Deposition of Ricardo Lopez, at 50, where Mr. Lopez answers “no” to the question posed by TWC counsel, “Has there ever been an inventory – a physical filed inventory of Time Warner attachments to CPS Energy poles.” See also Attachment PDK-4, Deposition of Lee Byrd at 47.

⁷⁰ See Attachment PDK-4, Deposition of Gonzalo Martinez, at 22-24, 32.

⁷¹ See Attachment PDK-5 Technical Conference Transcript, at 50-51; see also Attachment PDK-4, Deposition of Jennifer Greiner, at 41-42, Deposition of Gonzalo Martinez at 34, Deposition of Lee Byrd, at 54-55.

⁷² See Attachment PDK-5 Technical Conference Transcript, at 46-47, see also Attachment PDK-4, Deposition of Jennifer Greiner at 115-117.

1 Moreover, even among the testimony and workpapers presented by CPS in this
2 case, there are varying numbers of distribution poles identified.⁷³ In a February 5 2010,
3 presentation to the Greater San Antonio Chamber of Commerce and in a related
4 memorandum dated February 25, 2010 (both of which are provided in Attachment PDK-
5 7 to this testimony), CPS has identified yet another (and significantly higher) number of
6 distribution poles.⁷⁴ Not only does the varying pole count figure highlight the problem
7 with relying on an invoice versus field inventory approach to measuring the number of
8 attaching entities, it also suggests a pole rate calculated based on the lower number of
9 distribution poles identified in CPS’s workpapers (as my calculations rely on as well)
10 may be substantially overstated (since the net pole cost component of the rate formula is
11 derived by dividing net pole investment by the number of distribution poles).⁷⁵

12 The inaccuracies associated with using invoice data (versus field inventory data)
13 as the basis of the calculation of the number of attaching entities is widely acknowledged.

14 In fact, *****BEGIN CONFIDENTIAL***** *****
15 *****
16 *****

⁷³ Compare, e.g., Direct Testimonies of Ricardo Lopez at 5 (identifying 315,000 distribution poles) and Paul Escamilla at Exhibit PAE-1 (identifying 283,465); see also Attachment PDK-4, Deposition Testimony of Ricardo Lopez, at 101 (identifying the pole count as being closer to 290,000).

⁷⁴ As shown in the presentation and memorandum (provided in Attachment PDK-8 to this testimony), CPS identifies the number of distribution poles as being in excess of 400,000 (see 2/25/10 Memorandum at 3), or more specifically 408,349 (see 2/5/10 Presentation at 2). This count is *****BEGIN CONFIDENTIAL***** *****
*****END CONFIDENTIAL*****

⁷⁵ For example, my rate calculation for 2009 (provided in Attachment PDK-8 to this testimony), which relies on CPS’s distribution pole count figure of *****BEGIN CONFIDENTIAL***** ***** *****END CONFIDENTIAL***** produces a pole rate of \$8.10. *****BEGIN CONFIDENTIAL***** *****

*****END CONFIDENTIAL*****

1 *****
 2 *****
 3 *****
 4 *****
 5 *****
 6 ***** 76 ***END
 7 **CONFIDENTIAL*****

8 The inaccuracy of CPS’s input for the number of attaching entities is further
 9 suspect in that the number derived by CPS is less than half the FCC’s presumptive
 10 number of attaching entities of 5 applicable to urbanized areas such as San Antonio.⁷⁷
 11 Given the CPS number *****BEGIN CONFIDENTIAL***** *****
 12 *****END CONFIDENTIAL***** falls well short of the FCC presumptive number of 5
 13 attaching entities for urbanized areas – indeed the CPS number falls below the FCC
 14 presumptive number of 3 attaching entities for rural areas, there is every reason to be
 15 suspect of the CPS number, given the characteristics of CPS’s service area and the total

⁷⁶ See Attachment PDK-2, Ricardo Lopez’s Response to Subpoena Duces Tecum, TWC Request 2b, at Bates No. 123.

⁷⁷ See *FCC Recon Order* at ¶¶70-72 (footnote omitted). (“We are now persuaded that utilities and attaching entities would benefit from our providing presumptive averages for their use. Our establishment of presumptive averages will expedite the process and allow utilities to avert the expense of developing location specific averages. As with all our presumptions, either party may rebut this presumption with a statistically valid survey or actual data.

Based on the expanded record, we establish presumptive average numbers of attaching entities in a non-urbanized (less than 50,000 population) area to be three (3) attaching entities, based on information presented in the record and the expectation that on a pole or in a conduit, for instance, there would be electric, telephone and cable attachers. It is estimated that cable systems now provide access to cable television services to over 97% of all households with a television. Electric power and telephone service is even more universal. The record supports a presumptive average of three attaching entities in non-urbanized areas.

In an urbanized area that is more densely populated (50,000 or higher population), more developed commercially than a non-urbanized area, and in which we expect both residential and business commercial competition to flourish, we set a presumptive average number of attaching entities at five (5) to reflect the inclusion of, but not limited to, the following possible attaching entities: electric, telephone, cable, competitive telecommunications service providers and governmental agencies. Advanced telecommunications capability is being deployed throughout the country. As noted above, competitive services are increasing. The record supports a presumptive average number of five attachers in urbanized areas.”)

1 number of entities that have attachments on CPS’s poles,⁷⁸ including the various types of
 2 municipal attachments that may be present on joint-use poles such as traffic signals,
 3 street-lights, and other communications-related equipment.⁷⁹ Indeed, given that FCC
 4 rules require the counting of the pole-owning utility as an attaching entity, *****BEGIN**
 5 **CONFIDENTIAL***** *****
 6 *****
 7 *****
 8 ***** *****END CONFIDENTIAL*****

9 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE TO THE INPUT**
 10 **FOR THE NUMBER OF ENTITIES.**

11 A. Given the reliability problems with CPS’s estimated number of attaching entities, in my
 12 opinion, CPS’s input figure cannot be relied upon with any reasonable degree of
 13 confidence. In my rate calculations, I rely on the FCC’s presumptive number of 5 for
 14 urbanized areas. The FCC presumptive number of attaching entities is an appropriate and
 15 widely-accepted default number to use for purposes of the formula calculation. Indeed
 16 the FCC’s presumptive number of attaching entities was developed by the FCC to apply
 17 in just such cases where there is no other reliable source of data available from the utility
 18 or other party.

19 **Correction to CPS’s Application of the Rate Formula Incorporating a Gross-Up Factor**

20 **Q. PLEASE DESCRIBE THE PROBLEM WITH CPS’S APPLICATION OF THE**
 21 **RATE FORMULA TO INCLUDE A GROSS-UP FACTOR FOR CITY**
 22 **PAYMENT.**

23 A. In applying the rate formula, CPS has inappropriately included an additional gross-up
 24 factor for the city payment. The city payment relates to the transfer of revenues to the
 25 City of San Antonio that CPS, as a wholly-owned entity of the city, is required to transfer

⁷⁸ See Attachment PDK-4, Deposition of David Ramirez, at 37 *****BEGIN CONFIDENTIAL***** *****
 ***** *****END**
CONFIDENTIAL***

⁷⁹ See Attachment PDK-3, CPS Response to AT&T Texas RFI No. 1-1.

1 to the municipality’s general fund.⁸⁰ CPS identifies the transfer amount as being set at
2 14% of gross revenues, which it seeks to recover through a 14% surcharge applied to the
3 pole rate derived from the § 224(e) formula.⁸¹ The inclusion of a gross-up or surcharge
4 for the city payment is economically inappropriate for several reasons.

5 First, and foremost, the § 224(e) formula contains no provision for an additional
6 surcharge of the type sought by CPS or of any other nature – *****BEGIN**
7 **CONFIDENTIAL***** *****⁸² *****END**
8 **CONFIDENTIAL***** There is good reason for this. The rate formula is based on a fully
9 allocated cost approach, which by definition, is set to recover costs at the *high* end of the
10 range of just and reasonable rates permitted under § 224. Specifically, § 224 identifies a
11 range of costs, bounded by the marginal cost of pole attachment at the low end and the
12 fully allocated cost of pole attachment at the high end, above which a just and reasonable
13 pole attachment rental rate for cable operators may not fall. Pursuant to this directive, the
14 FCC developed a methodology - that has come to be known as the FCC cable rate
15 formula - that adheres to the *greater* fully allocated cost standard described in § 224(d).⁸³
16 By definition, the fully allocated cost approach allows the utility to recover through the

⁸⁰ See Attachment PDK-3, CPS Response to AT&T Texas RFI No. 1-30; Direct Testimony of Paul Escamilla, at 11.

⁸¹ In fact, there would not appear to be a fixed 14% relationship between the rates paid by any particular customer and the payments CPS is required to make to the City in any given year. Pursuant to CPS’s bond ordinances, the 14% figure refers to the *maximum* percentage of CPS Energy’s gross system revenues in term of the *totality* of payments that can be remitted to the City each year, including *all* direct distributions, including those related to CIED [Community Infrastructure and Economic Development] funds. See Attachment PDK-3, CPS Third Supplemental Response to AT&T RFI Nos.2-12 and 2-46 (2006 CPS Annual Report), at 22. It is my understanding that the actual percentage to be paid (“within the 14% limitation”), as well as the composition of the total payments, are determined annually by the governing Body of the City.” See *id.* (2005 CPS Annual Report at 31. The provisions of CPS’s bond ordinances further require payments from CPS to the city be offset by the “gas and electric services of the Systems used by the City for municipal purposes and the amounts expended during the fiscal year for additions to the street lighting system.” *Id.* See also Attachment PDK-4, Deposition of Paul Escamilla, at 67, noting *****BEGIN CONFIDENTIAL***** *****
***** *****END CONFIDENTIAL*****

⁸² See Attachment PDK-4, Escamilla Deposition, at 37.

⁸³ This range for just and reasonable rates “assures a utility the recovery of not less than the additional costs of providing pole attachments nor more than an amount determined by multiplying the percentage of the total usable space...occupied by the pole attachment by the sum of the operating expenses and actual capital costs of the utility attributable to the entire pole.” See 47 U.S.C. § 224(d)(1).

1 rental rate ongoing costs at a level *much more* than marginal costs, a fact widely
2 acknowledged.⁸⁴ The rate set under the § 224(e) telecom formula, which is used to
3 derive CPS's pole rates pursuant to PURA § 54.204, allocates an *even greater* percentage
4 of costs (generally 50% to 100% more).

5 In addition, third-party attachers pay make-ready charges to CPS over and above
6 the recurring rental rate to cover any direct costs incurred by the utility in connection
7 with accommodating the attachment and which include additional overhead cost
8 recovery. Accordingly, any additional mark-up or surcharge in excess of the fully
9 allocated cost allocations in the rental rate (itself already in excess of marginal costs and
10 the level required for just compensation) - and in combination with the direct cost
11 recovery provided in the make-ready charges - directly exceeds the maximum
12 permissible rate set pursuant to § 224 and is contrary to the principles underlying
13 effective pole rate regulation.

14 **Q. PLEASE DESCRIBE THE CORRECTION YOU HAVE MADE IN YOUR**
15 **CALCULATIONS REGARDING THE GROSS-UP FACTOR FOR CITY**
16 **PAYMENT.**

17 A. In my rate calculations, I have eliminated the additional surcharge for city payment. For
18 the reasons discussed above, there is no reasonable economic justification for the gross-
19 up to the maximum permissible rate derived under the § 224(e) formula, and to allow
20 such a mark-up would be in contravention of § 224(e), which does not provide for any
21 such surcharge, and effective pole rate regulation.

22 **Q. ARE YOU AWARE OF ANY OTHER CPS PRACTICES THAT ARE**
23 **INAPPROPRIATE FROM AN ECONOMICS STANDPOINT?**

24 A. Yes. I have reviewed the testimony submitted by Mr. Robert Shugarman, Vice President,
25 Construction and Design, for TWC, concerning the disparity in the rates, terms and
26 conditions of attachment between those that CPS has offered TWC and the ones that CPS
27 has offered to another attacher, AT&T. Specifically, I understand that CPS has required

⁸⁴ See *Alabama Power*, 311 F.3d at 1363, 1369 (“Based on these guidelines [47 U.S.C. § 224(d)(1)], the FCC promulgated regulations that focused on the upper end of this range...the fact [is] that much more than marginal cost is paid under the Cable Rate.”)

1 TWC to comply with a formal permitting process prior to making any attachments to its
2 poles, while CPS has never required AT&T to comply with any similar procedures.⁸⁵ As
3 a result, TWC has had to incur significant expenses and endure significant market delays
4 that AT&T does not.⁸⁶ Moreover, it allows the pole owner to extract additional items of
5 value from TWC, such as engineering and plant data, correction of plant conditions and
6 safety violations in the form of make-ready work, and in some case brand new poles (on
7 which TWC pays rent after paying for all the costs associated with pole replacements).

8 This is troubling from economic, and competitive, standpoints, alike. For one
9 thing, it creates an unlevel playing field that gives AT&T competitive advantages, such
10 as the ability to deploy its facilities (to compete with TWC and others) on AT&T's own
11 timeline with no permit processing delays, and no additional expenses. On the other
12 hand, TWC must pay substantial charges to CPS, and wait for CPS's permission, before
13 it can deliver services to customers. TWC must also factor the uncertainty of the
14 expenses and the associated delays into its planning. CPS Energy's discriminatory
15 practices create cost and time-to-market disparities that do not advance overall economic
16 good, but instead create distortions in the marketplace for communications services,
17 directly contrary to the language in PURA § 54.204(b). In addition, I understand that CPS
18 has charged AT&T a pole attachment rate of \$3.75, while demanding far higher rates
19 from TWC.⁸⁷ This discrimination in the charges to access essential pole facilities
20 similarly creates economic distortions in the marketplace for communications services,
21 directly contrary to the language in PURA § 54.204(b).

22 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

23 **A. Yes.**

⁸⁵ See Testimony of R. Shugarman at 12-15.

⁸⁶ See *id.*

⁸⁷ See *id.* at 9.

**BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION**

**COXCOM, INC., d/b/a COX
COMMUNICATIONS,**
Complainant

v.

**ARKANSAS VALLEY ELECTRIC
COOPERATIVE CORPORATION,**
Respondent.

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DOCKET NO. 09-133-C

DIRECT TESTIMONY

OF

PATRICIA D. KRAVTIN

SUBMITTED ON

BEHALF OF

COXCOM, INC.

March 17, 2010

1 **Q: PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

2 A: My name is Patricia D. Kravtin. My business address is 57 Phillips Avenue,
3 Swampscott, Massachusetts. I am an economist in private practice specializing in the
4 analysis of telecommunications regulation and markets.

5 **Q: PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL**
6 **BACKGROUND.**

7 A: I received a B.A. with Distinction in Economics from the George Washington University.
8 I studied in the Ph.D. program in Economics under a National Science Foundation
9 Fellowship at the Massachusetts Institute of Technology (“M.I.T.”). My fields of
10 concentration at M.I.T. were government regulation of industry, industrial organization,
11 and urban and regional economics. My professional background includes a wide range of
12 consulting experiences in regulated industries. Prior to starting my own consulting
13 practice, I was a consultant at the national economic research and consulting firm of
14 Economics and Technology, Inc. (“ETI”) in that firm’s regulatory consulting group,
15 where I held positions of increasing responsibility, including Senior Vice
16 President/Senior Economist.

17 **Q: WHAT IS YOUR EXPERIENCE SERVING AS AN EXPERT IN PROCEEDINGS**
18 **RELATED TO TELECOMMUNICATIONS MATTERS?**

19 A: I have testified or served as an expert on telecommunications matters in proceedings
20 before over thirty state regulatory commissions. I have also provided expert testimony
21 and reports in proceedings before the Federal Communications Commission (“FCC”) and
22 before international agencies including the Canadian Radio-television and

1 Telecommunications Commission, the Ontario Energy Board, and the Guam Public
2 Utilities Commission. In addition, I have testified as an expert witness in antitrust
3 litigation in federal district court, and also before a number of state legislative
4 committees. A detailed resume summarizing my educational background and previous
5 experience is provided in Attachment A to my testimony.

6 Over the course of my career, I have been actively involved in a number of state and
7 federal regulatory commission proceedings involving cost methodologies and the
8 allocation of costs of incumbent local exchange carriers (“ILECs”) and electric utilities. I
9 have also been actively involved in proceedings, both at the state and federal level,
10 concerning implementation issues in connection with the passage of the
11 Telecommunications Act of 1996 (the Act). One local network component, essential for
12 the provision of competitive communications services, with which I am also very
13 familiar, and have testified extensively on, before state and federal regulatory agencies
14 and before state and U.S. district courts, is access to poles, ducts, conduits, and rights-of-
15 way.

16 **Q: ARE YOU FAMILIAR WITH POLE ATTACHMENTS IN ARKANSAS?**

17 A: Yes. I recently submitted initial and reply reports in the Arkansas Public Service
18 Commission’s pole rulemaking proceeding, *In the Matter of a Rulemaking Proceeding to*
19 *Establish Pole Attachment Rules In Accordance With Act 740 of 2007*, Docket No. 08-
20 073-R (APSC Pole Rulemaking). I have also submitted reports in pole proceedings
21 before the FCC. *In the Matter of Implementation of Section 224 of the Act; Amendment*
22 *of the Commission’s Rules and Policies Governing Pole Attachments*, WC Docket No.

1 07-245, RM 11293, RM 11303 (FCC 2008 NPRM Proceeding). I have served as an
2 expert or advisor on pole attachment matters in proceedings involving investor-owned
3 utilities, non-profit consumer-owned utilities, and municipally-owned utilities, and before
4 the following state regulatory commissions including this Commission, the Public
5 Utilities Commission of Ohio, the Public Utilities Commission of Texas, the Georgia
6 Public Service Commission, the South Carolina Public Service Commission, the Public
7 Service Commission of the District of Columbia, the New Jersey Board of Public
8 Utilities, and the New York Public Service Commission. I have also been actively
9 involved in the area of broadband deployment, having authored a number of reports
10 dealing with this subject, and most recently, participating as a grant reviewer for the
11 Broadband Technology Opportunities Program (“BTOP”) administered by National
12 Telecommunications and Information Administration (“NTIA”).

13 **Q: WHY HAS COXCOM, INC. ASKED YOU TO PRESENT TESTIMONY IN THIS**
14 **PROCEEDING?**

15 A: I was asked by CoxCom, Inc. (“Cox”) to address matters raised in this proceeding
16 relating to the pole attachment rental rates that Arkansas Valley Electric Cooperative
17 Corporation (“AVECC”) charges Cox. These matters include the appropriate pole rate
18 methodology from an economic and public policy perspective for calculating maximum
19 lawful pole rental rates for AVECC pursuant to Act 740 of 2007 (Ark. Code Ann. § 23-4-
20 1001 through § 23-4-1004) and in the context of the recent APSC Pole Rulemaking
21 proceeding. As part of my testimony, I will provide calculations of just and reasonable
22 pole attachment rental rates applicable to AVECC consistent with the language in Ark.
23 Code Ann. § 23-4-1004. Because in my opinion as an economist with experience in

1 determining just and reasonable rates for pole attachment rentals, an economically
2 appropriate just and reasonable rate that AVECC may charge for third-party pole
3 attachment rent should be calculated based upon the FCC pole rate formula methodology,
4 I can explain in my testimony the underlying history and economic and public policy
5 justification for the FCC methodology.

6 **Q: PLEASE SUMMARIZE THE TESTIMONY YOU WILL GIVE.**

7 A: The need for effective pole regulation has arisen because cable operators and other third-
8 parties have no practical alternative but to attach to existing pole lines. In the absence of
9 effective pole regulation, cooperative and investor-owned pole-owning utilities, because
10 of their historical incumbency, would be in a position to limit access to these essential
11 bottleneck facilities and/or to extract excessive monopoly rents. Without effective
12 regulation, a utility's monopoly control over poles makes it a gatekeeper controlling the
13 availability of new advanced broadband services and applications in its service area. This
14 scenario is precisely the type of behavior that pole regulation, nationally, and here in
15 Arkansas following the state's certification to self-regulate pursuant to Act 740, was
16 designed to address. Indeed, it is a scenario that is currently playing out here in
17 Arkansas, as evidenced by this proceeding and another similar complaint proceeding
18 between a cable operator and a utility pole owner.

19 Where competitive market conditions do not exist (as is the case with the pole space Cox
20 leases from AVECC), there are no competitive pressures to constrain the prices charged
21 by the utility to levels approximating marginal costs. Under such conditions, there is no
22 such thing as a "free market" rate for poles. Instead, rates are being set in a grossly

1 unbalanced negotiating environment where the pole owner, regardless of its size, has an
2 inordinate amount of leverage over the third-party attacher and can impose excessive
3 rates reflecting “supra-normal” monopoly profit for the pole owner. Absent price
4 constraints imposed by regulation, the pole-owning utility has the upper hand in any
5 “negotiation” or rate-setting process between the pole owner and the attacher.

6 AVECC’s actions to date are fully consistent with this expected monopoly behavior.

7 These actions include:

- 8 • AVECC’s stated intent to impose a substantial increase (in the range of 75% to
9 150%) on the rate it charges Cox for pole attachments, notwithstanding an
10 agreement with Cox that allows annual increases in line with changes in the
11 Consumer Price Index (CPI) -- a measure that has increased only modestly (in the
12 range of 3% or less) in recent years;
- 13 • AVECC’s rejection of Cox’s offers to accept price increases up to 20% over a four
14 year period on the current pole attachment rate of \$12.50 -- a rate that is already
15 well in excess of a cost-based just and reasonable rate; and
- 16 • AVECC’s stated intent to terminate its pole agreement with Cox, an action that
17 could require Cox to remove all its attachments from AVECC’s poles within sixty
18 days.

19 From the perspective of effective regulation, economic theory is definitive in its
20 preference for pricing as close to marginal cost as feasible. It is a central tenet of
21 economics that rates that recover the marginal costs of production are economically
22 efficient and subsidy-free. For a subsidy to occur in connection with pole attachments, the

1 utility must have unrecovered costs that *but for* the attacher would not otherwise exist. This
2 is *not* the case where the pole rental rate covers the incremental or marginal cost of
3 attachment, as is the case with the widely-accepted FCC cable formula rate. This is
4 especially true when make ready charges, which apply over and above the fully allocated
5 annual rental rate, are taken into account. In this context, the FCC cable rate is the most
6 economically efficient rate, because it is much closer to (but still well in excess of)
7 marginal cost, as compared with the FCC telecom rate, and most certainly the non-cost
8 based monopoly rate levels AVECC is seeking to impose upon Cox.

9 **Q: PLEASE CONTINUE.**

10 A: Pole attachments are a vital input needed for the delivery of new, advanced broadband
11 services and applications. Accordingly, a more efficient rate (such as the FCC cable rate)
12 that more closely tracks a competitive rate level can provide important benefits to
13 consumers -- including both utility and cable subscribers alike. Most notably, it creates a
14 market environment that encourages infrastructure investment and the provision of a
15 greater array of innovative and advanced broadband services, and at lower rates, than
16 would occur if the pole attachment rate was set at monopoly rate levels. This is
17 particularly the case in rural areas such as exist in Arkansas where there are even less
18 favorable underlying economic conditions for broadband deployment (e.g., lower
19 population densities resulting in higher construction costs per capita) – areas with even
20 more to gain from the economic and social benefits of affordable access to broadband
21 services in today’s information age economy. These are all points emphasized in the
22 FCC’s just-released National Broadband Plan, which recommends rates for pole

1 attachments be set as low and as close to uniform (in the vicinity of the current cable rate)
2 as possible to support the goal of broadband deployment.¹

3 The FCC cable rate formula, which relies on the relative occupancy of an attachment to
4 allocate the cost of the entire pole to an attacher and uses publicly verifiable information,
5 is a very straightforward formula to implement. The FCC formula provides for a
6 consistent, predictable, and just and reasonable rate for third party attachments. Such
7 features are very important to firms in making business case decisions as to which areas
8 to invest in new infrastructure and to roll-out new services. In my opinion, this is one of
9 the key reasons behind the widespread adoption of the FCC cable formula (or close
10 variations of that formula) among states that like Arkansas have certified to regulate pole
11 attachments.

12 **Q: DOES AVECC FILE DATA WITH REGULATORY AGENCIES, SUCH AS THE**
13 **FERC REQUIRES INVESTOR-OWNED UTILITIES TO DO?**

14 A: No. Cooperatives typically are not required to file publicly detailed FERC-account based
15 data. However, AVECC has produced some data in discovery in this proceeding.

16 **Q: HAVE YOU CALCULATED POLE ATTACHMENT RATES APPLICABLE TO**
17 **AVECC?**

18 A: Yes. Applying the FCC methodology to AVECC's summary data, as well as AVECC
19 data available from other public sources, I have calculated maximum pole attachment

¹ See FCC National Broadband Plan, available at <http://www.broadband.gov/download-plan/> (select "Download All Chapters").

1 rates that AVECC should be permitted to charge Cox as a third-party attacher on its
2 poles, consistent with the just and reasonable standard set forth in Act 740.

3

FCC Cable Rate	FCC Telecom Rate		
	5 Entities	3 Entities	2 Entities
\$3.30	\$5.00	\$7.54	\$10.71

4

5 In my opinion, rates set any higher than those shown above would fail to serve the
6 ultimate purposes of effective pole rate regulation.² That the rate levels produced by the
7 FCC rate formula methodology are lower than the rate levels previously “negotiated”
8 between the utility and the cable company, and/or “market benchmark” rates set by other
9 monopoly pole owners, is not a valid economic or public policy concern. Rates
10 calculated using the FCC formula methodology are cost-based, subsidy-free, and fully
11 compensatory to the utility. Moreover, for the reasons discussed above, the latter
12 “market” rates do not reflect “free market” rates at all, but rather rates set in a grossly
13 unbalanced market environment where the pole owner has an inordinate amount of
14 leverage and can use that leverage to impose excessively high monopoly rates.

15 **Q: PLEASE DESCRIBE THE HISTORY OF POLE REGULATION.**

16 A: In 1978, Congress passed the Pole Attachments Act (Section 224 of the Communications
17 Act) in recognition of the fact that cable operators typically have no practical alternative
18 to the use of utility pole facilities and to address monopoly abuses by utilities, including

² In my opinion, the appropriate number of attaching entities to apply in the calculation of the Telecom Rate is the FCC presumptive number of 3. For comparison purposes, I have also calculated rates based on the FCC presumptive number of attaching entities for an urban area (5 entities) which could be justified based on FCC rules. I have also calculated a rate based on the number of attaching entities identified by AVECC in discovery (2 entities), although in my opinion, that number is not properly supported.

1 excessive monopoly rents, that the utilities’ absolute control over access to poles allows
2 them to impose.³ In this regard, nothing has changed since Congress enacted the Pole
3 Act in 1978. Even in 1996 when the Pole Act was amended in conjunction with passage
4 of the Telecommunications Act (“Telecom Act”), Congress continued to recognize that,
5 without continued vigilance over pole owners and effective pole attachment regulation,
6 pole owners would abuse their monopoly status, even more so because they were given
7 the ability to compete.⁴

8 **Q: WHAT IS THE PURPOSE OF THIS REGULATION?**

9 A: The primary purpose of pole rate regulation has historically been, and continues to be,
10 about protecting cable operators and other third-party attachers against monopoly abuses
11 of pole owning utilities. In this important context, the purpose of pole rate regulation has
12 *not* been about maximizing third-party contribution to the revenue requirement for the
13 utility’s core electric services (which is properly recoverable from the utility’s ratepayers
14 for whom the pole network was built and maintained), but rather to *limit* the rents that

³ From the legislative history in connection with the 1978 Pole Attachments Act :“Owing to a variety of factors, including environmental or zoning restrictions and the costs of creating separate CATV poles or entrenching CATV cables underground, there is often no practical alternative to a CATV system operator except to utilize available space on existing poles,” S. Rep. No. 95-580, at 13 (1977); also “[P]ublic utilities by virtue of their size and exclusive control over access to pole lines, are unquestionably in a position to extract monopoly rents from cable TV systems in the form of unreasonably high pole attachment rates.” *Id.*

⁴ “Certain firms [electric utilities, local telephone companies, oil pipelines] have historically been considered to be natural monopolies – bottleneck facilities that arise due to network effects and economies of scale....Firms in other markets frequently need access to these bottlenecks in order to compete.... Power companies have something that cable companies need: pole networks. Concerned about the monopoly prices power companies could extract from the cable companies, Congress allowed cable companies to force their way onto utility poles at regulated rates....This change to a forced-access regime was perhaps spurred by new laws, consistent with the 1996’s Act vision of competition in all sectors of the data distribution business, that gave large power companies freedom to enter the telecommunications business.... Perhaps fearing that electricity companies would now have a perverse incentive to deny rivals the pole attachments they need, Congress made access mandatory.” *Alabama Power v. FCC*, 311 F.3d 1357, 1361-63 (11th Cir. 2002) (“*Alabama Power*” or “*APCo*”).

1 utilities are permitted to charge third-party attachers to levels more in line with what a
2 competitive market (if one existed, which it does not) would produce.

3 Fundamental to pole rate regulation is recognition of the fact that pole-owning utilities,
4 investor owned and cooperatively owned alike, by virtue of historical incumbency, own
5 and control existing pole plant to which cable operators and other third-parties have no
6 practical alternative but to attach. Where a utility has absolute control over essential
7 bottleneck facilities, in the absence of effective pole regulation, pole-owning utilities are
8 in a position to limit access to these essential bottleneck facilities and/or to extract
9 excessive monopoly rents.⁵ This control of the essential bottleneck pole facility
10 effectively affords the utility a key gatekeeper role with respect to the roll-out and
11 availability of new advanced broadband services and applications in its service area.

12 Preventing a pole-owning utility from using its control over essential pole facilities to the
13 detriment of competition and the consuming public, is precisely what pole regulation
14 nationally, and here in Arkansas following the state's certification to self-regulate
15 pursuant to Act 740, was designed to address. That cooperatives such as AVECC have
16 historically been excluded from the definition of utility in the Pole Attachment Act
17 subject to FCC pole regulation, is an issue of jurisdiction and does not in any meaningful
18 way refute the applicability of the fundamental economic conditions of demand and

⁵ From the 2002 Eleventh Circuit Court decision, "As the owner of these 'essential facilities,' the power companies had superior bargaining power, which spurred Congress to intervene in 1978." *APCo*, 311 F.3d at 1362; *see also NCTA v. Gulf Power*, 534 U.S. 327, 330 (2002) ("Since the inception of cable television, cable companies have sought the means to run a wire into the home of each subscriber. They have found it convenient, and often essential, to lease space for their cables on telephone and electric utility poles. Utilities, in turn, have found it convenient to charge monopoly rents.").

1 supply facing cable and other third-party attachers needing access to poles owned by
2 electric cooperatives.

3 **Q: ARE ELECTRIC COOPERATIVES ANY LESS LIKELY THAN INVESTOR-**
4 **OWNED UTILITIES TO SEEK EXCESSIVE RENTS?**

5 A: No. The incentive and opportunity for electric cooperatives to leverage their monopoly
6 ownership of poles and to extract excessive monopoly level rents from third-party
7 attachers is inherently the same as that for investor-owned utilities subject to the FCC
8 pole regulation. Any notion that the market dynamics would be different in the case of a
9 non-profit consumer-owned entity such as AVECC is belied by the monopoly level rate
10 increases put forth by AVECC and other electric cooperatives both here in Arkansas and
11 around the country and that gave rise to this complaint proceeding.⁶ By specifically
12 including electric cooperatives within the definition of public utility subject to state
13 regulation of pole attachments pursuant to Act 740,⁷ the Arkansas legislature correctly
14 recognized that the compelling reasons that gave rise to the need for effective regulation
15 of pole attachments are not dependent on the organizational charter of the pole-owning
16 utility; they apply equally to electric cooperatives such as AVECC as they do to investor-
17 owned utilities that have been subject to the FCC's pole attachment rules for the past
18 several decades. It is also my understanding that the present exclusion of electric
19 cooperatives from the FCC pole attachment rules governing other electric utilities is
20 being examined as part of the FCC's charge to improve infrastructure access, including

⁶ AVECC is seeking to charge Cox a pole attachment rate as high as \$32 (See deposition of Scott Schneider at ¶23), which would exceed the reasonable cost based rate (as calculated using the FCC cable rate formula) by as much as 870%. Even at the low end of what AVECC is looking to extract from Cox (\$22), the rate level would represent an increase of 76% over the existing pole rental rate, and would exceed the just and reasonable level by 567%.

1 right-of-way and pole attachments, which the FCC has identified as a “key gap” in its
2 National Broadband Plan Policy Framework.⁸

3 **Q: HAS AVECC ENGAGED IN MONOPOLY BEHAVIOR?**

4 A: Yes. Where competitive market conditions do not exist (as is the case with pole
5 attachments), and in the absence of effective regulatory involvement, there are no
6 external pressures or self-imposed discipline on the utility to constrain the prices it
7 charges for these bottleneck facilities to levels remotely approximating marginal costs -
8 the true economic costs to the utility of third party attachment on otherwise vacant space
9 on its poles. Under these conditions, it makes no sense to talk in terms of a “free market”
10 rate. Instead, rates are being set in a grossly unbalanced negotiating environment where
11 the pole owner, regardless of its size, has an inordinate amount of leverage over third-
12 party attachers and can impose excessive monopoly level rates. The utility always has the
13 upper hand by its ability to threaten, and in the absence of effective regulation, to carry
14 out on its threat, to remove the third-party attachments from its pole. AVECC’s actions

⁷ See Ark. Code Ann. § 23-4-1001.

⁸ See Press Release, Federal Communications Commission, *Options for A National Broadband Plan: Task Force Provides Framework for Final Phase in Development of Plan* (December 16, 2009) (“The American Recovery and Reinvestment Act of 2009 directed the FCC to submit a National Broadband Plan to Congress... that addresses broadband deployment, adoption, affordability, and the use of broadband to advance solutions to national priorities, including health care, education, energy, public safety, job creation, investment, and others.”) At its December 16, 2009 Open Meeting, the FCC presented a “National Broadband Policy Framework” that identified as an option under consideration: “amend section 224 to establish a consistent national framework for all poles, ducts, and conduit.” The FCC sent its final report to Congress on March 16, 2010. Press Release, Federal Communications Commission, *FCC Sends National Broadband Plan to Congress: Plan Details Actions for Connecting Consumers, Economy with 21st Century Networks* (March 16, 2010), <http://www.fcc.gov/>. The National Broadband Plan expands on the recommendation to amend Section 224 to apply to cooperatives. See FCC National Broadband Plan at 112 (“[D]ue to exemptions written into Section 224, a reformed FCC regime would apply to only 49 million of the nation’s 134 million poles. In particular, the statute does not apply in states that adopt their own system of regulation and exempts poles owned by co-operatives, municipalities and non-utilities...The nation needs a coherent and uniform policy for broadband access to privately owned physical infrastructure. Congress should consider amending or replacing Section 224 with a harmonized and simple policy that establishes minimum standards throughout the nation – although states should remain free to enforce standards that are not inconsistent with federal law.”).

1 to date, which include a notice of intent to terminate its pole attachment agreement with
2 Cox, appear fully consistent with this expected monopoly behavior.⁹

3 **Q: CAN YOU BE MORE SPECIFIC?**

4 A: Yes. As further evidence of AVECC's monopoly behavior, AVECC is seeking to impose
5 – on essentially a “take it or leave it” basis, a substantial price increase (in the range of
6 75% to 150%) to the \$12.50 pole attachment rate that Cox is currently paying AVECC.¹⁰
7 AVECC is attempting to impose these significant increases in pole rental rates
8 notwithstanding the provision in its license agreement with Cox that allow for annual
9 increases in accordance with changes in the Consumer Price Index (CPI).¹¹ By way of
10 comparison, in recent years, the CPI has increased only modestly (i.e., in the range of
11 3%), and between 2008 and 2009, the CPI actually showed about a 1% decline.
12 Moreover, AVECC has rejected offers from Cox that would increase pole rates from the
13 current \$12.50 by as much as 20% over four years.¹²

⁹ See Letter dated June 23, 2009, from Lonnie Turner to Cox Communications (Exhibit 4 to CoxCom Inc. Pole Attachment Complaint) (“Please consider this letter as Notice from AVECC of its intent to terminate unless an appropriate attachment rental fee can be agreed to for the future.”); see also Section 18 of License Agreement between AVECC and Cox (Exhibit 1 to CoxCom Inc. Pole Attachment Complaint) (“Upon termination of this Agreement, Licensee shall remove all of its Attachments from all of Licensor’s Distribution Poles within sixty (60) days. If any Attachments are not so removed . . . Licensor shall have the right to remove such Attachments, and to use, dispose of or sell same, at Licensee’s sole expense and without any liability to Licensee.”)

¹⁰ Cox currently pays a pole attachment rate of \$12.50, whereas AVECC is looking to impose rates as high as \$22 to \$32. See Affidavit of Scott Schneider (attached to CoxCom Inc. Pole Attachment Complaint), ¶¶ 5, 14.

¹¹ See *id.* at ¶ 11; see also Section 7.3 of License Agreement between AVECC and Cox (“Licensor in its sole discretion may increase all fees that are due and payable under this Agreement effective on each annual anniversary date of the Effective Date to reflect increases in the Consumer Price Index.”)

¹² See *id.* at ¶ 18.

1 It should be noted that the current \$12.50 a rate being paid by Cox is already well in
2 excess of a just and reasonable cost-based rate.¹³

3 **Q: ARE THERE PUBLIC POLICY REASONS FOR PREVENTING UTILITIES**
4 **FROM CHARGING MONOPOLY RATES?**

5 A: Yes. Excessive monopoly-level rates for this vital pole input, such as proposed by
6 AVECC, serve no valid economic or public policy purpose. To the contrary, such
7 excessive rates work at cross purposes to important public policy goals, as expressed by
8 policymakers nationally, and in Arkansas, to promote effective competition and
9 widespread broadband deployment. On the other hand, an economically efficient rate
10 such as the FCC cable rate, by more closely tracking a competitive rate level for this
11 input, can provide important benefits to consumers -including *both* utility and cable
12 subscribers. Setting rates for pole attachments at economically efficient levels creates a
13 market environment that is most conducive to the provision of a greater array of
14 innovative and advanced broadband services and at lower rates than would occur if rate
15 were set at higher monopoly rate levels. This is particularly the case in rural areas such
16 as exist in Arkansas, where there are even less favorable underlying economic conditions
17 for broadband deployment (e.g., lower population densities resulting in higher
18 construction costs per capita).¹⁴

19 Having to absorb higher pole rents will reduce the cable industry's ability to meet
20 financial and investment obligations including those related to the build out of

¹³ The current \$12.50 rate exceeds the just and reasonable rate calculated using the FCC cable formula by 279%.

¹⁴ These are all points emphasized in the FCC's just-released National Broadband Plan, which recommends rates for pole attachments be set as low and as close to uniform (in the vicinity of the current cable rate) as possible to

1 infrastructure needed to support the widespread deployment of advanced broadband
2 services and technologies, including VoIP services. Cable companies are not generally in
3 a position to flow through higher pole costs given the increasing price-constraining
4 competition and market conditions they face – conditions which are quite different from
5 those facing the utility in regard to its provision of electric distribution services.

6 However, to the extent cable companies are able to do so in selected markets, it will raise
7 the cost of broadband and VoIP services in those markets, thereby reducing the ability of
8 consumers (who include electric utility customers) to afford and enjoy the widely –
9 acknowledged economic and social benefits of affordable access to broadband services in
10 today’s information age economy.

11 Given the increased opportunities for utilities to compete with third-party attachers and
12 the increased economic and social benefits of accelerated and enhanced broadband
13 deployment, the need for effective pole regulation is more important than ever. So too
14 are the benefits of the adoption of an administratively simple, predictable, and
15 economically efficient cost-based formula methodology for setting pole attachment rates
16 – such as the FCC cable formula. Rates in excess of the FCC’s economically efficient,
17 cost-based and fully compensatory cable rate (and even more so, rates in excess of the
18 even higher FCC telecom rate) would enable the utility to further exploit its monopoly
19 ownership of the pole network, contrary to effective pole attachment regulation and at the
20 expense of broadband deployment in Arkansas, which already lags behind the nation.¹⁵

support the goal of broadband deployment, particularly in rural areas where the “impact of these rates can be particularly acute.” *See* FCC National Broadband Plan at 110.

¹⁵ Based on data compiled by the FCC, Arkansas’ broadband deployment averages 74%, which puts it in last place in the continental U.S., and just below New Mexico’s 79%, as compared to the national average of 96%. FCC

1 **Q: PLEASE DESCRIBE THE FCC FORMULA.**

2 A: Section 224 of the Communications Act identifies a range of costs, bounded by the
3 marginal cost of pole attachment at the low end and the fully allocated cost of pole
4 attachment at the high end, above which a just and reasonable pole attachment rental rate
5 for cable operators may not fall. This range for just and reasonable rates “assures a utility
6 the recovery of not less than the additional costs of providing pole attachments nor more
7 than an amount determined by multiplying the percentage of the total usable
8 space...occupied by the pole attachment by the sum of the operating expenses and actual
9 capital costs of the utility attributable to the entire pole.”¹⁶ Pursuant to this directive, the
10 FCC developed a methodology, that has come to be known as the FCC cable rate
11 formula, and that has been widely adopted in this country for setting rates for third-party
12 pole attachments, including in those states (like Arkansas following the passage of Act
13 740) that have elected to self-regulate pole attachments.¹⁷

14 **Q: IS ADDITIONAL COMPENSATION -- OVER AND ABOVE THE FCC CABLE**
15 **RATE FORMULA METHODOLOGY -- NECESSARY TO PROVIDE JUST**
16 **COMPENSATION?**

17 A: No. The FCC’s well-established, cost-based “cable rate” methodology, which the vast
18 majority of states (including Arkansas for investor-owned utilities for the past 30 years)
19 use to calculate pole attachment rates, has been found by the FCC, state public utility

Wireline Competition Bureau, *High Speed Services for Internet Access: Status as of June 30, 2008* (July 2008), Table 14; see also Toby Manthey, *Internet Access Subject of Forum*, Arkansas Democrat Gazette, Aug. 29, 2007, available at <http://nwanews.com/adg/Business/199894> (quoting United States Senator Mark Pryor), where Arkansas is shown to rank 47th out of 50 states.

¹⁶ 47 U.S.C. § 224(d)(1).

1 commissions and courts, including the Supreme Court, to provide just compensation. No
2 additional compensation is necessary to make the utilities whole or avoid a subsidy to
3 cable, notwithstanding claims to the contrary by pole-owning utilities.¹⁸ This is
4 especially true given the fact that under the FCC methodology, pole-owning utilities
5 receive - *in addition to* the annual rental rate - make-ready payments designed to recover
6 all out of pocket costs incurred by the utility in connection with the required
7 accommodation of a third-party attachment. The make-ready process affords utilities not
8 only the full recovery of any out-of-pocket costs they incur in connection with a cable
9 attachment, but also the full financial benefit of any improvements made to the pole
10 (including the outright replacement of an existing pole with a new taller pole, on which
11 the cable company then pays rent). The cable attacher still pays rent for the improved
12 pole, but the utility as owner receives sole benefit of those improvements in terms of the
13 increased asset value of its plant, additional realizable rental revenues, and/or the deferral
14 of the utility's own capital expenditures

15 Because of this additional compensation over and above the cable formula rate (which
16 can be quite substantial), plus the fact that any upgrades to the pole made (and paid for)
17 through the make-ready process become property of the utility, the pole owner is likely
18 made *even better off* after the accommodation of an additional cable attachment.¹⁹ From

¹⁷ See FCC *Corrected List of States that Have Certified That They Regulate Pole Attachments*, WC Docket No. 07-245 (March 21, 2008). Since the date of that notice, Arkansas certified to self-regulate pole rates.

¹⁸ The economist's notion of cross-subsidy avoidance is consistent with the legal principle in takings law for just compensation. See *Alabama Power*, 311 F.3d at 1369.

¹⁹ See e.g., *Alabama Cable Television Ass'n v. Alabama Power Co.*, 16 FCC Rcd 12209, ¶ 58 (2001) ("ACTA") ("In instances where attachers pay the costs of a replacement pole, the attacher actually increases the utility's asset value and defers some of the costs of the physical plant the utility would otherwise be required to construct as part of its core service.").

1 an economic standpoint, there can be no valid claim of subsidy or specific cost burden
2 borne by the utility company, its ratepayers, or any other attacher as a result of the
3 attachment. For a subsidy to occur, the utility must have unrecovered costs that *but for* the
4 attacher would otherwise not exist. This is decidedly *not* the case for pole attachments since
5 make ready charges alone essentially cover the marginal costs of attachment. Where
6 rates cover the additional or marginal cost of attachment, neither the utility nor any of the
7 other parties sharing the pole will bear a higher cost as a result of the attachment (than
8 they would absent the attachment).²⁰

9 **Q: IS THE FCC CABLE RATE FORMULA METHODOLOGY WIDELY**
10 **ACCEPTED?**

11 A: Yes, it is. The widespread acceptance of the FCC cable rate formula methodology for
12 determining just and reasonable rates for pole attachments is reflected in the large
13 number of states that rely on that formula. The FCC formula is applied directly by the
14 FCC in 30 states and in the majority of the 21 states (including the District of Columbia),
15 that have certified to self-regulate pole attachment rates. Approximately 16 of the self-
16 certified states use a formula that tracks or closely tracks the FCC cable formula.
17 Moreover, of those certified states that have adopted the use of the FCC cable rate
18 formula (or a close proximity to it), roughly half, including Oregon, California, New
19 York, Alaska, Connecticut, Michigan, Massachusetts, and Vermont, have expressly

²⁰ See, e.g., Bridger M. Mitchell, “Costs and Cross-Subsidies in Telecommunications,” *The Changing Nature of Telecommunications/Information Infrastructure*, National Academy Press, Washington, DC (1995) (“A group of customers is being subsidized if their price is so low that the service supplier and its other customers would be better off if the service were discontinued. This circumstance occurs only when the increase in revenues to the [telephone] company from offering the service is less than the increased costs of providing it.”).

1 endorsed the use of the FCC cable rate formula over the higher FCC telecom formula
2 rate.

3 As noted above, all but a handful of certified states have adopted specific formulas very
4 closely aligned with the FCC cable rate formula. Where such a formula has not been
5 adopted, complaint proceedings and other litigation, such as being played out here in
6 Arkansas and in other states lacking a specific formula can be expected, as it is
7 increasingly likely for utilities to seek to impose pole attachment rentals at monopoly rate
8 levels such as that led to the regulation of poles in the first instance. By contrast, the
9 overarching concept - and very desirable feature - underlying the FCC cable formula
10 methodology is that it can be applied in a straightforward manner, using publicly
11 available information as reported in the FERC uniform reporting system (or equivalent
12 accounting system in the case of electric cooperatives) such that it can be updated
13 annually with a minimum of private, administrative effort, and little if any regulatory
14 involvement.

15 One of the certified states that adopted the FCC cable rate formula for all third party pole
16 attachments is particularly instructive. The state of Vermont, notwithstanding regional
17 differences, is characterized by similarly low population densities as Arkansas and thus
18 faces similar issues relating to broadband deployment associated with low population
19 density. It is noteworthy that Vermont not only adopted the FCC cable formula for all
20 pole attachments, it adopted a version of the FCC cable formula that results in an even
21 lower space allocation factor, and which all else being equal, results in a *lower* pole

1 attachment rate.²¹ Moreover, in doing so, the Vermont commission specifically
2 recognized the linkage between a lower pole attachment rate and the prospect of
3 increasing availability of high speed internet and other broadband services.²² While a
4 couple of other states (e.g. Oregon and Louisiana) have adopted versions of the FCC
5 cable rate formula which result in a somewhat higher space allocation factor, the pole
6 attachment rate formula adopted in the vast majority of certifying states produces a rate
7 that is equal, or close to equal, the FCC cable rate, vis-à-vis the higher FCC telecom rate.

8 **Q: HOW DOES THE FCC FORMULA WORK?**

9 A: As directed in Section 224 of the Communications Act, the FCC pole rate methodology,
10 applicable to *both* cable and telecom rate attachments, calculates a maximum annual pole
11 attachment rent by taking the sum of the actual capital costs and operating expenses of
12 the utility attributable to the *entire* pole, expressed on an annual basis, and apportioning
13 those costs to the attacher based on an allocation of space on the pole. Operationally, the
14 FCC formula methodology consists of the following three major components: (1) the net
15 investment per bare pole, (2) a carrying charge factor (used to convert the net cost per
16 bare pole figure into an annual rental amount) and (3) a space allocation factor (i.e., the
17 percent of pole capacity attributable to the attacher). Expressed as an equation, the FCC
18 formula methodology is as follows:

²¹ The Vermont formula substitutes an updated presumption to recognize increased usable space on the now standard, taller joint use poles. VT. Pub. Serv. Bd. R. §3.706(D)(2)(c).

²² See Policy Paper and Comment Summary on PSB Rule 3.700, at 6 (...“cable services becoming available in some additional low-density rural areas... [creating] even more value for Vermonters as cable TV companies are increasingly offering high-speed Internet services to new customers.”); see also Economic Impact Statement, Rule 3.700 (“...little impact to upon the pole owners [vis-à-vis] large benefit to the public of easing broadband and wireless communications facilities”), available at <http://www.state.vt.us/psb/rules/proposed/3700>.

1 FCC Pole Rate Formula (for both cable and telecom) =
2 Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor

3 Under the FCC rules, both the cable and telecom formulas are calculated in exactly the
4 same manner as to the first two components of the rate formula, i.e., the net bare pole
5 cost and the carrying charge factor. These components of the formula are calculated in a
6 straightforward, but multistep process, as described in Attachment B to this testimony.

7 **Q: WHAT IS THE DIFFERENCE BETWEEN THE CABLE FORMULA AND THE**
8 **TELECOM FORMULA?**

9 A: The FCC cable and telecom formulas differ, however, in the calculation of the third
10 component, i.e., the space allocation factor.

11 In particular, the two formulas differ in the manner in which costs associated with the
12 *unusable* space on the pole is allocated. The FCC cable formula allocates the total costs
13 of the pole (i.e. costs associated with *both* usable and unusable space) in proportion to an
14 attacher’s direct use or occupancy of total usable space on the pole, as expressed in the
15 equation below:

16 FCC Cable Rate Formula = Net Bare Pole Cost x Carrying Charge Factor x
17 [Space occupied by attacher / Usable Space on Pole]

18 Using the FCC’s rebuttable assumptions of an average 37.5 foot joint-use pole, 1 foot of
19 space per communications attachment, and the availability of 13.5 feet of usable space on
20 the pole (including the 40” of “safety space”), the appropriate space allocator factor for

1 the cable rate formula is 1/13.5 or 7.41%.²³ Figure 1 on the following pages of this
2 testimony provides a graphical illustration of the cable formula's space allocation
3 methodology.

4 Whereas the FCC cable formula assigns costs relating to the *entire* pole -- including both
5 usable and unusable space -- on the basis of a proportionate-use allocator, the FCC
6 telecom methodology assigns the cost of usable space on the pole based on the
7 proportionate share of usable space occupied by the attacher (the exact same as the cable
8 formula) but assigns costs relating to the unusable space on the pole using a per-capita
9 allocator as expressed below.²⁴

10 Using the formula shown below, the same FCC's rebuttable assumptions as for the cable
11 formula, and the FCC presumptive number of attaching entities for rural areas (i.e.,
12 three)²⁵ produces a total space allocator factor for the telecom formula of 16.89%, as
13 shown in Figure 1 on the following page.

14 FCC Telecom Rate Formula = Net Bare Pole Cost x Carrying Charge Factor x
15 [Usable Space Percentage + Unusable Space Percentage] where:

²³ See *In the Matter of Amendment of Rules and Policies Governing Pole Attachments*, Report and Order, 15 FCC Rcd 6453, ¶ 16 (Apr. 3, 2000) (“*FCC Fee Order*”) (Based on National Electrical Safety Code guidelines and data received during rulemaking proceedings, and “[t]o avoid a pole by pole rate calculation, the Commission adopted rebuttable presumptions of (1) an average 37.5 foot pole height; (2) 13.5 feet of usable space; and (3) one foot as the amount of space a cable television attachment occupies.”).

²⁴ Specifically, as statutorily prescribed in Section 224(e), and as reflected by Staff in its proposed PARs, the FCC telecom methodology takes 2/3 of the unusable space on the pole and divides that equally by the number of attaching entities.

²⁵ I have used the FCC presumptive number of attaching entities of 3 for rural areas to be conservative. FCC rules designate rural areas as those with populations of less than 50,000 and urbanized areas as those with populations of 50,000 or more, and would apply the presumptive number of attaching entities for urbanized areas (i.e., 5) to the utility's entire service area if any part of that utility's service area is classified as urbanized. See *FCC Consolidated Partial Order on Reconsideration (“FCC Recon Order”)*, CS Docket 97-98, 97-151, FCC 01-170, ¶¶ 66-67 (May 25, 2001).

1

2

Usable Space Percentage =

3

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

4

5

Unusable Space Percentage =

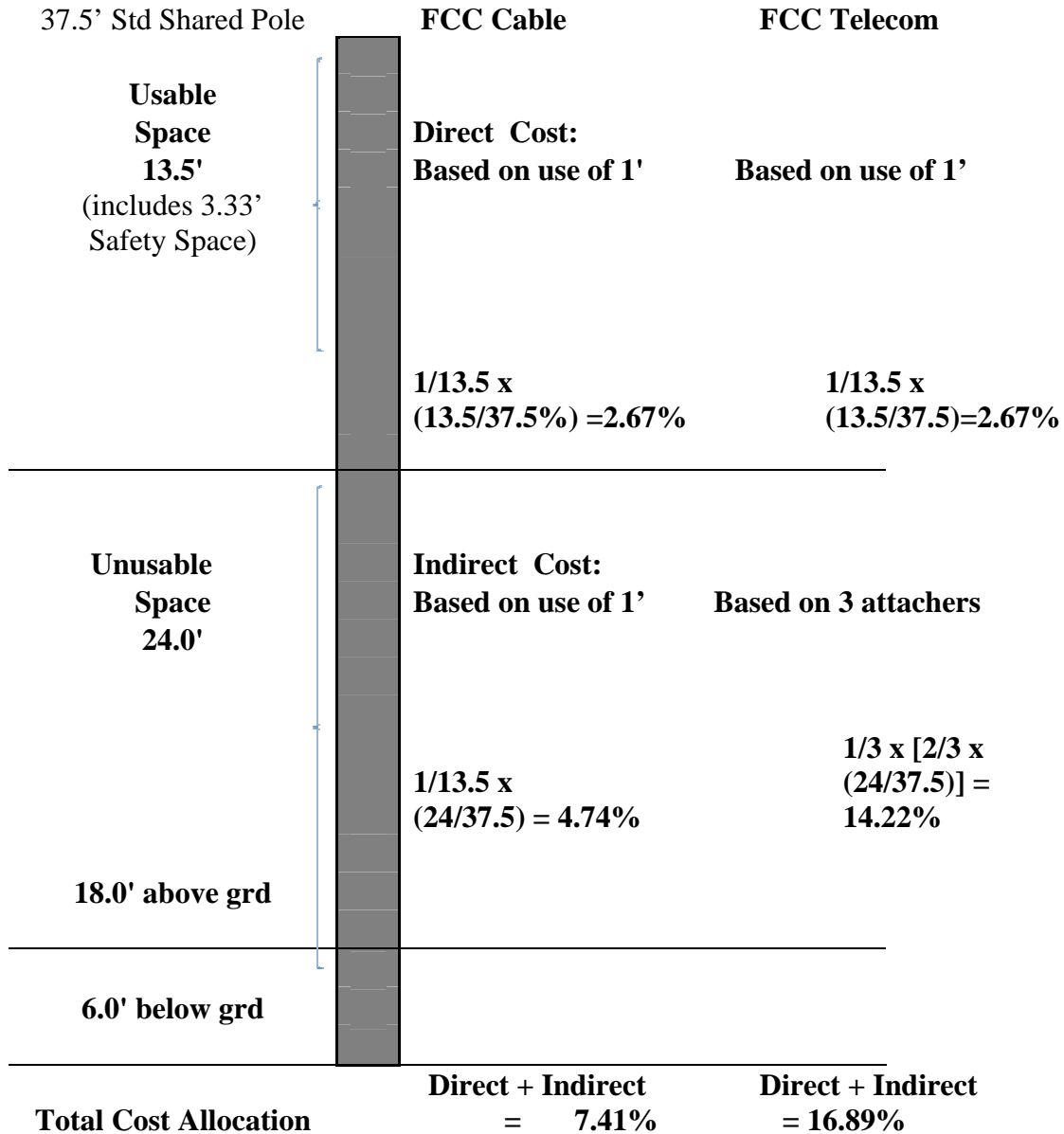
6

$\frac{2}{3} \times (\text{Unusable Space} / \text{Pole Height}) \times (1/\text{Number of Attachers})$

1
2

Figure 1

Allocation of Total Pole Costs under FCC Cable and Telecom Formulas



3 **Q: IS THE CHOICE OF ALLOCATOR THE SAME AS THE ACTUAL COSTS**
4 **ATTRIBUTED?**

5 **A:** No. As illustrated in Figure 1, the particular *choice of allocator* (i.e. proportion of usable
6 space occupied by the attacher) used in the FCC cable formula to attribute space on the

1 pole should not be confused with the *actual costs that are being attributed* (i.e., *total*
2 *space* on the pole including both usable and unusable space). As clearly demonstrated,
3 the FCC cable formula allocates the costs of unusable space on the pole. It does so using
4 the same proportionate share (1/13.5 or 7.41%) of the costs associated with usable space
5 on the pole, as opposed to on a per-capita basis used in the telecom formula.

6 **Q: WHAT ARE THE IMPLICATIONS OF THE FCC CABLE RATE FORMULA'S**
7 **COST ALLOCATION METHODOLOGY?**

8 A: By assigning pole costs to attachers in accordance with their actual use of the pole, the
9 FCC cable formula follows cost allocation principles well established in the economics
10 and regulatory literature. In the FCC cable formula, the cost of the pole recoverable from
11 third-party attachers is based upon the concept of cost causation, which holds that costs
12 are properly incurred by the entity causally responsible for the costs, i.e., the cost-causer
13 pays. This concept of a cost-causative linkage based on the proportionate use or direct
14 occupancy of space is a common and widely-accepted practice in the leasing of property
15 and other facilities throughout the private and public sectors of the economy. The cost
16 allocation approach embodied in the cable rate formula follows cost causation principles
17 in a manner directly analogous to other well accepted familiar contexts, such as an
18 apartment house, as recognized by Congress in the 1978 pole legislation.²⁶

19 **Q: WHAT ARE THE ADVANTAGES OF USING THE FCC CABLE RATE**
20 **FORMULA'S COST ALLOCATION METHODOLOGY?**

²⁶ See 123 Cong. Rec. 5080 (1977) (Statement of Rep. Wirth); see also S. Rep. No. 95-580, 95th Cong., 1st Sess. 20 (1977).

1 A: The allocation methodology embodied in the FCC cable rate formula which assigns
2 indirect costs in proportion to direct costs and based on relative use or occupancy offers
3 several distinct and significant advantages vis-à-vis the per capita approach embodied in
4 the telecom formula and other variations of that formula. The key advantages of the
5 cable formula include the following: (1) greater consistency with the fundamental
6 economic principles of cost causation;²⁷ (2) more administratively straightforward to
7 implement and consistent in its application;²⁸ (3) neutrality with respect to both the level
8 of, and the technology used to provide, the facilities-based competition that has emerged
9 in the period following the Telecommunications Act of 1996; and (4) more closely
10 mimics the outcome of a competitive market with its resultant benefits to consumers of
11 lower rates and a greater array of innovative and advanced service offerings.

12 **Q: ARE THE 40 INCHES OF “SAFETY SPACE” APPROPRIATELY CONSIDERED**
13 **USABLE SPACE?**

14 A: Yes. This is a matter the utilities have frequently argued against, and which the FCC has
15 repeatedly rejected on sound economic rationale that are just as applicable to electric
16 cooperatives such as AVECC. Attachments can and are in fact routinely made in this
17 space by the utility (including all manner of other devices also present on the pole
18 including streetlights, private floodlights, traffic signals, fire and police call boxes and

²⁷ By contrast, the Telecom Formula on which it is based, by relying on the number of attaching entities (multiplied by a factor of two-thirds), introduces an artificial construct into the pricing formula – one that has no direct connection to the consumption of space on the pole or to any actual increase in cost burden placed on the utility or its ratepayers.

²⁸ In addition, because the number of attaching entities varies from pole to pole and service area to service area, the need to track the number of attaching entities in the Telecom formula adds a level of complexity and arbitrariness to the formula. Any such information is in the complete control of the utility, which also defeats the purpose of basing a formula on publicly verifiable information. AVECC’s unsupported extrapolation-based calculations demonstrate this point.

1 alarm signal wires, and municipal communications systems) and is necessary due to the
2 electric attachment. Defining the safety space as usable space is consistent with the
3 fundamental economic principle of cost causation (i.e., the entity but for whose existence
4 or action a cost would not have been incurred is attributed those costs) and the fact that
5 the electric utility routinely places attachments within this space from which they are able
6 to derive additional revenues.²⁹ As noted by the FCC, the designation of the safety space
7 as usable space is fully consistent with the allocation of a full 1 foot of space to cable
8 attachers to encompass “attendant clearances,” even though the cable attachment itself is
9 much smaller as noted above.³⁰

10 Similar to the issues raised in connection with the space allocator factor methodology, it
11 is important not to confuse the issue of whether the safety space should be designated as
12 “usable” (which given the space is routinely available to the utility to place attachments
13 in, it is imminently logically for the FCC to have repeatedly found such space to be

²⁹ As found by the FCC in its 2000 *Fee Order*: “It is the presence of the potentially hazardous electric lines that makes the safety space necessary and but for the presence of those lines, the space could be used by cable and telecommunications attachers. The space is usable and is used by the electric utilities. A bare pole, when erected has portions to which attachments cannot be made at any time—the ground clearance and the part of the pole below ground. The rest is available for attachments; it is usable space. A communications attachment, even though it may be a fiber optic cable with a diameter of only one inch, is presumed to occupy one foot of the attachable space because of separation requirements. In a like manner, the electric supply cable on the pole, because of its unique spacing requirements must be 40 inches away from communications attachments. No one questions that the eleven inches of space not physically occupied by a fiber optic cable, but attributed to it, is usable space. Because the electric supply cable precludes other attachments from occupying the safety space, which would otherwise be usable space, the safety space is effectively usable space occupied by the supply cable. So long as their crews make the installation, the electric utilities are not limited by the NESC in what equipment or cables they may attach in the safety space. Accordingly, we reject the electric utilities’ arguments to reduce the presumptive usable space of 13.5 feet by 40 inches.”

³⁰ See *Report and Order, In the Matter of Implementation of Section 703(e) of the Telecommunications Act of 1996, Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, CS Docket No. 97-151 (February 6, 1998) FCC 98-20, ¶81. (“The 1977 Senate Report evidenced Congress’ intent that cable television providers be responsible for 12 inches of usable space on a pole, including actual space on a pole plus clearance space. In 1979, the Commission established the rebuttable presumption that a cable television attachment occupies one foot. The Commission subsequently refined its methodology for determining the amount of usable space and made the one foot presumption permanent.”)

1 “usable”) with the separate question of whether the cost associated with this space is
2 allocated to third-party attachers. As explained above, *both* the FCC cable and telecom
3 formulas allocate the cost associated with the 40 inches of safety space. They specifically
4 do so, however, on the basis of proportionate use, which is fully consistent with the
5 economic principle of cost causation.

6 First, “but for” the danger of high voltage electric lines, there would be no need for the
7 safety space. Second, pole utilities are able to realize additional revenues from the rental
8 of that space (e.g., from the placement street lights³¹) or to use the space for other
9 purposes including placement of their own fiber optic cables. Third, third-party attachers
10 routinely pay their full economic (direct) share of costs associated with this safety space
11 through make-ready charges they pay to the utility for the replacement of poles and/or the
12 rearrangement of space on the pole to ensure compliance with National Electric Safety
13 Code (“NESC”) rules governing the safety space following an attachment. To shift a
14 higher percentage of cost recovery for this space onto attachers only compounds the
15 likelihood of double recovery associated with their payment of make-ready charges. As
16 noted earlier, cable and other third-party attachers are already effectively paying for
17 required separation space for their wires in their annual rental rates (given those rates are
18 based on occupancy of a full foot of space, and their attached wires occupy a much
19 smaller amount of space).

³¹ This common practice has been confirmed on Arkansas poles. See Report of Michael T. Harrelson, APSC Docket No. 08-073-R, at ¶¶ 20-21.

1 **Q: HOW HAVE YOU CALCULATED JUST AND REASONABLE POLE**
2 **ATTACHMENT RENTAL RATES APPLICABLE TO AVECC UNDER THE FCC**
3 **FORMULA METHODOLOGY?**

4 A: Yes, I have. For purposes of this assignment, I have calculated two sets of rates - one
5 using the FCC cable formula and another using the FCC telecom formula with the
6 appropriate data inputs consistent with my previous testimony. Once the various pieces
7 of input data are properly identified, the calculation of the maximum just and reasonable
8 rate under the FCC formula methodology is a straightforward multiplication of the three
9 major components: *net bare pole cost* times *carrying charge factor* times *space*
10 *allocation factor*.

11 **Q: WHAT DATA HAVE YOU USED TO CALCULATE THE POLE ATTACHMENT**
12 **RATES, AND HAS THAT DATA BEEN VERIFIED?**

13 A: I have relied upon data provided by AVECC in discovery and in other public sources,
14 such as the AVECC Rural Utilities Services (“RUS”) Financial and Statistical Report.
15 Because much of the data needed to calculate the formula rate was provided by AVECC
16 only in summary fashion, it has not been possible to verify the figures as to their accuracy
17 or to tie them to AVECC’s books of accounts. As noted earlier, one of the hallmarks of
18 the FCC formula methodology is its reliance on verifiable and publicly reported input
19 data, and AVECC’s data should be subject to the same standards of reliability. As an
20 example, AVECC identifies in response to discovery a tax expense of \$1,312,293.³²
21 However in AVECC’s RUS Financial and Statistical Report, a tax expense of only

³² See Cox 00029 identifying tax expenses associated with Accounts 408.1, 490.1, 410.1, 411.1, and 411.4.

1 \$73,023 is identified.³³ I have relied on the higher number supplied by AVECC for
2 purposes of my calculation, but subject to verification based on a review of AVECC's
3 books of accounts.

4 **Q: HOW IS THE FCC RATE FORMULA METHODOLOGY IMPACTED BY**
5 **AVECC'S COOPERATIVE STRUCTURE?**

6 A: Certain pieces of input data used in the calculation of the FCC rate formula, i.e., those
7 involving taxes and the rate of return, require adaptation to apply to a non-profit
8 consumer-owned utility such as AVECC. First, because AVECC as a non-profit entity is
9 not subject to income taxes as would be an investor-owned utility (IOU), it has no
10 reportable accumulated deferred taxes. Therefore, in applying the FCC formula
11 methodology to AVECC, the calculation of net investment for AVECC pole plant (as is
12 the case for aggregate plant accounts) is calculated by deducting accumulated
13 depreciation alone from gross plant investment. Second, only a subset of the tax accounts
14 included under the FCC methodology in the tax component of the carrying charge factor
15 will be applicable to AVECC. As mentioned above, I have relied on the figure for tax
16 expenses identified by AVECC in its discovery responses subject to verification as to its
17 accuracy.

18 With respect to rate of return, this component of the carrying charge factor (CCF) allows
19 the utility to recover a normal or fair (economic) return on capital from third-party
20 attachers over and above actual cost recovery. For an IOU, the capital cost element of the
21 CCF component of the rate formula is the most current authorized rate of return set by a

³³ See Cox 00025.

1 state regulatory commission or in the absence of one, an FCC default rate of return based
2 on the last FCC return proceeding may be used. As a non-profit consumer owned utility,
3 AVECC has no allowed rate of return and faces a different set of capital costs than
4 investor-owned utilities. Because AVECC is a non-profit entity not subject to rate of
5 return regulation, it is necessary and appropriate to substitute an effective or imputed
6 “rate of return” in lieu of an allowed rate of return set by a regulatory commission in
7 applying the FCC cable formula to calculate a maximum pole rate applicable to AVECC.
8 Consistent with the actual equity risk facing co-op owners, I have calculated a “rate of
9 return” based on AVECC’s recorded interest expenses and an imputed return on retained
10 earnings (using AVECC’s cost of long term debt as the interest rate) in lieu of an allowed
11 rate of return set by a regulatory commission, consistent with the actual equity risk facing
12 co-op members.³⁴

13 **Q: DO YOUR CALCULATIONS ADHERE TO FCC RATE FORMULA**
14 **METHODOLOGIES?**

³⁴ The methodology I have employed is supported by the findings of the Indiana Utility Regulatory Commission (IURC) in a pole complaint proceeding involving a cooperative (Kankakee Valley Rural Membership Corporation) in which it specifically addressed the appropriate rate of return applicable to a cooperative:

We find, however, that there is some risk for owners of a co-op losing a portion of their equity deposited in the co-op and, therefore, a cost of equity should be determined. Among the measures that could be used include the cost of debt, the rate of inflation, risk-free rate or a yield on long term securities such as government or corporate bonds. KVREMC, by using the cost of debt to determine the cost of capital, assumes the cost of debt is equal to the cost of capital. Based on the evidence of record, and as proposed by KVREMC, we find the cost of debt (4.93%) to be the closest approximation to the cost of equity.

While the Indiana URC simply used the cost of debt as the weighted cost of capital, the two-step methodology I have employed, which multiplies the cost of debt by the retained earnings of the cooperative and then adds that to the cooperative’s cost of debt, in my opinion, produces a more accurate imputed return. In this case, it also produces a somewhat higher rate of return. While I disagree with certain other assumptions incorporated in the IURC pole rate calculations, those other assumptions appear to have been based on the proposal submitted by the telecommunications carrier (the complainant) as opposed to based on the IURC’s own reasoning. The IURC’s finding with regard to the rate of return was one area where the IURC specifically disagreed with the complainant. Moreover, the ultimate pole rate adopted by the IURC was \$11.50 (a rate that is less than the \$12.50 rate AVECC is

1 A: Yes. Other than the modifications necessary to reflect AVECC's cooperative structure
2 described above, my calculations adhere to the methodology and presumptive averages
3 for poles as set forth in the FCC rules and guidelines. The FCC rules and regulations are
4 designed to be consistent with fundamental economic principles of cost causation; they
5 have been well vetted over the past several decades and repeatedly found to produce rates
6 that are just and reasonable and fully compensatory to the utility.

7 **Q: WHAT RATES WOULD BE JUST AND REASONABLE FOR THIRD-PARTY**
8 **ATTACHMENT TO AVECC'S POLES?**

9 A: Table 1 on the following page presents the results of my rate calculations using data for
10 the year ending 2008. These calculations adhere to the FCC cable and telecom
11 methodology in the manner described above. The rates shown in Table 1 for the Telecom
12 rate are based on the FCC presumptive number of attaching entities for a rural area,
13 which in my opinion is the appropriate number to apply.³⁵ Supporting calculations are
14 presented in Attachment C to this testimony. In my opinion, rates set higher than the rates
15 I have calculated and identified in Table 1 are inconsistent with the just and reasonable
16 standard set forth in Act 740. Rates higher than these would fail to serve the ultimate
17 purposes of effective pole rate regulation, which historically has been, and continues to
18 be, about protecting cable operators and other third-party attachers from excessive
19 monopoly rates imposed by pole-owning utilities.

currently charging Cox) as compared with the \$24 rate sought by the utility. *See* Indiana Utility Regulatory Commission, Cause No. 42755, at 18.

³⁵ For comparison purposes, I have also calculated rates based on the FCC presumptive number of attaching entities for an urban area (5 entities), which as explained in this testimony, could be justified based on FCC rules. I have also calculated a rate based on the number of attaching entities identified by AVECC in discovery (2 entities), although in my opinion, that number is not properly supported. Those rates are respectively, \$5.00 (for 5 attaching entities), and \$10.71 (for 2 attaching entities).

Table 1 Maximum Just and Reasonable AVECC Pole Rental Rates Under FCC Cable and Telecom Formula		
	Cable Rate	Telecom Rate (3 entities)
Net Inv. Per Bare Pole	\$237.57	\$237.57
x Carrying Charges	18.78%	18.78%
x Space Factor	7.41%	16.89%
=Maximum Rate	\$3.30	\$7.54

1 **Q. SHOULD A POLE RATE FORMULA BE ADOPTED AT THE LEVEL OF THE**
2 **FCC FORMULA?**

3 A. Yes. When viewed correctly as *the standard* by which the pole attachment rate will
4 be set, and not a level *below* which the rate will fall, in my opinion, there are compelling
5 economic and public policy reasons to adopt a pole rate formula at the level of the FCC
6 cable rate - and certainly no higher than the existing FCC telecom rate - both of, which as
7 mentioned above, have been found to provide for just compensation. As discussed
8 previously in my testimony, these include wide-ranging benefits to consumers in the form
9 of lower prices, greater choices among new and innovative broadband services, and
10 enhanced productivity and economic development opportunities associated with the
11 efficient pricing of pole attachment rates.

12 The benefits of lower pole rates, and the direct connection between lower pole rates and
13 the goal of broadband deployment - and related to that, the need to better “harmonize” the
14 telecom rate so that it is “as close as possible to the [lower] cable rate, particularly as it

1 relates to rural areas - are all key points found in the recommendations made by the FCC
2 in its just-released National Broadband Plan.³⁶

3 **Q. HOW CAN YOUR PROPOSED RATE BE JUST AND REASONABLE IF IT IS**
4 **LOWER THAN RATE LEVELS PREVIOUSLY NEGOTIATED BETWEEN THE**
5 **UTILITY AND CABLE COMPANY, OR BELOW BENCHMARK RATES SET**
6 **BY OTHER POLE OWNERS?**

7 A. That the rate levels produced by the FCC cable rate formula (and to a lesser extent the
8 FCC telecom formula) as shown in Table 1 are lower than the rate levels previously
9 “negotiated” between the utility and cable company, or “benchmark” rates set by other
10 monopoly pole owners, is not a valid economic or public policy concern. First, the FCC
11 formula rate is cost-based, subsidy-free, and fully compensatory to the utility. Second,
12 the latter rates do not reflect “free market” rates at all. Rather, they reflect prices set in a
13 grossly unbalanced market environment where the pole owner, regardless of its size, has
14 an inordinate amount of leverage over third-party attachers, and where, if unchecked by
15 effective pole regulation, can impose excessive monopoly rate.

³⁶ See FCC National Broadband Plan at 110 (“To support the goal of broadband deployment, rates for pole attachments should be as low and as close to uniform as possible. The rate formula for cable providers as articulated in Section 224(d) has been in place for 31 years and is “just and reasonable” and fully compensatory for utilities. Through a rulemaking, the FCC should revisit its application of the telecommunications carrier rate formula to yield rates as close as possible to the cable rate.”); *see also id.* (“The impact of these rates can be particularly acute in rural areas, where there often are more poles per mile than households.... If the lower rates were applied, and if the cost differential in excess of \$8 per month were passed on to consumers, the typical monthly price of broadband for some rural consumers could fall materially. That could have the added effect of generating an increase – possibly a significant increase – in rural broadband adoption.”).

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: March 17, 2010

Patricia D. Kravtin

Attachment A

Patricia D. Kravtin

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Swampscott, MA 01907
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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–Present Independent Consulting Swampscott, MA

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

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, 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; and access to pole attachments 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 numerous industry reports and papers on topics including market structure and competition, alternative forms of regulation, patterns of investment, telecommunications modernization, and broadband deployment (see listing of Reports and Studies).
- Invited speaker before various national organizations, state legislative committees and participant in industry symposiums.
- Grant Reviewer for 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 related to allocation of frequency spectrum (Federal Communications Commission).
- Performed financial and statistical analysis of 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)

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 the California Association of Competitive Telecommunications Companies (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-Term 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, evidence 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

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.

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 submitted September 18, 2009, Reply Report submitted October 16, 2009.

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 filed March 31, 2006, Deposition March 15, 2006, Cross-Examination 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 (jointly with 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 December 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 filed 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 filed January 23, 2002; Rebuttal Testimony filed 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 December 7, 2001, Rebuttal Expert Report filed December 20, 2001, Deposition January 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 September 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 October 9, 1998, cross-examination 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.93-04-002AT&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 February 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 February 10, 1994.

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

1992

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

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

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

1991

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

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

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

1990

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

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

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

1989

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

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

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

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

1988

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

1987

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.

1986-1982

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

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).

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

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.

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.

Attachment B

Description of the Net Bare Pole Costs and the Carrying Charge Factor Components under the FCC Pole Rate Formula Methodology

Net Bare Pole Cost:

The net bare pole cost is calculated in the following four steps: First, the utility's *gross* investment in pole cost is determined based on amounts reported in the utility's books of account in Account 364 ("Poles, Towers and Fixtures").³⁷ 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 (presumed to be 15% in the case of electric utilities) to remove amounts booked to Account 364 for "appurtenances," such as cross-arms, 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. As discussed in my testimony, because AVECC, as a non-profit entity, is not subject to income taxes, there are no accumulated deferred income taxes to deduct in the calculation of a net investment figure.

³⁷ Account 364 for poles is one of the detailed plant accounts that comprise the utility's primary general ledger Account 101 (Electric Plant in Service) under FERC uniform accounting rules. Although as a non-profit consumer-owned utility, AVECC is not required to file Form 1 reports with FERC, it is my understanding from reviewing documents obtained in discovery that AVECC keeps accounting data consistent with the FERC accounting system.

1 **Carrying Charge Factor (CCF)**

2 The carrying charge factor (CCF) is used to convert the net cost per bare pole figure into
3 an annual rental amount. The carrying charge factor is comprised of the sum of five
4 different expense factors including maintenance, depreciation, administrative, taxes, and
5 overall rate of return, each expressed as a percentage of expense to net plant in service.

6 The appropriate net plant in service figure used to calculate the various elements of the
7 CCF will depend on the level of aggregation with which the relevant expense data used in
8 the numerator of the calculation is tracked in the FERC reporting system or utility books
9 of account. The important principle to follow is one of consistency between the level of
10 aggregation of the expense data and the level of aggregation of the net plant investment
11 figure. Once calculated, these five expense elements are then summed together prior to
12 being multiplied against the net cost per bare pole component. For example, if the
13 carrying charge calculations yield 5% for each of the five elements, the overall carrying
14 charge factor would be 25%.

15 *Administrative Element:* Expenses relating to this element of the CCF are tracked in the
16 FERC Form 1 at the aggregate level of electric plant in service. Accordingly, for this
17 element, under the FCC formula, the CCF is calculated by taking the relevant expense
18 account figures per FERC Form 1 (Accounts 920-931, 935)³⁸ and dividing them by net

³⁸ In reality, there are many costs contained within the identified accounts that are not related to pole attachment, and that the utility should not be allowed to recover from attachers based on fundamental economic principles of cost causation, but are nevertheless included in the FCC formula to minimize the costs of regulation, i.e., so that the FCC does not have to monitor whether the proper costs are “backed out” of a particular FERC or ARMIS account (in the case of a telephone company). These expenses booked to Accounts 920 (administrative and general salaries, including officer salaries), 921 (office supplies and expenses) including telephone and court-related expenses, 923 (outside services employed) including attorney fees and audit expenses, 926 (employee pensions and benefits) including health insurance related expenses, and 930 (miscellaneous general expenses) including general advertising, bank service fees, and association dues.

1 plant in service for total electric plant (i.e., gross electric plant less accumulated
2 depreciation less accumulated deferred taxes for total electric plant).

3 *Taxes Element:* Expenses relating to this element of the CCF are tracked in the FERC
4 Form 1 at the aggregate level of total plant in service. Accordingly, for this element,
5 under the FCC formula, the CCF is calculated by taking the relevant expense account
6 figures per FERC Form 1 (Accounts 408-411³⁹) and dividing them by net utility plant in
7 service (i.e., total gross utility plant less accumulated depreciation less accumulated
8 deferred taxes for total plant). As discussed in my testimony, because AVECC, as a non-
9 profit entity, is not subject to income taxes, substitutions of tax accounts relevant to
10 AVECC is appropriate in applying the FCC cable formula to calculate a maximum pole
11 rate applicable to AVECC.

12 *Maintenance Element:* Expenses relating to this element of the CCF are tracked at a more
13 granular level in Account 593 (“Maintenance of Overhead Lines”), associated with the
14 following three distribution plant in service accounts: Account 364 (“Poles, Towers, and
15 Fixtures”), 365 (“Overhead conductors and devices”) and 369 (“Services”).⁴⁰
16 Accordingly, the CCF for this element is calculated by dividing the amount of
17 maintenance expense recorded in Account 593 by the net plant in service associated with
18 each of these three individual accounts. In the FERC Form 1, accumulated depreciation
19 is not tracked at the level of detailed plant accounts such as Accounts 364, 365, and 369.

³⁹Account 411.1 is a credit income account relating to deferred income taxes, which offsets the current year’s tax expense. Under accounting rules, the amount in this account must be subtracted when summing the various tax debit accounts.

⁴⁰ Unlike the comparable FCC ARMIS reporting system for telephone utilities, the FERC Account 593 does not separately track pole and line-related maintenance expenses. As a result, Account 593 includes a number of non-pole related expenses that from a cost-based or economic efficiency perspective would be removed if data readily existed to do so.

1 Accordingly, under the FCC methodology, accumulated depreciation is prorated to these
2 accounts by multiplying the aggregate accumulated depreciation figure for electric plant
3 by the ratio of gross plant in service for each of the respective individual accounts to
4 gross electric plant.

5 *Depreciation Element:* The CCF for depreciation is based on the prescribed depreciation
6 rate for pole plant. Because that rate applies to *gross* investment, and the other elements
7 of the CCF are expressed on a *net* plant basis, it is necessary to multiply the depreciation
8 rate for pole plant by the ratio of gross pole investment (Account 364) to the calculated
9 net pole investment, to determine the depreciation expense.

10 *Return Element:* This component allows the utility to recover a normal or fair
11 (economic) return on overall capital (including both equity and debt components) from
12 third-party attachers over and above the recovery of actual pole related costs. The FCC
13 methodology uses the most current state authorized overall rate of return for an investor-
14 owned utility. Where none is available, an FCC default rate of return may be used. As
15 discussed in my testimony, because AVECC, as a non-profit entity, is not subject to rate
16 of return regulation, it is necessary and appropriate to substitute an effective “rate of
17 return” based on AVECC’s recorded interest expenses and an imputed return on retained
18 earnings in lieu of an allowed rate of return set by a regulatory commission or the FCC
19 default in applying the FCC cable formula to calculate a maximum pole rate applicable to
20 AVECC.

Attachment C

CALCULATION OF MAXIMUM POLE ATTACHMENT RATES UNDER FCC FORMULA

DATA FOR YR ENDING

2008

Arkansas Valley Electric Cooperative Corporation

Net Investment Per Bare Pole

Investment in Pole Plant	\$56,167,319.00
- Depreciation Reserve for Poles	\$15,970,795.00
- Accumulated Deferred Taxes	\$0.00
Net Investment in Pole Plant	\$40,196,524.00
- Investment in Appurtenances	\$6,029,478.60
Investment in Bare Pole Plant	\$34,167,045.40
/ Number of Poles - Equivalent	\$143,820.00
Net Investment per Bare Pole	\$237.57

Carrying Charges

Maintenance

Maintenance Expenses	\$5,882,335.00
/ Net Investment in 364,365,369	\$88,938,979.00
= Maintenance Carrying Charge	6.61%

Depreciation

Annual Depreciation Rate for Poles	3.10%
Gross Investment in Pole Plant	\$56,167,319.00
Net Investment in Pole Plant	\$40,196,524.00
Gross Net Adjustment	139.73%
Deprec Rate Applied to Net Pole Plant	4.33%

Administrative

Administrative Expenses	\$2,980,684.00
Total Plant--Electric	\$236,081,417.00
- Depreciation Reserve--Total	\$69,268,930.00
- Accumulated Deferred Taxes--Total	\$0.00
Net Plant in Service	\$166,812,487.00
Administrative Carrying Charge	1.79%

Taxes

Normalized Tax Expense	\$1,312,293.00
Total Plant	\$236,081,417.00
- Depreciation Reserve	\$48,746,888.00
- Accumulated Deferred Taxes	\$0.00
Net Plant in Service	\$187,334,529.00
Tax Carrying Charge	0.70%

Return	5.35%
Total Carrying Charges	18.78%

Cost Allocator - Cable

Space Occupied by Cable	1
/ Total Usable Space	13.5
= Space Allocation Factor	7.41%

Maximum Rate - Cable

Investment Per Bare Pole	\$237.57
*Carrying Charges	18.78%
*Charge Factor	7.41%

= MAXIMUM CABLE RATE SOLELY OWNED POLE **\$3.30**

Cost Allocator - Telecom

Space Allocated to Telecom	6.33
/Total Pole Space	37.50
=Space Allocator Factor	16.89%

Maximum Rate - Telecom

Investment Per Bare Pole	\$237.57
*Carrying Charges	18.78%
*Charge Factor	16.89%

=MAXIMUM TELECOM RATE **\$7.54**

Derivation of Space Allocated to Telecom Sec. 224(e)

Amount of Unusable Space	24.00
*Statutory Apportionment Factor (2/3)	0.67
=Space To Be Allocated	16.00
/ Entities	3.00
= Feet of Unusable Space To Be Allocated	5.33
+ Usable Space	1.00
= Total Space To Be Allocated	6.33
/ Total Pole Space	37.50
= Allocation Telecom Rate Space Allocation Factor	16.89%

DATA ENTRY AND SOURCE

Gross Investment in Total Plant	\$236,081,417.00	Cox-00029
Accumulated Prov for Deprec.--Total	\$69,268,930.00	Cox-00029
Gross Investment in 364	\$56,167,319.00	Cox-00029
Gross Investment in 365	\$48,746,888.00	Cox-00029
Gross Investment in 369	<u>\$19,362,867.00</u>	Cox-00029

Sum 364,365,369	\$124,277,074.00	sum
Depreciation Reserve for 364	\$15,970,795.00	Cox-00029
Depreciation Reserve for 365	\$13,863,036.00	Cox-00029
Depreciation Reserve for 369	<u>\$5,504,264.00</u>	Cox-00029
Sum 364,365,369	\$35,338,095.00	sum
Depreciation Rate for Poles	3.10%	Cox-000030
Maintenance Overhead Lines	\$5,882,335.00	Cox-00029
Total Administrative Expenses	\$2,980,684.00	Cox-00029
Taxes	\$1,312,293.00	Cox-00029
Overall Rate of Return	5.35%	Derived
Number of Poles	143,820	Cox-000029
Avg Joint Use Pole Height	37.5	FCC
Percentage Reduction Appurtenances	0.15	FCC

Derivation of Rate of Return for Non-Profit Utility

Long Term Debt Cost	5.29%	calculated
Patronage Capital	\$61,190,945.00	cox-00022
Cost of Equity Capital	\$3,235,403.65	calculated
Interest on Long Term Debt	<u>\$5,685,376.00</u>	cox-00025
Total Debt and Equity Cost	\$8,920,779.65	sum
Total Net Plant	\$166,812,487.00	cox-00029
Overall Return	5.35%	Calculated
Long Term Debt	\$107,527,087	cox-00022

Calculation of Telecom Rate Using Different Number of Attaching Entities

Cost Allocator - Telecom

Space Allocated to Telecom	4.20	9.00
/Total Pole Space	37.50	37.50
=Space Allocator Factor	11.20%	24.00%

Maximum Rate - Telecom

Investment Per Bare Pole	\$237.57	\$237.57
*Carrying Charges	18.78%	18.78%
*Charge Factor	11.20%	24.00%
=MAXIMUM TELECOM RATE	\$5.00	\$10.71

Derivation of Space Allocated to Telecom Sec. 224(e)

Amount of Unusable Space	24.00	24.00
*Statutory Apportionment Factor (2/3)	0.67	0.67
=Space To Be Allocated	16.00	16.00
/ Entities	5.00	2.00
= Feet of Unusable Space To Be Allocated	3.20	8.00
+ Usable Space	1.00	1.00
= Total Space To Be Allocated	4.20	9.00
/ Total Pole Space	37.50	37.50
= Allocation Telecom Rate Space Allocation Factor	11.20%	24.00%

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing has been served on all parties of record via first-class mail, hand delivery, facsimile, or electronically this 17th day of March, 2010.

Respectfully submitted,

By: _____

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