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October 16, 2017

J. L. Jarvis
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603 – 5918

Re: Direct Testimony and Exhibits of Wilfred Arnett, NCUC Docket No. EC-23, Sub 50

Dear Ms. Jarvis:

Enclosed herewith, for filing on behalf of Blue Ridge Electric Membership Corporation, please find the Direct Testimony of Wilfred Arnett. Should you have any questions or comments, please do not hesitate to call me. Thank you in advance for your assistance and cooperation.

Regards,

/s Charlotte Mitchell

4815-1013-4589, v. 1

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. EC-23, Sub 50

BLUE RIDGE ELECTRIC MEMBERSHIP
CORPORATION,

          Complainant,
     v.
CHARTER COMMUNICATIONS
PROPERTIES LLC,
          Respondent.

DIRECT TESTIMONY
OF
WILFRED ARNETT

DIRECT TESTIMONY
OF
WILFRED ARNETT

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Exhibits

Exhibit No.	Description
WA-14	Rental Formula Space Allocation
WA-15	APPA Pole Attachment Workbook
WA-16	NRECA JU Toolkit
WA-17	ATT-VZ 2008 ex parte
WA-18.1	Arkansas PSC Order (6-24-2016) Part 1
WA-18.2	Arkansas PSC Order (6-24-2016) Part 2
WA-19	NC UC Mission Statement
WA-20	NC Co-Op Enabling Statute
WA-21	FCC Report on CATV Prices 12-27-2006
WA-22	AT&T OSP Engineering Handbook - Buried Plant
WA-23	S. Rep. No. 95-580

DIRECT TESTIMONY
OF
WILFRED ARNETT

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5 **I.   BACKGROUND AND EXPERIENCE**

6 **Q.   PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND**

7   **POSITION.**

8 A.   My name is Wilfred ("Wil") Arnett. I am currently a Director at TRC

9   Engineers, Inc., located at 6095 Professional Parkway, Suite 102-B,

10   Douglasville, Georgia 30134.

11 **Q.   PLEASE DESCRIBE TRC.**

12 A.   TRC is a national engineering, consulting and construction management firm

13   providing integrated services to the power, oil and gas, environmental and

14   infrastructure markets. I manage a portion of TRC that specializes in joint use

15   and pole attachment consulting services to investor-owned electric utilities

16   ("IOUs"), electric cooperatives and municipally-owned power providers. Our

17   clients range from very small municipal and cooperative power providers to

18   regionally owned IOUs serving millions of customers. As Director - Joint

19   Use Services at TRC, I provide advice regarding pole attachment issues, pole

20   attachment rate calculations, contract interpretation, contract negotiation

21   assistance, rights of way assistance, and various other consulting services.

22   TRC also provides engineering design, inspection, outside plant construction

23   management and rights of way services to IOUs, electric transmission

24   companies, electric cooperatives, municipal power providers and

25   communications companies, throughout the entire USA.

1 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND AND**

2 **EXPERIENCE.**

3 A. My experience in joint use and pole attachment issues spans almost 51 years.

4 I spent 30 of those years working on such issues for BellSouth, an Incumbent

5 Local Exchange Carrier ("ILEC") headquartered in Atlanta. I spent 17 years

6 in BellSouth's Engineering Department, performing and managing all aspects

7 of outside plant engineering. I spent 12 years in headquarters positions, both

8 at the state and company levels. I managed joint use, right of way, and

9 engineering contracts for BellSouth's North Sector (Georgia, South Carolina

10 and North Carolina) from 1987 until 1995. I concluded my career with

11 BellSouth in the BellSouth Entertainment/BellSouth Broadband groups, with

12 the mission of re-entry into the cable television business in BellSouth's 9-state

13 area. Upon retirement from BellSouth in 1996, I became involved in

14 consulting on joint use matters. In that capacity, I have for the last 21 years

15 supported Investor-Owned Utilities, Municipally-Owned Utilities, and

16 Electric Coops with design, inspection, and joint use services. I am well

17 experienced in joint use and pole attachment matters, including, but not

18 limited to, operational matters, design of traditional ILEC facilities, and the

19 evolution of joint use rate methodologies. A complete list of my work record

20 is attached as <u>WA Exhibit No. 1</u>.

21

1 **II.** **SUMMARY**

2 **Q.** **FOR WHOM ARE YOU TESTIFYING IN THESE PROCEEDINGS?**

3 A. Blue Ridge Electric Membership Corporation ("Blue Ridge").

4 **Q.** **WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**

5 **PROCEEDING?**

6 **A**. The purpose of this testimony is to identify the just and reasonable rate for

7 Blue Ridge to charge Charter Communications Properties, LLC, ("Charter")

8 for attachments of its facilities to Blue Ridge's distribution poles.

9 **Q.** **PLEASE SUMMARIZE YOUR CONCLUSIONS**.

10 A. The rate formula recently adopted in 2016 by the Tennessee Valley Authority

11 ("TVA"), described below, should be used by the Commission to determine

12 the rate for Blue Ridge to charge Charter for attachments to Blue Ridge's

13 distribution poles. The TVA formula properly allocates the annual costs of

14 utility poles between electric cooperatives and attachers, such as Charter,

15 based on a true understanding of the amount of space on the distribution poles

16 they actually use. For instance, the TVA formula allocates the costs

17 associated with the so-called "support space" on the pole (the portion used to

18 achieve ground clearance), equally among all attaching entities, because all

19 attachers require a pole that is a certain number of feet off the ground and

20 therefore benefit equally from this space. As a result, the TVA formula

21 ensures electric rate payers do not subsidize communications attachers'

22 businesses.

1   The rate calculations attached hereto as <u>WA Exhibit Nos. 2.1, 2.2, and 2.3</u>

2   reflect the proper calculation of Blue Ridge's annual distribution pole costs

3   for years 2014, 2015 and 2016, respectively, and an appropriate allocation of

4   those costs for each of those years based upon the TVA formula.

5 **III.** **THE TVA RATE FORMULA**

6 **Q.** **WHAT IS THE PROPER FORMULA TO DETERMINE A JUST AND**

7   **REASONABLE RATE FOR ATTACHMENTS TO BLUE RIDGE'S**

8   **DISTRIBUTION POLES?**

9 A.   The proper formula to calculate a just and reasonable rate for attachments to

10   Blue Ridge's distribution poles is the formula adopted by the TVA in

11   February of 2016 for approximately 165 electric cooperatives and

12   municipally-owned utilities that it regulates. A copy of the TVA Board's

13   February 2016 resolution is attached at <u>WA Exhibit No. 3</u>. It is marked

14   "Proposed Board Resolution" and "TVA Restricted Information –

15   Confidential and Business Sensitive," but is available publically at:

16   <u>https://www.tva.gov/About-TVA/Guidelines-and-Reports</u> (scroll down to

17   "Legal Reports").

18 **Q.** **WHY IS IT PROPER TO USE TVA'S RATE FORMULA RATHER**

19   **THAN THE FCC CABLE FORMULA CHARTER HAS PROPOSED?**

20 A.   TVA's decision regarding pole attachment rates is a federal decision far more

21   relevant than any Federal Communications Commission ("FCC") decision

22   because the FCC has no jurisdiction over attachments to electric cooperative

1   poles and so its decisions do not affect electric cooperatives anywhere, much

2   less in North Carolina.

3   TVA is a corporate agency of the United States operating in seven

4   southeastern states, including North Carolina. TVA is the exclusive rate

5   regulator for electric cooperatives that distribute TVA power, and has

6   jurisdiction over three electric cooperatives and one municipally-owned

7   system, serving North Carolina, (Blue Ridge Mountain Electric Membership

8   Corp., Tri-State Membership Corp., Mountain Electric Cooperative, and the

9   City of Murphy).

10   Further, TVA's guidance is consistent with Rural Electrification

11   Administration ("REA") policies originating with the dawn of joint use

12   between electric coops and communications companies. Specifically, REA

13   stated "…even though power system poles are already in place and can

14   accommodate telephone facilities with little, if any, extra cost, telephone

15   companies should be required to make payments representing their fair share

16   of the costs of the poles so that saving can accrue to the consumers of

17   electricity as well as to the telephone subscribers. In other words, the power

18   consumers should not be asked to subsidize telephone subscribers." (*See* <u>WA</u>

19   <u>Exhibit No. 4,</u> at p. 2). As explained in TVA's decision attached at <u>WA</u>

20   <u>Exhibit No. 3</u>, TVA's pole attachment rate formula was approved to ensure

21   electric cooperatives are "appropriately compensated for the use of electric

22   system assets," and that "failure to do so will have a direct impact on retail

23   electric rates because electric ratepayers will be forced to subsidize the

1   business activities of those entities that are utilizing electric system assets."

2   (WA Exhibit No. 3, at Attachment A, p. 1, Determination By TVA Board).

3   The TVA decision explains very carefully the formula it adopted, including a

4   diagram of a pole indicating which space on the pole each attaching entity

5   should pay for. TVA adopted this formula only after considering, fully

6   analyzing, and rejecting the FCC formula.

7 **Q.   DID TVA FULLY CONSIDER THE FCC FORMULA BEFORE**

8   **ADOPTING ITS OWN RATE FORMULA?**

9 A.   Yes. After reviewing the FCC's rate formulas and the FCC's rationale,

10   TVA's Regulatory Staff determined that "because the FCC formulas are

11   designed to further the policy goal of encouraging broadband investment,

12   particularly in rural areas, they do not appropriately compensate the electric

13   utility for the attachment." WA Exhibit No. 3, at Attachment B, p. 1.

14   However, the TVA, like electric cooperatives and this Commission,

15   recognized that it is "charged with keeping electric rates as low as feasible,

16   and ensuring that electric ratepayers do not subsidize other business activities

17   is important in achieving this objective." WA Exhibit No. 3, at Attachment B,

18   p. 1. Accordingly, it found the FCC formula insufficient to fully compensate

19   cooperatives for communication attachers' use of their poles.

20 **Q.   PLEASE DESCRIBE THE RATE CALCULATION APPROVED BY**

21   **TVA.**

22 A.   Like the pole attachment rate calculations used by FCC, the TVA formula

23   calculates an attachment rate for distribution poles by multiplying three

1   factors: (i) net cost of a bare distribution pole; (ii) carrying charges; and (iii)

2   the space allocation percentage (*i.e.*, the percentage of the total pole costs to

3   be paid for by the attacher). TVA's rate calculation uses the same net cost of

4   a bare distribution pole and carrying charge calculations used by the FCC,

5   except that TVA specifies an average 3-year maintenance cost and further

6   specifies an 8.5% rate of return on investment for purposes of calculating the

7   carrying charges. The FCC currently presumes a 10.75% rate of return.

8   Those distinctions aside, the principal difference between the TVA and FCC

9   formulas arises from TVA's regulatory philosophy that (a) the parties

10   benefitting from the various sections of the pole should be responsible for

11   those costs, and (b) where multiple parties derive benefit, those respective

12   costs should be shared equally. In other words, while the "annual carrying

13   charge" calculations are the same, the way those costs are allocated among the

14   attaching entities differs.

15   **Q.   DOES THE TVA RATE PROVIDE FOR A PER POLE, OR PER**

16   **ATTACHMENT, RENTAL RATE?**

17   A.   The TVA rate method provides for a "maximum rate per pole," instead of a

18   "per attachment" rate. Like the FCC formulas, TVA provides for a rebuttable

19   presumption of one foot occupied by a third-party attacher.

20   **Q.   HOW DO THE TVA AND FCC FORMULAS DIVIDE THE POLE FOR**

21   **PURPOSES OF DETERMINING THE SPACE ALLOCATION?**

22   A.   While the TVA formula allows for the use of actual figures, both the TVA and

23   FCC formulas start with the presumption that a pole is 37.5 feet tall, and that

1   if there are three attachers (the electric utility, a cable company, and a

2   telephone company), the pole should be divided as follows:

3   • "Support Space" (Presumed to be 24 feet) – The lower portion of the

4   pole, including (a) that portion which is buried, and (b) the portion that

5   is necessary to provide sufficient clearance above the ground for

6   attachers' facilities. Those portions are presumed to be 6' and 18',

7   respectively.

8   • "Usable Space" (Presumed to be 13.5 feet) – The upper portion of the

9   pole, above the minimum point of attachment required by the NESC or

10   regulatory authorities for minimum ground clearance, to which electric

11   utilities and communication service providers may attach their lines.

12   Assuming there are three attachers—an electrical utility, a cable

13   provider, and a telephone provider—this "Usable Space" is presumed

14   (illustrated in TVA's documentation) to be subdivided as follows:

15   o Electrical "Supply Space" (7.17 feet) – The space in which the

16   electric utility may attach its lines, transformers, and other

17   facilities.

18   o "Communications Worker Safety Zone" (3.33 feet) – A forty-

19   inch clearance zone which between any communications and

20   electrical facilities, required by the NESC to protect

21   communications workers from contact with a utility's

22   electrical facilities.

1   o <u>Cable (one foot)</u> – One foot allocated to the cable provider's

2   attachment.

3   o <u>Telephone (two feet)</u> – Two feet allocated to the telephone

4   provider's attachment.

5   Figure 1, below, is a diagram of a pole showing this division:
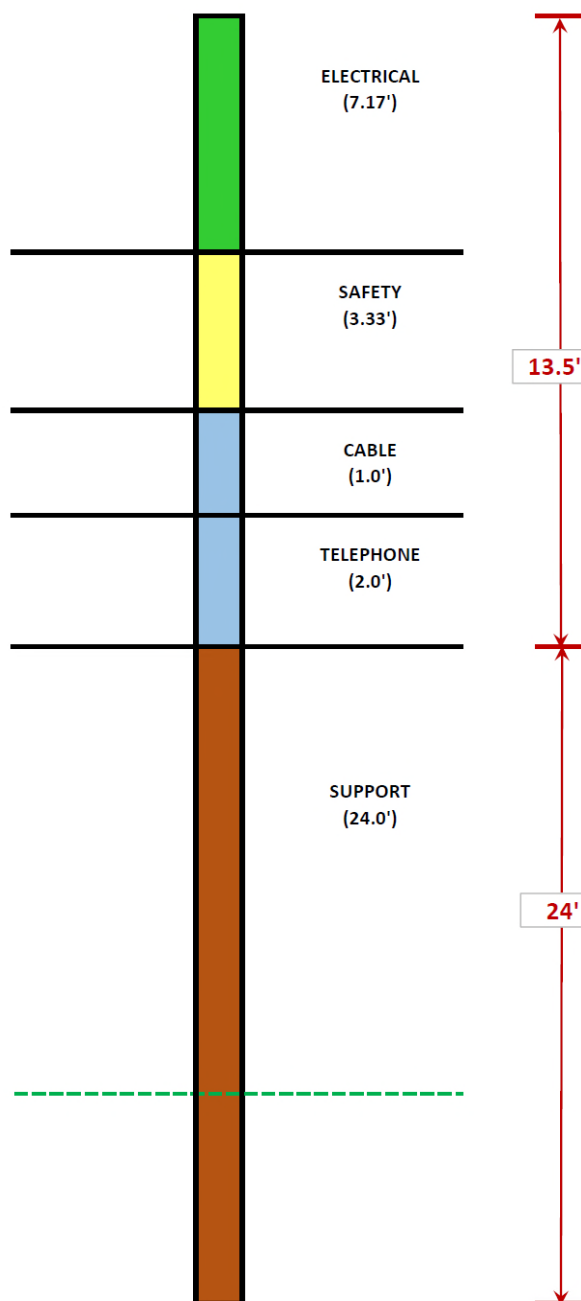
6

1

Figure 1

2

(Assumed Division of Space on Pole Under TVA and FCC Formulas)

ELECTRICAL
(7.17')

SAFETY
(3.33')

CABLE
(1.0')

TELEPHONE
(2.0')

SUPPORT
(24.0')

13.5'

24'

3

4

1 **Q. HOW DOES TVA'S SPACE ALLOCATION PERCENTAGE DIFFER**

2 **FROM THE FCC'S SPACE ALLOCATION PERCENTAGE?**

3 A. TVA recognizes that certain portions of the pole are of equal benefit to all

4 attaching parties. Specifically, all attaching entities require, and derive equal

5 benefit from, the "Support Space"—the portion of the pole in the ground and

6 the portion of the pole necessary to provide for the minimum ground clearance

7 required by state or local law and the National Electrical Safety Code

8 ("NESC"). The TVA formula therefore apportions the costs associated with

9 the Support Space equally among all attaching entities, including the pole

10 owner. Under the FCC's Telecom rate formula, however, only two-thirds of

11 the Support Space is allocated equally among all attachers, which includes the

12 pole owner. The remaining one-third of the Support Space is then allocated

13 entirely to the pole owner as well. In essence, the FCC Telecom rate formula

14 implies that the power company pole-owner has a greater need for ground

15 clearance than the attaching communications companies. Obviously, this is

16 not the case.

17 Under the FCC's Cable rate formula, which Charter has proposed in this

18 matter, only 7.4% of the Support Space is allocated to the cable attacher, even

19 though all attachers require, and benefit equally from, that space. The result is

20 that on Blue Ridge poles with one foreign attaching entity, such as Charter,

21 Blue Ridge would be responsible for the remaining 92.6% of the costs

22 associated with the common space. Figure 2, below, is a comparison showing

23 how the TVA and FCC Cable Rate allocate space on the pole.

1

Figure 2

(Comparison of Space Allocated to Cable Attacher

Under TVA Formula and FCC Cable Rate)

5
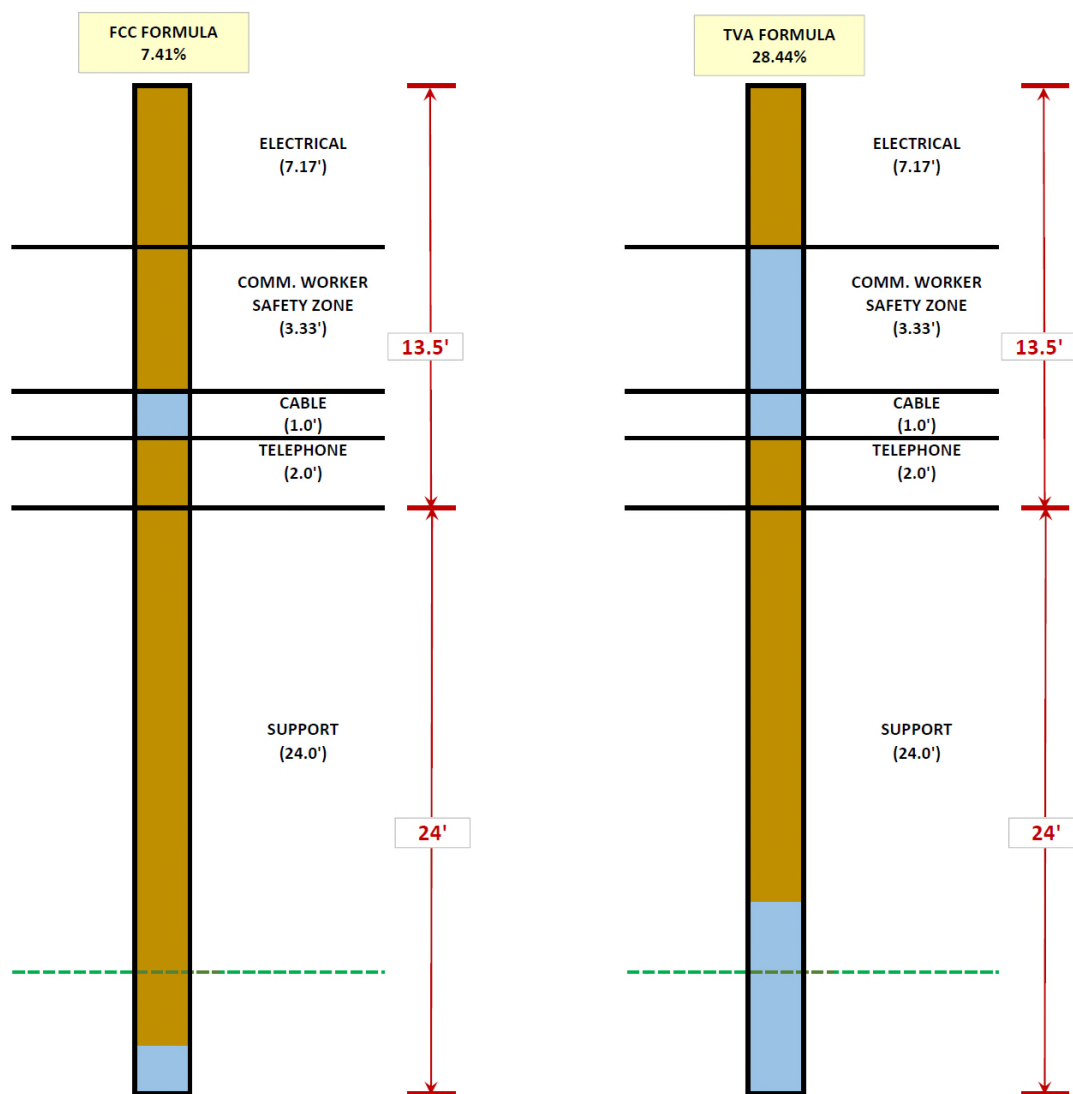
6 **Q. IS THIS EQUAL ALLOCATION OF 100% OF THE COMMON**

7 **("UNUSABLE") SPACE COSTS FAIR AND REASONABLE?**

1   **A.**   Yes. All attaching entities benefit equally from the Support Space on the pole

2   and therefore should pay an equal share of those costs. All attaching entities

3   need the pole 6' below ground (for stability) and need their facilities at least

4   18' above ground (for NESC compliance and public safety). In addition, all

5   attachers use the common space to (a) install their cable "risers" (transitions

6   between overhead and underground cable facilities), (b) as "climbing space"

7   for workmen to reach aerial facilities to install new services and for

8   maintenance of existing facilities, and (c) to install hardware such as power

9   supplies, terminals, crossboxes / interfaces, meters, telephone load coils and

10   capacitors, aerial to buried service wires, etc.

11   **Q.**   **HOW ELSE DOES TVA'S SPACE ALLOCATION PERCENTAGE**

12   **DIFFER FROM THE FCC'S SPACE ALLOCATION PERCENTAGE?**

13   A.   TVA and the FCC differ in how they allocate costs associated with 40-inch

14   Communications Worker Safety Zone, which is the 40-inch separation

15   between communications attachments and energized electric facilities

16   required by the NESC. The Communications Worker Safety Zone space

17   exists only to protect communications workers and would not be required if

18   there were no communications companies attached to the pole. Yet, despite

19   this, the FCC counts the Communications Worker Safety Zone as a portion of

20   the usable space, and thus allocates the costs of this space predominantly to

21   the electric utility. The TVA formula instead allocates costs associated with

22   the Communications Worker Safety Zone equally among, and solely to,

23   communications attachers.

1 **Q.** **DOES IT MAKE SENSE THAT TVA WOULD ALLOCATE COSTS**

2 **ASSOCIATED WITH THE 40-INCH SAFETY SPACE ONLY AMONG**

3 **COMMUNICATIONS ATTACHERS?**

4 A. Yes. It makes a lot of sense to allocate the costs associated with the 40-inch

5 Communications Worker Safety Zone to the communications attachers alone,

6 and not to the electric utility. The 40-inch safety space creates a 40-inch

7 separation between communications attachments and energized electric

8 facilities. The purpose of this space is to protect communications workers,

9 who are neither qualified, nor equipped, to work with energized conductors.

10 Power company workmen are trained and properly equipped to work in

11 hazardous voltages. They wear appropriate clothing, use appropriately

12 insulated tools, and operate out of insulated buckets on aerial lift vehicles.

13 The safety space would not be required, nor would it be provided on the pole,

14 but for the presence of communications attachments.

15 The Communications Worker Safety Zone therefore exists solely to protect

16 communications workers—*i.e*., the cable company's personnel. It would not

17 be necessary but for the presence of the communications attachments. That is

18 why the NESC calls the 40-inch safety space the "*Communications* Worker

19 Safety Zone." The costs associated with this space therefore should be

20 allocated to the communications attachers, not the electric utility.

21 **Q.** **HOW DO YOU RECONCILE THE INSTALLATION OF**

22 **STREETLIGHTS AND SECURITY LIGHTS IN THE**

23 **COMMUNICATIONS WORKER SAFETY ZONE AND ALLOCATING**

1   **THE COST OF THAT SPACE SOLELY TO THE**

2   **COMMUNICATIONS COMPANIES?**

3   A.   The purpose of the 40-inch Communications Worker Safety Zone is to protect

4   the communications worker from hazardous voltages. In order to comply with

5   the NESC, a pole must include this additional 40-inch space any time a

6   communications attachment is placed on the pole—even if it is merely a

7   service wire. The NESC also requires a separation of one foot (1') between

8   communications attachments. Thus, the presence of a single communications

9   attachment results in the cooperative having to install a pole that is at least 52

10   inches (4.33') taller than it would otherwise need.

11   It is true that the NESC permits utilities to install streetlights or other security

12   lights in the 40-inch space, but it also permits the installation of those lights in

13   the electric supply space, below communications attachments, or anywhere

14   else on the pole. In other words, even if there were no Communications

15   Worker Safety Zone, an electric cooperative could still install a streetlight

16   without having to install a taller pole. Put another way, a cooperative could

17   install shorter poles if there were no communications attachers and still install

18   streetlights. The only reason the cooperative has to install a pole that includes

19   the 40-inch Communications Worker Safety Zone, and is thus taller than it

20   otherwise needs, is that a communications attacher, like Charter, has attached

21   to its pole.

22   Perhaps more to the point, Blue Ridge does not have a practice of installing

23   streetlights in the Communications Worker Safety Zone. I understand that

1   Greg Booth, who is also testifying in this matter, reviewed a substantial

2   portion of the poles to which Charter has attached on Blue Ridge's system and

3   found that almost all of the streetlights on Blue Ridge's system are installed in

4   the electrical Supply Space. Thus, the mere fact that the NESC allows

5   streetlights to be installed anywhere on the pole, even though Blue Ridge does

6   not have a practice of installing lights in the Communications Worker Safety

7   Zone, should not alter the conclusion that the costs of the Communications

8   Worker Safety Zone should be allocated entirely to the communications

9   attachers.

10 **Q.** **HOW ARE COSTS ASSOCIATED WITH THE USABLE SPACE ON**

11   **THE POLE ALLOCATED BY TVA?**

12 **A.** Like the FCC, TVA presumes that the average pole height is 37.5 feet. Like

13   the FCC, TVA presumes that 24 feet of that pole is Support Space. The FCC

14   presumes that the remaining 13.5 feet, including the 40-inch Communications

15   Worker Safety Zone, is all "usable space" that should be apportioned equally

16   among all attaching entities, including the electric utility. As explained above,

17   TVA allocates costs associated with the 40-inch Safety Space entirely to

18   communications attachers, which leaves 10.17 feet of usable space. TVA and

19   the FCC then allocate the costs associated with these usable space figures

20   based on the amount of space each attacher is presumed to occupy. Both

21   formulas presume that cable companies' attachments use one foot (1') of

22   space. The TVA formula, however, treats this number as a rebuttable

23   presumption. Thus, Charter's rebuttable share of usable space costs under the

1   TVA formula is 1/10.17 (9.8%), and its share under both the FCC Cable

2   formula and the FCC Telecom formulas is 1/13.5 (7.4%).

3 **Q.   WHAT ARE THE SPACE FACTOR PERCENTAGES THAT THE TVA**

4 **FORMULA GENERATES?**

5 A.   Under TVA's formula, the percentage of total annual distribution pole costs

6   (for the entire pole) that a cable company attacher would pay on a pole with

7   three attaching entities (including the electric cooperative pole owner) is

8   28.44%. TVA's calculation resulting in 28.44% appears at <u>WA Exhibit No. 3</u>,

9   Attachment A, Appendix 2 (Pole Attachment Formula Example). This

10   presumes that each pole has three attaching entities (the electric utility, a

11   telephone company, and a cable company). It also uses a presumed pole

12   height of 37.5 feet and that the Support Space is 24 feet. The percentage,

13   however, can change, up or down, if the pole owner or attacher has data

14   sufficient to rebut any of these presumptions.

15 **Q.   HOW DOES THE SPACE FACTOR PERCENTAGE THAT THE TVA**

16 **FORMULA GENERATES CHANGE WHEN THE AVERAGE**

17 **NUMBER OF ATTACHING ENTITIES IS PROVEN TO BE**

18 **GREATER OR LESS THAN THREE?**

19 **A.**   Under the TVA formula, the percentage increases if the average number of

20   attaching entities is less than three, and it decreases if the average number of

21   attaching entities is greater than three.

22 **Q.   IS THAT CONSISTENT WITH THE FCC CABLE FORMULA?**

23 **A.**   Yes it is.

1 **IV. APPLICATION OF THE TVA FORMULA TO BLUE RIDGE**

2 **Q. YOU SAID THE TVA USES CERTAIN REBUTTABLE**

3 **PRESUMPTIONS. WHAT ARE THOSE REBUTTABLE**

4 **PRESUMPTIONS?**

5 **A.** The TVA formula uses several rebuttable presumptions. First, it presumes

6 there is an average of three attachers on the cooperative's poles (the

7 cooperative, a telephone company, and a cable company). Second, the TVA

8 formula assumes that the average height of a cooperative's distribution poles

9 is 37.5 feet. Third, it presumes that the cooperatives poles are spaced in such

10 a way that the first attacher will attach 18 feet off the ground, and that the in-

11 ground depth of the pole is 6 feet. Fourth, it presumes a "non-pole"

12 appurtenance factor of 15%. Finally, the TVA formula presumes that cable

13 companies' attachments occupy exactly one foot of space.

14 **Q. DOES BLUE RIDGE HAVE DATA SUFFICIENT TO REBUT THE**

15 **PRESUMPTION THAT THERE ARE THREE ATTACHING**

16 **ENTITIES ON ITS DISTRIBUTION POLES?**

17 A. Yes, it does. Blue Ridge completed an inventory of its entire system in 2016,

18 and the data necessary to calculate the average number of attaching entities to

19 its distribution poles is available from the inventory results. The average

20 number of attaching entities on Blue Ridge's system is 2.35. A spreadsheet

21 showing the calculation of the number of attaching entities is provided in WA

22 Exhibit No. 5.

1   **Q.**   **HOW DOES THAT CHANGE THE SPACE FACTOR PERCENTAGE**

2   **USING THE TVA FORMULA?**

3   A.   The average number of attaching entities is less than TVA's presumption of

4   3. Therefore allocations of cost associated with the common (or "unusable")

5   space, and the "Safety Space" are higher than under the presumption because

6   there are fewer entities sharing those total costs. As stated above, as the

7   average number of attaching entities decreases, the rental rate increases.

8   **Q.**   **HAVE YOU MADE ANY ADJUSTMENTS TO OTHER REBUTTABLE**

9   **PRESUMPTIONS EMBODIED IN THE TVA FORMULA TO**

10   **REFLECT ACTUAL DATA?**

11   A.   Yes, I have also used actual numbers for three other rebuttable presumptions

12   utilized by the TVA method. Specifically, I have used (1) the actual average

13   distribution pole height of 36.83', 36.85' and 36.87' for 2014, 2015 and 2016

14   respectively, (2) a "bare pole" or, appurtenance factor, of 87.0%, 87.29% and

15   87.41% for 2014, 2015, and 2016, respectively, and (3) an "occupied" space

16   allocation of 1.11' for Charter in all 3 periods.

17   **Q.**   **PLEASE EXPLAIN HOW YOU ARRIVED AT THE AVERAGE**

18   **DISTRIBUTION POLE HEIGHT?**

19   **A.**   Blue Ridge maintains, in its Continuing Property Records (CPRs), a running

20   balance of unique pole sizes and types, as well as the cumulative expenditures

21   for those surviving poles. By multiplying the number of poles at each unique

22   height by the specified height, summing the resulting "feet of distribution

23   poles", and finally dividing the total footage by the number of units, one

1   arrives at the average distribution pole height. See WA Exhibit No. 6 for the

2   above calculation for yearend 2016.

3 **Q.   COULD YOU ALSO EXPLAIN HOW YOU DETERMINED THE**

4 **APPURTENANCE FACTOR FOR BLUE RIDGE'S ACCOUNT 364?**

5 **A.** As stated above, Blue Ridge's CPRs maintain a running record of the number

6   of units and the related dollars in Account 364, which is the asset account for

7   "Poles, Towers and Fixtures." In addition to poles, Blue Ridge's CPRs track

8   other items of plant that are appropriately capitalized to Account 364 (See

9   WA Exhibit No. 7 – REA Uniform System of Accounts for Account 364). In

10   the rental formulas, only items in Account 364 that are of benefit to both

11   parties are included in the determination of "bare pole costs." The industry

12   assumes that 85% of Account 364 represents the average "bare pole cost," or

13   the appropriate pole costs exclusive of "appurtenances." FCC 87-209

14   explains that poles, anchors and guys are the appropriate items of plant to be

15   included in "bare pole costs" (*See* WA Exhibit No. 8). After (1) totaling the

16   dollar balances in the CPRs for "bare pole" items (poles, anchors and guys),

17   and (2) dividing the resulting number by the total capital $ in the account, the

18   actual appurtenance factor is derived. See WA Exhibit No. 9 for the Blue

19   Ridge 2016 calculations.

20 **Q.   AND PLEASE ALSO EXPLAIN YOUR CALCULATION OF**

21 **CHARTER'S "OCCUPIED" SPACE ALLOCATION OF 1.11 FEET**

22 **INSTEAD OF THE PRESUMED 1 FOOT?**

1   A.   The system inventory completed in 2016 captured not only the Blue Ridge

2   poles with Charter attachments, but also the number of Charter's attachments

3   on each pole. Charter is attached to 24,888 Blue Ridge poles with 27,674

4   attachments (*see* WA Exhibit No. 10), indicating an average of 1.11

5   attachments per pole. Based on the assumption that each attachment occupies

6   1 foot of space, Charter's average occupied space allocation is 1.11 feet.

7   **Q.**   **ARE THERE ANY OTHER ADJUSTMENTS MADE TO THE**

8   **ASSUMPTIONS USED IN THE TVA FORMULA?**

9   A.   Yes, because Blue Ridge's typical 257-foot span length—the system average

10   distance between poles—is longer than those used in the assumptions (which

11   is approximately 150 feet), attachers are required to attach higher on the pole

12   to ensure ground clearance in the middle of the span which is presumed to be

13   the point where maximum sag occurs. I have adjusted the Support Space to

14   reflect this.

15   **Q.**   **PLEASE EXPLAIN HOW YOU ARRIVED AT THE ADJUSTMENTS**

16   **TO BOTH THE COMMON SPACE AND ALLOCATED SPACE ON**

17   **BLUE RIDGE'S POLES.**

18   A.   I calculated the maximum sag under two different industry-standard methods:

19   (1) AT&T's Outside Plant Engineering Handbook, (*see* WA Exhibit No. 11 –

20   AT&T OSP Engineering Handbook – Section 10 - Aerial Plant), and (2) a

21   CATV industry-standard program known as "Spanmaster" which is available

22   online from CommScope, a manufacturer and suppliers of cable television

23   coaxial and fiber optic cables. The Spanmaster program which can be

1   downloaded from CommScope's website at the following web address:

2   http://www.commscope.com/resources/calculators.

3   **Q**.   **WHICH METHOD DID YOU DETERMINE TO BE MOST**

4   **APPROPRIATE?**

5   **A.**   Although the results under both methods were very similar, we selected the

6   CommScope Spanmaster program because necessary information was readily

7   available with respect to cable sizes and weights on the CommScope site.

8   Using the AT&T method required calculations of the average cable sizes and

9   weights using ARMIS data, which had not been updated since 2008. While

10   we were confident in our results using the AT&T method, the Spanmaster

11   results were based on the most current information.

12   **Q.**   **PLEASE DESCRIBE THE COMMSCOPE PROGRAM AND YOUR**

13   **INPUTS USED TO THE DETERMINE THE MAXIMUM SAG.**

14   **A.**   A general overview of the program was downloaded from the CommScope

15   site and is provided as <u>WA Exhibit No. 12</u>. We calculated the average span

16   lengths of Blue Ridge's distribution system for years 2014, 2015 and 2016

17   (using CPRs and Form 7 data for each year), and determined that the resulting

18   spans were 258.51', 257.53' and 257.01' respectively. We also selected a ¼",

19   6.6M EHS (Extra High Strength) strand (a standard choice for catv systems),

20   one standard coaxial cable (.565" jacketed), and one typical fiber optic cable

21   (96 fibers), from CommScope's tables as the typical "bundle" for sag/design

22   considerations. Our other inputs to the program were the NESC Storm

23   Loading (Rule 251) for Medium ice loading (.25" radial ice on conductors),

1   and an initial installation sag of 1.5% (1% - 2% is typical). Spanmaster

2   calculated the "worst-case" or design "sag" for the respective years to be

3   5.80', 5.78' and 5.76'. A summary of the Spanmaster calculations are

4   provided as <u>WA Exhibits No. 13.1, 13.2 and 13.3</u>.

5   The required point of attachment ("POA") on Blue Ridge's poles is

6   determined by adding the calculated "sag" to the NESC minimum ground

7   clearance of 15.5', resulting in NESC minimum POAs of 21.3', 21.28' and

8   21.26' in each respective year. RUS requires a minimum depth of installation

9   of 6' for 35' and 40' poles. (*See* <u>WA Exhibit No. 13.4</u> for RUS Standards).

10   By adding the above POAs to the minimum depth of installation, we

11   determined that the "common" space on a typical Blue Ridge pole was 27.3',

12   27.28' and 27.26' for the subject years. By subtracting the above "common

13   space" utilization from the average pole height, one can determine the

14   remaining average usable space.

15   **Q.   THE TVA RATE USES AN 8.5% RATE OF RETURN. WHY IS AN**

16   **8.5% RATE OF RETURN APPROPRIATE?**

17   A.   The 8.5% rate or return is the rate required by the TVA formula. This return

18   is appropriate because of how electric cooperatives finance their businesses.

19   The rate at which electric cooperatives borrow money (*i.e.*, its "cost of debt")

20   does not fully account for co-op financing, since co-op members also finance

21   the business of the co-op. Each co-op member finances the business of the

22   cooperative by contributing capital, which they do by using cooperative

23   services and by allowing the cooperative to retain for future growth of the

1   core business any money collected in excess of actual operating costs. This

2   money, identified in the cooperative's financial reports as "patronage capital,"

3   is used to build and maintain the facilities needed to serve the cooperative's

4   members and to service the cooperative's long-term debt. Patronage capital is

5   appropriately considered equity capital furnished by the members, a portion of

6   which will be returned to the members at a later date in the form of capital

7   credits. To account for this unique financing of electric cooperatives, TVA

8   prescribed a non-rebuttable presumptive rate of return of 8.5%. That 8.5%

9   rate of return, it should be noted, is considerably less than the FCC's current

10   10.75% presumptive rate of return.

11   **Q.   HAVE YOU PERFORMED THE TVA FORMULA RATE**

12   **CALCULATION USING THE COOPERATIVES' COSTS UNDER**

13   **THE ABOVE DESIGN CONSIDERATIONS?**

14   A.   Yes, I have. Those calculations are attached hereto as <u>WA Exhibit Nos. 2.1,</u>

15   <u>2.2 and 2.3 </u>for years 2014, 2015 and 2016, respectively, which also includes

16   all the cost data used to support those calculations.

17   **Q.   WHAT RATES ARE GENERATED USING THE TVA FORMULA?**

18   A.   Under the TVA Formula, the annual attachment rates are $27.08, $26.75 and

19   $26.56/pole for years 2014, 2015, and 2016 respectively.

20   **Q.   DO THE ABOVE RATES ADDRESS ALL THE POLE COSTS**

21   **INCURRED BY BLUE RIDGE IN PROVIDING ATTACHMENT**

22   **SPACE FOR CHARTER?**

1   A.   As to distribution poles, yes. However, the 2016-2016 inventory revealed that

2   Charter is attached to a significant number (442) of Blue Ridge's transmission

3   poles.

4   **Q.   IS THERE A SIGNIFICANT DIFFERENCE IN THE COSTS OF**

5   **TRANSMISSION AND DISTRIBUTION POLES?**

6   A.   Absolutely. In 2016, the average installed cost of a transmission pole was

7        $3,633.24 (*see* <u>WA Exhibit No. 2.4</u>), compared to the net bare distribution

8   pole cost of $258.30 (*see* <u>WA Exhibit No. 2.3</u>).

9   **Q.   DOES THE RATE YOU HAVE PROPOSED INCLUDE THE COSTS**

10   **OF TRANSMISSION POLES TO WHICH CHARTER HAS**

11   **ATTACHED?**

12 A.   No. The TVA rate formula, and the rate that I have proposed, does not

13   include the costs of the transmission poles to which Charter is attached,

14   which, as stated above, are substantially more than distribution poles.

15   Accordingly, the requested TVA rate for attachments to distribution poles is

16   not appropriate or fair for attachments to transmission poles. The FCC rate

17   proposed by Charter is likewise inapplicable to attachments to transmission

18   poles. It therefore would be appropriate for Blue Ridge to charge a rate that

19   reflects the actual cost of transmission poles for such attachments.

20 **V.   <u>CONSIDERATION OF OTHER RATE FORMULAS</u>**

21 **Q.   HAVE YOU CONSIDERED THE TVA FORMULA IN LIGHT OF**

22   **OTHER RATE FORMULAS?**

1   A.   Yes. I have compared the TVA formula to a number of other potential rate

2   formulas, including the formula adopted by the American Public Power

3   Association ("APPA"), the "Telecom Plus" formula considered by the United

4   States House of Representatives, and the formula adopted by the Arkansas

5   Public Service Commission, and the FCC Cable rate.

6   **A.**   **<u>APPA RATE FORMULA</u>**

7   **Q.**   **IS THE TVA FORMULA CONSISTENT WITH THE APPA RATE**

8   **FORMULA?**

9   A.   Yes it is. It is similar to the method adopted by the APPA for municipal

10   power systems in its 2002 Pole Attachment Workbook. The APPA formula

11   recognizes the inherent value of the pole distribution system to the attachers,

12   as well as the costs that the attachers avoided by not being required to

13   engineer and construct pole distribution systems of their own. A comparison

14   of the various rate methods that I discuss in the testimony is provided as <u>WA</u>

15   <u>Exhibit No. 14</u>.

16   **Q.**   **WHAT FACTORS DOES THE APPA FORMULA USE IN**

17   **DETERMINING ATTACHMENT RENTALS.**

18   A.   The APPA developed a rental rate method for use by its municipal utility

19   members that follows the rationale of a decision made in 1998 in a

20   Washington State Court (97-2-02395-5SEA, TCI Cablevision vs. City of

21   Seattle). Published in the October 2002 "APPA Pole Attachment Work

22   Book", that rate methodology is known as the "APPA Rate." (*See* <u>WA Exhibit</u>

23   <u>No. 15,</u> APPA Pole Attachment Workbook). An extract of the annual

1   attachment rates section of the APPA Pole Attachment Work Book is the

2   subject of WA Exhibit No. 15.   Like TVA, the APPA Rate allocates costs

3   associated with "assigned space" (a/k/a "usable space") and the Support Space

4   separately. Like the TVA formula, the APPA rate is based on the recognition

5   that the 40-inch Communication Worker Safety Zone is required by the NESC

6   to separate communications attachments from electric attachments. Under the

7   APPA formula, the Communications Worker Safety Zone is considered part

8   of the "common space" on poles, and therefore shared equally by all attaching

9   parties, including the electric utility.

10   On a presumptive 37.5-foot pole, therefore, the APPA Rate presumes the

11   common space to be 27.33 feet (6 feet underground plus 18 feet minimum

12   height above ground for the first attachment, plus 3.33 feet for

13   communications worker safety zone), and the assigned space to be 10.17 feet.

14   Like the TVA formula, the costs associated with the common space (a/k/a

15   "support space" and "unusable space") on the poles are shared equally among

16   all attachers. The costs associated with the assigned space (a/k/a "usable

17   space") are allocated based on the percentage of that space that is used by the

18   attacher. Thus, on a pole with a presumed height of 37.5 feet and three

19   attachers, each attacher would be required to contribute 27.0% to the annual

20   costs of owning and operating the poles.

21   This 27.0% figure is derived as follows. The APPA Rate presumes an

22   average pole height of 37.5 feet, with 10.17 feet of assigned space (a/k/a

23   "usable space"), 27.33 feet of common space (a/k/a 'support space" and

1   "unusable space") and "communications worker's safety space, one foot

2   occupied by the cable company, and three attaching entities. Accordingly, the

3   assigned space component is calculated as $(1.0 \div 10.17) \times (10.17 \div 37.5) =$

4   2.71%. The common space component is calculated as $27.33 \div 37.5 \div 3 =$

5   24.29%. Adding the assigned space and common space components together

6   equals 27.0% (2.71% + 24.29% = 27.0%), which is comparable to the 28.44%

7   generated by the TVA formula.

8 **Q.** **DID APPA ACKNOWLEDGE IN THE WORKBOOK THAT THE**

9   **RATE METHODOLOGY EXCEEDS THE FCC CABLE RATE?**

10 **A.** Yes. Section IV of the Work Book, titled "Pole Attachment Fees and Rate

11   Methodology", explains in paragraph B.1.(d) that "

12   .…The cable television rate is a holdover from a desire
13   in the late 1970s to assist the (then) nascent cable
14   television industry by establishing a low rate for cable
15   attachments. <u>The cable formula does not reflect the</u>
16   <u>actual cost to utilities of providing pole space, nor does</u>
17   <u>it compensate utilities fairly for the value of their assets.</u>
18   Instead, the cable formula only recognizes the
19   incremental cost of providing pole attachment space.
20   As a result, under federal rules, cable pole attachment
21   rates are, in effect, subsidized by utility customers.
22   Conditions have changed dramatically since the
23   enactment of the cable attachment formula in 1978.
24   Cable operators no longer need financial incentives and
25   protection, and in the increasingly competitive utility
26   environment, it is even more difficult to justify the
27   additional costs absorbed by utilities and their
28   customers for services that are unrelated to their core
29   electric service.
30
31   (*See* <u>WA Exhibit No. 15</u> (emphasis added)).
32
33   **B.** **TELECOM PLUS FORMULA**

34 **Q.** **WHAT IS THE TELECOM PLUS FORMULA?**

1   A.   The so-called "Telecom Plus" formula is a formula considered by the United

2   States House of Representatives prior to passage of the Telecommunications

3   Act of 1996, 47 U.S.C. § 151, *et seq.*

4   **Q.   HOW IS THE TVA FORMULA CONSISTENT WITH THE TELECOM**

5   **PLUS RATE FORMULA?**

6   A.   Like the TVA (and FCC) formula, the Telecom Plus Rate Formula calculates

7   the annual costs of owning and operating the poles by multiplying the "Net

8   Cost of a Bare Pole" times the annual "Carrying Charges."   The primary

9   difference from the other formulas lies in the allocation of those annual pole

10   costs to the attachers (*i.e.*, the Space Factor Percentage).

11   Contrary to the FCC formulas but consistent with the TVA formula and the

12   APPA formula, the Telecom Plus Formula allocates 100% of the "support

13   component" costs (called "common space" by TVA and "unusable space" by

14   the FCC) equally among all attachers, including the pole owner. The Telecom

15   Plus Formula assumes that the clearance component is 18' and 6' buried in the

16   ground, on a 37.5 foot pole, consistent with both the TVA and FCC formulas.

17   The remaining 13.5 feet is considered "usable space." The Telecom Plus

18   Formula recognizes that the support component on the pole is of equal value

19   to all attachers, and that attachers would incur significant pole costs -- far

20   beyond the costs of simply attaching to the utility's poles -- if they were

21   required to build their own pole distribution system. As a result, the Telecom

22   Plus method equitably requires all attachers to share those avoided costs

1   equally. (A copy of NRECA'S Joint Use Toolkit explaining the formula is

2   provided as WA Exhibit No. 16).

3   The Telecom Plus methodology divides the 13.5' of usable space to attachers

4   based on the amount "allocated to (an) attaching entity." Under this

5   methodology, each communications attacher is presumed to occupy one foot

6   of space on the pole. On a power pole with two communications attachers,

7   the pole owner is therefore charged with the costs associated with the

8   remaining 11.5 feet of the "usable space", including the 40" Communications

9   Worker Safety Space.

10   Under this formula, assuming there are three attachers on the pole, (one power

11   utility, aka Owner, and two communications attachers), the Telecom

12   Plus/USHR pole attachment rate would allocate 24.00% of the pole costs to

13   the communications attacher. This 24.00% figure is derived as follows.

14   Using a presumptive average pole height of 37.5 feet, with 18 feet of

15   clearance and 6 feet of pole underground adds up to 24 feet for the support

16   component. That leaves 13.5 feet of usable space. The total space occupied

17   by the attacher is calculated as one foot. Accordingly, the usable space

18   component is calculated as $(1.0 \div 13.5) \times (13.5 \div 37.5) = 2.7\%$. The support

19   space component is calculated as $24 \div 37.5 \div 3 = 21.3\%$ Adding the usable

20   space and support space components together equals 24.0% (2.7% + 21.3%),

21   which is comparable to the 28.44% that the TVA formula generates. The

22   difference between USHR and the APPA method is the way the

23   Communications Worker Safety Space is allocated. Under the APPA method,

1   the safety space is added to the Unusable, or common space. In the USHR

2   formula, it is treated as a part of the usable space.

3 **Q.   HAS THERE BEEN ANY OTHER INDUSTRY SUPPORT FOR THE**

4   **TELECOM PLUS FORMULA.**

5 A.   Yes, both AT&T and Verizon recommended this formula to the FCC in their

6   joint 2008 *ex parte* comments. Although their comments do not refer to the

7   method as the "FCC Telecom Plus Formula," their recommended revision to

8   the FCC Telecom Formula provided for an equal allocation among all

9   attachers of the costs related to the "unusable space." (*See* WA Exhibit No.

10   17).

11 **Q.   DID AT&T AND VERIZON PROPOSE ANY OTHER CHANGES TO**

12   **THE ORIGINAL FCC TELECOM FORMULA.**

13 A.   Yes, they also recommended that the "rebuttable presumption" of attaching

14   entities be changed to "presume" 4 attachers in both urban and rural locations,

15   instead of the FCC's "presumption" of 5 and 3, respectively.

16 **Q.   IS THE ONLY DIFFERENCE IN THE ABOVE 3 FORMULAS THE**

17   **TREATMENT OF THE COMMUNICATIONS WORKER'S SAFETY**

18   **ZONE?**

19 A.   Yes. The TVA Method allocates the Communications Worker Safety Zone

20   solely to the communications attachers; the APPA Method includes the

21   Communications Worker Safety Zone in the "common space", and therefore

22   allocates that cost equally to all attachers, including the power company pole

1   owner; and the Telecom Plus Method includes the Communications Worker

2   Safety Zone in the "usable", or "allocated" space on the pole.

3 **Q.** **IS THE TELECOM PLUS ALLOCATION OF COSTS ASSOCIATED**

4   **WITH THE COMMUNICATIONS WORKER SAFETY ZONE FAIR**

5   **AND REASONABLE?**

6 A. No. The proportional costs associated with the 40-inch Communications

7   Worker's Safety Space should be allocated to the benefiting parties, *i.e.* the

8   communications attachers. When the Communications Worker Safety Zone is

9   included in the "usable space," and the cable attacher is assumed to use only

10   one foot of space, the costs associated with the safety" space default to the

11   power company pole owner, not to the beneficiaries—the communications

12   attachers.

13 **Q.** **IS THE TELECOM PLUS ALLOCATION OF COSTS ASSOCIATED**

14   **WITH THE COMMON SPACE FAIR AND REASONABLE?**

15 A. Yes. By allocating the costs associated with the other support components

16   (a/k/a common space or unusable space) equally to all attachers, including the

17   pole owner, the USHR formula appropriately allocates those costs among the

18   benefitting parties and takes into consideration the value of the distribution

19   system to the attachers

20   C.   <u>**ARKANSAS PUBLIC SERVICE COMMISSION FORMULA**</u>

21 **Q.** **THE ARKANSAS PUBLIC SERVICE COMMISSION RECENTLY**

22   **ADOPTED A POLE ATTACHMENT RATE METHODOLOGY.**

1   **WOULD YOU PLEASE EXPLAIN THE ARKANSAS**

2   **METHODOLOGY?**

3 A.   On June 24, 2016, the Arkansas Public Service Commission adopted a rate

4   calculation that uses the same three factors (Net Cost of a Bare Pole X

5   Carrying Charges X Space Allocation Percentage) that the TVA, APPA and

6   FCC rate calculations use. A copy of the Arkansas PSC decision is attached

7   hereto at WA Exhibit Nos. 18.1 and 18.2.

8   The Arkansas formula calculates the Net Cost of a Bare Pole and Carrying

9   Charges factors just as the TVA, APPA and FCC formulas do, except that

10   Arkansas specifies that the return element is 8.0% for purposes of the carrying

11   charge calculation. As with the other formulas, the significant difference

12   between the rate calculations is how the Space Allocation Percentage is

13   calculated.

14   For purposes of calculating the Space Allocation Percentage, Arkansas

15   assumes an average pole height of 37.5 feet, one foot of space occupied by the

16   cable company attacher, and three attaching entities. Like the APPA formula,

17   Arkansas counts the 40-inch communications worker safety zone (a/k/a safety

18   space) as "unusable space" (a/k/a "common space" or "support space"). As

19   with the APPA Formula, this results in 27.33 feet of "unusable space" (6 feet

20   underground + 18 feet ground clearance + 3.33 feet safety space = 27.33 feet).

21   Like APPA, the remaining 10.17 feet (37.5 – 27.33 = 10.17) is counted as

22   "usable space." Like APPA, the costs associated with the "usable space"

23   (a/k/a "common space" or "support space") are allocated based on the

1   percentage of that space that is used by the attacher. Arkansas then allocates

2   those usable and unusable space costs the way the FCC Telecom formula

3   does, by allocating costs associated with one-third of the unusable

4   ("common") space entirely to the pole owner, and then allocating the costs

5   associated with the remaining two-thirds of unusable ("common") space

6   among all attaching entities, including the pole owner.

7 Q.   **WHAT ARE THE SPACE FACTOR PERCENTAGES THAT THE**

8   **ARKANSAS FORMULA GENERATES?**

9 A.   Under the Arkansas formula, the percentage of total annual pole costs that a

10   cable company attacher must pay on a pole with three attaching entities

11   (including the electric cooperative pole owner) is 18.9%.

12   This 18.9% figure is derived as follows. The Arkansas Rate presumes

13   an average pole height of 37.5 feet, with 10.17 feet of "usable space," 27.33

14   feet of "unusable space" (a/k/a "common space" and "support space"), one

15   foot occupied by the cable company, and three attaching entities.

16   Accordingly, the usable space component is calculated as $(1.0 \div 10.17)$ X

17      $(10.17 \div 37.5) = 2.7\%$. The unusable space component is calculated as (27.33

18      $X \ 2/3) \div 37.5 \div 3 = 16.2\%$. Adding the usable space and unusable space

19   components together equals 18.9% (2.7% + 16.2% = 18.9%).

20 Q.   **DO YOU BELIEVE THE ARKANSAS FORMULA ALLOCATES**

21   **ANNUAL POLE COSTS IN A FAIR AND REASONABLE WAY?**

22 A.   No I do not. Like the FCC Telecom rate, the Arkansas formula allocates one-

23   third of the costs associated with the unusable (a/k/a "common space" or

1   "support space") automatically to the pole owner, and then allocates the costs

2   associated with the remaining two-thirds to all attaching entities including the

3   pole owner. There is no justification for this automatic allocation of one-third

4   to the pole owner. Instead, since all attaching entities need the base of the

5   pole six feet underground for structural stability and all attaching entities need

6   their attachments to have a minimum of 18 feet of clearance above ground, the

7   costs associated with these 24 feet should be allocated evenly among all

8   attaching entities. In order to avoid subsidizing the attachers at the expense of

9   the pole owner, I advocate the "per capita" approach which divides the

10   common space equitably to all parties. In addition, I disagree with the

11   Arkansas PSC's allocation of costs associated with the 40-inch

12   communications worker safety zone (a/k/a "safety space"). Since this space is

13   required by the NESC to protect communications workers, the

14   communications companies should bear the costs associated with that space,

15   not the electric utility pole owner.

16   In contrast, the TVA formula more appropriately allocates 100% of the costs

17   associated with unusable ("common") space on the pole equally among all

18   attaching entities, including the pole owner, and more appropriately allocates

19   costs associated with the 40-inch communications worker safety zone (a/k/a

20   "safety space") to the communications attachers.

21   **D.   FCC CABLE RATE**

22   **Q.   WHY DOES THE FCC NOT REGULATE ATTACHMENTS TO**

23   **ELECTRIC COOPERATIVE POLES?**

1 A. When Congress passed the federal Pole Attachment Act, 47 U.S.C. § 224(a),

2   it specifically excluded "any person who is cooperatively organized" from

3   FCC pole attachment jurisdiction. Thus, the FCC's rate formulas do not apply

4   to electric cooperatives like Blue Ridge.

5 **Q. DID CONGRESS EXPLAIN WHY ELECTRIC COOPERATIVES**

6   **WERE EXCLUDED?**

7 **A.** Yes. The legislative history of the 1978 Pole Attachment Act sets out several

8   reasons why the U.S. Congress excluded electric cooperatives from federal

9   pole attachment regulation. Congress recognized that the unique business

10   models of electric cooperatives, combined with the fact that many of their

11   member/owners also receive cable services, mean that cooperatives

12   themselves are in the best position to set rates, terms and conditions for

13   attachments to their pole. As explained in the Senate Commerce Committee

14   report, Congress found: "[T]he pole rates charged by municipally owned and

15   cooperative utilities are already subject to a decision making process based

16   upon constituent needs and interests."[1] Congress also noted that because

17   many electric cooperative members also subscribed to cable television service,

18   they already had an incentive to foster the development of cable service:

19   "Cooperatively owned utilities, by and large, are located in rural areas where

20   often over-the-air television service is poor. Thus, the customers of these

21   utilities have an added incentive to foster the growth of cable television in

---

[1] S. Rep. No. 95-580, at 18 (1977), reprinted in 1978 U.S.C.C.A.N. 109, 126. (*See* WA Exhibit No. 23).

1   their areas."[2] The same, of course, is true today for broadband and other

2   advanced telecommunications services in rural America and in rural North

3   Carolina. For these reasons, Congress left it to electric cooperatives to

4   determine, among other things, the "equitable distribution of pole costs

5   between utilities and cable television systems."[3]

6 **Q. WHAT ABOUT THE COOPERATIVE BUSINESS MODEL MAKES**

7   **THEM DIFFERENT FROM OTHER ELECTRIC UTILITIES?**

8 A. Electric cooperatives were formed as a result of the Rural Electrification Act,

9   which provided government funds for individuals and groups to form their

10   own electric utilities to extend electric services in rural portions of the country

11   where investor-owned utilities found it unprofitable to serve. Since the 1930s,

12   cooperatives have been member-owned, democratically-governed utilities

13   owned by and operated solely for the benefit of the people they serve. Most

14   electric cooperatives nationwide, including Blue Ridge, are governed and

15   guided by a set of internationally recognized cooperative principles that foster

16   inclusiveness, community development and collective success, including the

17   provision of affordable electric service in a responsible manner.

18   Electric cooperatives have no stockholders or unaffiliated or corporate

19   investors. Blue Ridge is a non-profit corporation, owned and governed by its

20   members. Corporate investors may be acquainted with investor-owned

21   utilities only through a broker's recommendation or an annual earnings

22   statement. That is not the case with electric cooperatives. Seats on

---

[2] *Id.*
[3] *Id.*

1   cooperative boards of directors are occupied by members of the cooperative

2   who are elected within their local community by their fellow members.

3   Because cooperatives were created and are sustained by the very people they

4   were formed to help, they have a keen interest in consumer protection. In

5   fact, the cooperative business model and its consumer protection benefits are

6   so well-recognized that most states, including North Carolina, exempt electric

7   co-ops from public service commission rate regulation.

8 **Q.   PLEASE EXPLAIN WHY YOU BELIEVE THE FCC CABLE RATE IS**

9   **INAPPROPRIATE?**

10 A.   The FCC Cable rate allows the pole owner, through the rental rate, to recover

11   only a small fraction of the annual costs to own and maintain the poles. Using

12   the FCC's assumptions, cable company attachers pay only 7.4% of the annual

13   costs of owning and operating the poles. As I explain below, this does not

14   make any sense from cost recovery or benefits-received principles.

15   The FCC presumes that the average pole height is 37.5 feet, there are 24 feet

16   of "unusable space" (a/k/a "support space" or "common space") on the pole,

17   and the remaining 13.5 feet of space on the pole is "usable space." The FCC

18   Cable rate apportions the costs associated with the entire pole based on the

19   percentage of usable space occupied by the cable company, which is

20   presumed to be one foot. One foot divided by 13.5 feet is 7.4%.

21   Having cable companies pay 7.4% of the annual costs associated with the

22   "usable space" portion of the pole, although not truly fair, as I will explain

23   elsewhere, bears at least a slight resemblance to being equitable. But

1   requiring cable companies to pay for only 7.4% of the annual costs associated

2   with the common space (a/k/a "support space" or "unusable space") makes no

3   sense at all. Cable companies have the same need, as does every other

4   attacher, to have the pole buried six feet in the ground. Cable companies have

5   the same need as every other attacher on the pole to have the pole extend 18

6   feet, or higher, above ground to achieve necessary ground clearances. Cable

7   companies should therefore pay an equal share of the costs associated with the

8   in-ground and ground-clearance portion of the pole. If there are three

9   attaching entities on the pole, they should pay one-third (33.3%) of the costs

10   associated with this common space, not 7.4%. Said another way, the annual

11   carrying charge factors apply to the entire pole – not just 1 foot out of 13.5

12   feet. The costs of maintenance, taxes, depreciation, administrative fees (such

13   as insurance and record keeping), and the costs of capital apply to every foot

14   of Blue Ridge's poles—not just 7.4% of the pole. In 2016, Blue Ridge's

15   average annual cost for the 5 factors listed above was $1.75/foot. The "per

16   foot" cost should be allocated fully to a party using 100% of a specific area,

17   and equally among all parties benefiting from the shared use of a specific area.

18   The TVA Formula most appropriately accomplishes this goal. Any other

19   method of allocating costs creates a subsidy for the party benefiting its free

20   use of that foot of space.

21   The North Carolina Utilities Commission's Mission Statement (*see* WA

22   Exhibit No. 19) requires that the NCUC "must regulate in a manner designed

23   to implement the policy of the State of North Carolina to: provide fair

1   regulation of public utilities in the interest of the public; promote the inherent

2   advantage of regulated utilities; promote adequate, reliable and economical

3   utility service; …provide just and reasonable rates and charges for public

4   utility services and promote conservation of energy" … among other things.

5   Allowing or encouraging the installation of cable television facilities at a

6   subsidized rate of 7.4% of the annual cost of ownership, instead of allowing a

7   rate representative of a fair share of those annual costs, is counter to the

8   NCUC's Mission Statement. Charter is not a regulated public utility under

9   North Carolina Statutes, and it does not need subsidized attachment rates.

10   Further, the 1935 North Carolina statute that enabled creation of the State's

11   electric coops (*see* <u>WA Exhibit No. 20</u>, G.S. 117-10), provides that the State's

12   coops are formed "…for the purpose of promoting and encouraging the fullest

13   possible use of electric energy in the rural section of the State by making

14   electric energy available to inhabitants of the State at the lowest cost

15   consistent with sound economy and prudent management of the business of

16   such corporations." A subsidized rental rate for pole attachments that fails to

17   reflect the benefits derived, and the fully allocated costs of providing those

18   benefits, would be counter to the legislation.

19 **Q.   GETTING BACK TO COSTS ASSOCIATED WITH THE SO-CALLED**

20   **"USABLE SPACE" ON THE POLE, WHY DO YOU SAY THAT A**

21   **7.4% ALLOCATION IS NOT FAIR FOR THAT SPACE?**

22 A.   Because the FCC includes the 40-inch "Communications Worker Safety

23   Zone" (a/k/a "safety space") in its conclusion that there is 13.5 feet of "usable

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1 space." As explained above, since this space exists on the pole solely to

2 accommodate communications attachments, the communications attachers

3 should share responsibility for the entire costs associated with that 40 inches

4 of pole space. When there are three attaching entities on the pole (including

5 the electric utility pole owner), the two communications attachers should pay

6 50% each for the costs associated with this 40 inches. That is what the TVA

7 formula requires. The FCC Cable rate has the cable company paying for only

8 7.4% of the cost of the safety space, which from cost-causation and benefits-

9 received standpoints is nonsensical.

10 Once that 40 inches of space is removed, what remains is 10.17 feet of "usable

11 space" (13.50 – 3.33 = 10.17). For the costs associated with this remaining

12 10.17 feet of space, the cable company attacher should pay 1/10.17, which is

13 9.8%, not the 7.4% specified in the FCC Cable formula.

14 **Q. HAVE YOU CALCULATED BLUE RIDGE'S 2017 ATTACHMENT**

15 **RENTAL RATE USING THE FCC FORMULA?**

16 **A.** Yes, I have. Using the FCC formula, and the default presumptions, the FCC

17 Cable rate would be $5.33/attachment annually. (*See* WA Exhibit No. 2.5).

18 **Q. AND WHAT IS THE ANNUAL COST OF OWNERSHIP PER POLE**

19 **FOR BLUE RIDGE?**

20 **A.** Using TVA's prescribed ROI of 8.5%, and a 3-year average maintenance

21 factor of 6.91%, Blue Ridge's 2016 annual costs of ownership were $64.52

22 ($258.30 net cost of a bare distribution pole multiplied by an annual charge

1   factor of 24.98%). The 2016 annual costs of ownership are reflected on the

2   calculations of attachment rental at <u>WA Exhibit No. 2.3</u>.

3 **Q.   WHEN YOU COMPARE THE FCC CABLE METHOD RENTAL**

4 **RATE PER POLE TO THE AVOIDED COSTS OF OWNERSHIP**

5 **IDENTIFIED ABOVE, DOES THIS SEEM LIKE A FAIR SHARING**

6 **OF COSTS OR DOES IT SOUND LIKE A SUBSIDY TO YOU?**

7 A.   The FCC Cable rate for Charter results in a subsidy instead of an equitable

8   sharing of costs.

9 **Q.   ON AVERAGE, WHAT IS THE TYPICAL NUMBER OF**

10   **DISTRIBUTION POLES PER MILE FOR Blue Ridge?**

11 A.   I divided the year end 2016 number of distribution poles (108,330) by the

12   miles of overhead distribution (5273.18) shown on Blue Ridge's latest Form

13   7, and the result is 20.54 pole/mile.

14 **Q.   USING THE FCC CABLE RATE AND REBUTTABLE DEFAULTS AS**

15   **THE COST PER ATTACHMENT, WHAT ANNUAL COST WOULD**

16   **CHARTER INCUR PER MILE FOR AN ATTACHMENT TO THE**

17   **BLUE RIDGE'S POLES?**

18 A.   An annual rental rate of $5.33 per attachment multiplied by 20.54 poles/mile

19   yields a "per mile" annual rental rate of $109.48 for a single attachment.

20 **Q.   WHAT IS CHARTER'S AVOIDED COST BY INSTALLING ITS**

21   **FACILITIES ON COOP POLES VERSUS INSTALLING**

22   **EQUIVALENT FACILITIES UNDERGROUND?**

1   **A.**   Charter has confirmed that it budgets, for new underground construction

2   (exclusive of wreck-outs, and regulatory approvals, easements, etc.),

3          $45,109.40 per mile, at current costs. Charter budgets, for new overhead

4   construction, $26,432.37 per mile. That's a savings of $18,677.03 per mile,

5   for which Charter would pay $109.48 per year in rents. At the rental rates

6   under the FCC Formula, it would take 170.6 years ($18,677.03 savings

7   divided by $109.48/mile) of pole rental (without considering the time value of

8   money) to equal the savings to Charter of just one mile of new aerial cable

9   (instead of underground) on the electric coops' poles.

10   **Q.**   **WHY DID CONGRESS ADOPT THE FCC CABLE RATE?**

11   A.   The Federal Pole Attachment Act was enacted in 1978. At that time, cable

12   television service was just beginning. At the time, it was known as

13   "community antenna television" or "CATV" service. In order to promote a

14   favorable legislative and regulatory environment to expand, CATV companies

15   reported that telephone company pole owners and investor-owned electric

16   utility ("IOU") pole owners had bargaining leverage over them and alleged

17   that some were abusing that position to the detriment of the CATV industry.[4]

18   The 1978 Pole Attachment Act was Congress's response to those concerns.[5]

19   In the Pole Attachment Act, Congress established the FCC's Cable rate, and

20   set it at an artificially low level for investor-owned utility poles and telephone

21   company poles because, as Congress stated, a low pole attachment rate in

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[4] S. Rep. No. 95-580, at 13 (1977), reprinted in 1978 U.S.C.C.A.N. 109, 121.

[5] The Pole Attachment Act was included as part of the Communications Act Amendments of 1978, P.L. No. 95-234, and was codified at 47 U.S.C. § 224.

1   1978 was needed in order "to spur the growth of the cable industry, which in

2   1978 was in its infancy."[6]

3 **Q.   DO YOU BELIEVE THAT THE CABLE INDUSTRY IS STILL IN ITS**

4   **INFANCY AND CONTINUES TO NEED ARTIFICIALLY LOW**

5   **CABLE RATES TO GROW?**

6 A.   Certainly not. Charter, currently headquartered in Connecticut, had

7   16,205,000 customer relationships at the end of 2016[7]. It had

8       $75,845,000,000 of "Member's Equity", assets of $148,319,000,000, reported

9   revenue of $29,003,000,000 for 2016 and its net income (a/k/a profits) in 2016

10   was reported as $1,457,000,000.

11   Not only has Charter grown tremendously from its infancy in 1978, the rates

12   that Charter charges subscribers for its services are higher now than ever.

13   While the national average monthly bill for cable's expanded basic

14   programming package in 1995 was only $22.35 (*See* <u>WA Exhibit No. 21</u>,

15   FCC 06-179 Report on Cable Industry Prices), Charter's average revenue per

16   customer at the end of 2016 was $92.23 per month (Charter's annual

17   revenue/Charter's customer relationships).

18   The yearly rates that Blue Ridge is proposing are only a fraction of Charter's

19   monthly revenue per customer. Charter reports that its average density in

20   areas it serves that include Blue Ridge's territory is 53 homes per mile, with

21   an average penetration of 45%, or 23.85 subscribers per mile (23.85 x 12 x

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[6] H.R. Rep. No. 104-204, at 91 (1995).

[7] Charter's year end 2016 Form 10-K

1      $92.23 = \$26,396.23$/year), the Blue Ridge proposed 2016 annual pole rental

2   (under the TVA Formula) per mile represents only 2.07% ($\$26.56 \times 20.54 =$

3      $\$545.54/\$26,396.23$) of Charter's average subscriber revenue per mile on Blue

4   Ridge's system.

5   These very small payments allow Charter, a company with $1.844 billion in

6   annual profits, to gain access to assembled corridors and fully-constructed and

7   constantly maintained pole distribution systems.

8   It is inappropriate to allow huge communications companies like Charter to

9   "piggy back" on electric utility poles, particularly electric cooperative poles,

10   without paying a fair attachment rate that reflects the benefits they receive and

11   the costs they save from being able to use someone else's distribution poles.

12 **Q. DOES CHARTER HAVE ANY ALTERNATIVES OTHER THAN TO**

13   **ATTACH TO BLUE RIDGE'S POLES?**

14 A. Yes it does.   Charter is considered a utility by the NCDOT and as such has all

15   the options for providing service over the public rights of way to its

16   subscribers as any other utility (NCDOT Utilities Accommodation Manual,

17   Section I, (E)). There is no NCDOT prohibition to Charter owning jointly

18   used poles, or in placing its facilities either buried or in underground conduit.

19   Therefore, Charter can, as an alternative to attaching to coop poles, either

20   install its own poles and share space with another utility or place its facilities

21   below ground.

22   Telephone companies such as AT&T-NC have realized the long term savings

23   from underground plant and have designated buried facilities as first choice.

1   (*See* <u>WA Exhibit No. 22</u>, AT&T Outside Plant Engineering Handbook –

2   Buried Plant). Although their installed first cost of buried facilities exceeds

3   that of overhead facilities, AT&T engineers recognize the avoided cost of

4   either their own pole line construction or in the alternative, attachment rental

5   payments to a joint use pole owner.

6   **VI.**   **POLE ATTACHMENT RATES DO NOT INCLUDE RECOVERY OF**
7   **"BUT FOR" COSTS**

8
9   **Q.**   **DO YOU BELIEVE THE ANNUAL POLE ATTACHMENT RENTAL**

10   **RATE RECOVERS COSTS INCURRED BY THE COOPERATIVES**

11   **TO ACCOMMODATE CHARTER'S REQUESTS TO ADD NEW**

12   **FACILITIES?**

13 A.   No I don't. The annual pole attachment rental rate is the charge Charter pays

14   to compensate the Cooperative for its portion of the annual pole ownership

15   and maintenance costs that the Cooperative incurs to own and maintain its

16   poles throughout the year. The annual rental rate should be set at a level that

17   does not exceed the attachment rate generated by the pole attachment rental

18   rate formula approved in 2016 by the TVA.

19   The annual rental rate does not compensate the Cooperative for the costs the

20   Cooperative incurs to evaluate Charter's attachment requests, perform any

21   necessary make-ready rearrangement or transfer work to "make" the poles

22   "ready" for Charter's attachments, to audit and inspect Charter's attachments

23   to ensure Charter is complying with the permitting process and applicable

24   safety rules, and to perform other activities that the Cooperative would not

1   have to do but for the presence of Charter's attachments. In addition to the

2   annual rental rate, the Cooperative should be allowed to charge Charter

3   separately for all of the additional costs the Cooperative incurs that it would

4   not incur but for the presence of Charter's attachments, including the hiring of

5   administrative personnel to oversee and manage Charter's requests and

6   subsequent attachments.

7   **Q.**   **DOES THIS CONCLUDE YOUR TESTIMONY?**

8   A.   Yes.