PLACE: Dobbs Building
Raleigh, North Carolina
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DATE: November 9, 2017
DOCKET NO.: EC-23, Sub 50
TIME IN SESSION: 9:00 A.M. TO 12:30 P.M.
BEFORE: Chairman Edward S. Finley, Jr., Presiding
Commissioner Bryan E. Beatty
Commissioner ToNola D. Brown-Bland
Commissioner Jerry C. Dockham
Commissioner James G. Patterson
Commissioner Daniel G. Clodfelter

IN THE MATTER OF:

Blue Ridge Electric Membership Corporation,

Petitioner

v.

Charter Communications Properties, LLC

Respondent

Volume 3

A P P E A R A N C E S:

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IDENTIFIED/ADMITTED

P R O C E E D I N G S

CHAIRMAN FINLEY: Good morning. Let's come back on the record. Mr. Gillespie.

MR. GILLESPIE: Thank you, Mr. Chairman.

WILFRED ARNETT; Having previously been duly sworn, testified as follows:

CONTINUED CROSS EXAMINATION BY MR. GILLESPIE:

Q Now, Mr. Arnett, you talk in your testimony about Charter's use of Blue Ridge's transmission poles. Do you recall that?

A Yes, sir. I did.

Q Now, you don't propose a rate or rate methodology for the transmission poles; is that correct?

A No, sir. I did not calculate a rate for transmission poles.

Q Does TVA apply its rate methodology to any transmission poles?

A No, sir. The accounts used in the TVA calculation are 364, and the maintenance account of 593, and then the administrative account.

Q And those are different, right?

A They are, yes, sir.

Q So with respect to the issue that was raised yesterday about Blue Ridge's accounting, I understood Ms.

Harden to argue that Blue Ridge is contemplating changing its accounting system to one that would potentially double the rate. Did I understand that correctly?

A I don't know that she proposed changing the accounting system to a method that would double the rate. I think what she said was there's a significant difference in the way the co-ops account for retirements and investor-owneds and ILECs, and what she said was, I believe, that Blue Ridge might do a study to see how that impacted their books. And I think it's RUS that said that the plant could be significantly undervalued, maybe as much as 50 percent.

Q So if the -- well, let me ask you this. So you referred to correspondence from 1998; is that right?

A Yes, sir. I did.

Q And so have you determined what the impact would be on Blue Ridge's pole cost of making that change in accounting?

A It would require a study, and that study has not been done. In fact, Blue Ridge -- we just discussed that at Blue Ridge not too long ago. They weren't aware of the RUS letter, I don't believe.

Q Now, to the extent that the change in accounting were made by Blue Ridge, and to the extent

that RUS is correct that it could double the value of poles in accounting, what would be the impact on the cable rate?

A On the cable rate or the cable attachment rate?

Q The cable attachment rate.

A That would have to be determined by the study. Different co-ops have different numbers. The way that the Louisiana Public Service Commission handled this in their 2014 Pole Attachment Order --

Q That wasn't my question.

A Oh, I'm sorry. Excuse me, sir.

Q If you would --

MS. HARDEN: Objection.

Q If you would --

MS. HARDEN: Could the witness please finish, sir?

Q If you would --

CHAIRMAN FINLEY: Hold on a minute. Let's let the witnesses answer the question. If he's misinterpreted the question, we can ask it again.

A The 2014 Louisiana Public Service Commission Order said that the study would be done, and it would have to be presented and reviewed, and it was subject to review by the attachers as well as the Commission.

Q Now, I think you said that RUS had stated that changing the accounting system could increase pole values by as much as 50 percent. Is that what you -- is that what you said?

A I think it's not just the pole values. I think they use the same retirement system for all capital assets, so it would require a comprehensive study.

Q Would you agree that to the extent that changing Blue Ridge's accounting system in this way, to the extent that that would increase the value of poles by 100 percent, that would increase the attachment rate by 100 percent? That's the way the formulas work, correct?

A No, sir. It wouldn't have that impact. It would have an impact on a portion of that, but to the extent that the capital base goes up by a significant amount, then it would dilute the percentages in some of the annual carrying charges, as I understand it. The only way to know the impact is to do the study.

Q Mr. Arnett, you're aware of court decisions holding that utility poles are essential facilities for cable operators; is that right?

A Yes, sir.

Q And they're cited in Ms. Kravtin's testimony, are they not?

A She refers to poles being essential facilities, yes, sir.

Q And doesn't she cite cases holding to that effect?

A I don't remember if she actually cites those cases, but I know they are out there, yes, sir.

Q Now, do you disagree with those court decisions?

MS. HARDEN: Objection. He just said he knows they're out there. I don't think that he has established a basis of having read that.

CHAIRMAN FINLEY: Well, the question is whether he disagrees with the proposition that poles are essential facilities. You can answer that question, Mr. Arnett.

A If I understand the essential facilities doctrine correctly, it says that the poles are absolutely necessary in order to provide the service or the good or whatever -- whatever is the subject of debate. I worked -- I worked in the utility business for Southern Bell and BellSouth for 30 years, and we could always find a different way. And, in fact, on this system there are many, many locations where Charter is on Blue Ridge's poles and the telephone company is in the ground with

buried facilities on the other side of the road or with a pole line on the other side of the road, so...

Q So you disagree with those court decisions; is that right?

A I don't know the details of those court decisions, so I can't talk about the specific situation where it was tried. I just think on the Blue Ridge system it doesn't meet the sniff test.

Q Is it possible that you do not fully understand the doctrine of essential facilities?

A It's very possible that that's the case, yes, sir.

Q What would it cost Charter to take its facilities off Blue Ridge -- Blue Ridge's poles and go underground?

A It would be a significant amount of money. I don't think anybody is proposing that.

Q And I think in your testimony you've estimated that it would cost about $45,000 a mile for Charter to build plant underground, correct?

A No. Actually, that was Charter's number. That came from Charter's records.

Q Okay. But that is used in your testimony as well, is it not?

A It is. I referred back to their testimony, yes, sir.

Q And if Charter were to move its facilities underground, it would cost that amount, plus the cost to wreck out the existing pole mounted facilities, correct?

A Yes. If they were to go underground, it would be a significant expenditure.

Q And how many miles of plant does Charter have in the Blue Ridge area? Do you know?

A I have no idea.

Q Do you know how many customers Charter has a mile in Blue Ridge territory?

A No, but they have -- they have 27,000 pole attachments, and on the Blue Ridge system, it's 20 poles per -- 21 poles per mile. It's between 20 and 21. So simple math would tell you it would be 10,000 to 15,000 poles that would be involved.

Q My question was how many customers Charter has a mile in Blue Ridge's territory. Do you know?

A No, sir. I don't have any idea.

Q Okay. I think you testified that SkyLine, to your understanding, is in the process of getting off all the poles; is that right?

A That's what the inventory indicated, and that's

what Blue Ridge has told me.

Q So SkyLine is on approximately 27,000 poles; is that right?

A I don't remember the number. That's probably about right.

Q Okay. And I think the testimony is that they have come off about 1,400 in the last five years?

A I think that's the only record. I don't know if that occurred last year or two years ago. All I know is the difference in the inventory showed 1,446 reduction and that the previous inventory was five years ago. So I don't know what their rate of removal is, but certainly in the last five years there's been a reduction, which also means they're probably putting new facilities where they didn't have facilities before underground.

Q So if they came off 1,400 in the last five years, how long would it take for them to get off all the poles at that rate? Do you know?

A It'd take a long time.

Q It'd take about 96-1/2?

A Actually, what would -- the way a utility company would do it would be over the service life of the asset, they would transition to underground. So if cables -- and I believe the IRS states that

communications cables have about a 25-year service life. Those -- I would expect if that is their goal, that as they retire existing aerial cables and put in -- and replace them, they would do that transition then. I don't think there's any push by Blue Ridge to have them remove their facilities. I think that's a corporate decision by SkyLine.

Q Now, you don't have any personal knowledge as to what SkyLine's strategy is, correct?

A I do not, no, sir.

Q To what extent does the fact that SkyLine may be getting off some of Blue Ridge's poles reflect the fact that Blue Ridge's current pole rate is so high as to be unaffordable?

MS. HARDEN: Objection.

A I don't know what's driving the decision at SkyLine.

Q Does the fact that the owner of an essential facility charges so much for access that it's not reasonably affordable mean that it is not an essential facility, in your view?

MS. HARDEN: Objection.

CHAIRMAN FINLEY: Overruled.

A Could you state the question again, please.

Q Does the fact that an owner of an essential facility charges so much for access that it's not reasonably affordable mean that it is not an essential facility, in your view?

A No, sir. I don't agree with that.

Q Well, what do you disagree with in that statement -- that question?

A If I understood your question, you're asking if the price could be raised so much that a party would avoid it, and I don't believe it's appropriate to jack the prices up so high that it would discourage a business.

Q Well, my question had to do with an essential facility. A facility can be an essential facility even if the reason why someone doesn't attach is because the price is so high; isn't that true?

A I think that's what happened with the railroads and where the Sherman Antitrust Act came from. The cost of shipping by rail was so expensive that someone filed suit.

Q And I guess that's why we're here today, right?

MS. HARDEN: Objection for the record.

A I don't --

CHAIRMAN FINLEY: Objection noted. Overruled.

A I don't think that's why we're here today.

Q Now, if Blue Ridge is charging so much that Charter finds it more economical to go underground itself, would that prove that this is not an essential facility for Charter, in your view?

A That's a lot for me to -- would you restate the question, please.

Q If Blue Ridge charges so much that Charter finds it more economical to go underground, would that prove that this is not an essential facility to Charter?

A I don't know that Charter has -- I don't -- I have never seen any records that indicates that pole attachment rates are a consideration in whether Charter places facilities aerial or underground.

Q Is that the best answer you can give to my question?

A If I were --

CHAIRMAN FINLEY: Objection sustained. Go to your next question, Mr. Gillespie.

Q In how many places does Charter have a choice between attaching to either an ILEC or a Blue Ridge pole?

A I have no idea. I can't quantify that for you.

Q Do you know what the ILECs charge Charter to attach?

A I don't, but I'm sure it's a very minimal amount.

Q You've seen Charter's testimony that in North Carolina it averages less than $4 a pole?

A That would not surprise me.

Q Don't you think that Charter would gladly attach to an ILEC pole in this situation if it could --

A I think --

Q -- as opposed to a Blue Ridge pole?

A I think there are other reasons that would drive that decision more significantly than the rental rate. I think -- I like poles, and from what I've seen, not just on this system, but in other systems, are significantly smaller, significantly older, don't have access to power readily for the power supplies. I think it's an engineering decision as to why a particular -- one pole line is selected over another.

Q So the ILEC poles in those situations would not reasonably be available to Charter; is that right?

A I don't know. You'd have to give me a specific example.

Q Look at the drawings that you have on page 12 of your direct testimony.

A Okay. I have those.

Q Okay. These are the models that were used for the two, what should we say, explanatory drawings that you showed to the Commission when you were giving your opening summary, correct?

A Yes, sir. That's right.

Q Do you have them here?

A What's that?

Q Those drawings here?

A The ones in the book?

Q Yeah.

A I don't know if they're still here or not.

Q All right. Well, we'll go ahead. I think that the Commissioners all have that. But these are the -- these are the same drawings that you were pointing to and talking to the Commissioners about in your opening statement, right?

A I believe that's right. Yes, sir.

Q Now, the FCC rate, it allocates the same percentage of cost of the usable space as the common space and to the entire pole; is that right?

A It does, 7.41 percent, yeah.

Q Now, you complain in your testimony on page 11 that this allocation leaves Blue Ridge with more than 92 percent of the pole cost. Is that what you say?

A That's correct.

Q Now, TVA and the FCC each presume that telephone companies are on the pole; isn't that right?

A In this diagram, it actually shows a telephone company on the pole, that's correct.

Q Yeah. And TVA assumes that the telephone company uses 2 feet, right?

A They do, yes.

Q And you have not on these charts imputed any cost to the telephone companies; isn't that right?

A That's correct.

Q So cost imputed to them would reduce the cost that would be imputed to Blue Ridge in these drawings. Isn't that true?

A That's true in these drawings. If that's the case in the field, then that would be the case there as well.

Q Now, with respect to the drawing on the right on the TVA formula, this is the formula for the TVA, accepting all of their rebuttable presumptions; is that right?

A Yes, sir. It is.

Q Okay. And if the -- assuming that the phone company is on the pole as well, as you've shown here, the

phone company would be responsible for 2 feet of the usable space, for half of the safety space, and for one-third of the support space; isn't that true?

A Yes, sir, but on the Blue Ridge system, if the telephone company is on the pole, it's not a 37-1/2 foot pole anymore. All those -- all those agreements between Blue Ridge and the telephone company require a 40-foot pole, so we would have to reevaluate the percentages on a 40-foot pole. And more to the point, I know that Blue Ridge's cost of a pole goes up almost 100 percent when they move from a 35 to a 40, so it would probably be also very appropriate to evaluate the overall annual cost of the pole for a joint use pole.

Q Well, Mr. Arnett, we're talking about the diagram that you have reflected here, and this is for a hypothetical pole under the TVA methodology, accepting their presumptions; isn't that true?

A That's correct, but as --

Q And isn't it true that under this hypothetical pole that you have designed here and that you showed to the Commission, that the telephone company would be allocated 2 feet of the usable space, plus one-half of the safety space, plus one-third of the support space?

A That is correct.

Q All right. And that's not reflected in this diagram, is it?

A No, sir. This is the diagram -- the TVA pole is the diagram from the TVA document.

Q Okay. And, in fact, in the method that you're recommending the Commission adopt here where you rebut the presumptions, you would have Charter absorb 44 -- excuse me -- 41 percent of the entire pole cost; is that right?

A That's right. That's based on the average number of attaching entities, and that tells me that the telephone company is not on that many of those poles.

Q You haven't done a -- you haven't presented to the Commission a diagram of the allocations of cost for the pole that you would rely on; isn't that true?

A No, I have not. You're talking about the 40-foot pole?

Q I'm talking about the way that your methodology would work with -- that ends up allocating to Charter 41 percent of the overall pole cost.

A I have not provided a diagram representing that, but since this came from the regulatory staff at TVA and they included the telephone company facilities in their drawing, I would assume they took that into

consideration before they approved the formula.

MR. GILLESPIE: I have no further questions.

CHAIRMAN FINLEY: Redirect?

MR. GILLESPIE: As a matter of -- I'm not sure if we have admitted or asked to be admitted Cross Exhibit Number 1, which was the RUS standards. I want to be sure that we do that.

CHAIRMAN FINLEY: I thought I introduced that, but without objection, that will be admitted.

MS. HARDEN: No objection.

MR. GILLESPIE: Thank you, Mr. Chairman.

(Whereupon, Respondent's Cross Exhibit 1 was admitted into evidence.)

CHAIRMAN FINLEY: Redirect?

REDIRECT EXAMINATION BY MS. HARDEN:

Q Mr. Arnett, Mr. Gillespie asked you yesterday that if the pole was not large enough and it couldn't be rearranged and Charter wanted to attach, if Charter would be responsible for paying make ready under the 2008 agreement with Blue Ridge. Do you recall that?

A Yes, ma'am.

Q And he asked you if Charter would pay all of those make ready costs if they decided to attach,

correct?

A Yes, ma'am.

Q Okay. What happens after that new pole is put in the ground? What is the effect on Blue Ridge?

A Well, Blue Ridge would have to transfer its facilities to that new pole, and I believe that's a billable expense as well, but then Blue Ridge is faced with maintaining that pole and keeping it safe and serviceable and dealing with everything in the future. In other words, even though Charter pays for it, Blue Ridge is faced with maintaining it and operating it, and then at the end of its service life replacing it. If those cars hit it, like Mr. Layton was talking about, then Blue Ridge, not Charter, would be responsible for maintaining and replacing and doing ground line inspection and all those maintenance things on that pole.

Q Well, does it really make a difference in the cost between a 35 and a 40-foot pole to do the types of things you're describing to Blue Ridge?

A Generally, the taller a pole is, the more expensive the equipment is to maintain it. As you get up above a 35-foot pole, you can't use a service truck, a service bucket. It takes a bigger truck. It might take a bigger crew. It might take more protective equipment.

So, yeah, it would be more expensive for Blue Ridge.

Q Would a -- would a utility normally put whatever size pole they need in at the time they make their installation?

A I believe a utility would look at what they reasonably expect to be there over the service life of the asset, and that's 30 years. So while they might not put facilities in on the pole today, they would design that pole to carry whatever is there in the future. There's a -- there's a design philosophy we used at the telephone company called A Plus BX, and generally what it means is the more expensive on the front end it is to do a capital asset, the larger you're going to make it, so when it -- so you don't have to go back later and replace it. That's true of poles. It's true of underground conduit. If you put in underground conduit in a city street and it costs you $500 a foot to excavate, you're going to put in more ducts because you don't want to have to go back there later. That same concept is true of poles.

Q So does it benefit Blue Ridge to put in a taller pole when it's needed by Charter as opposed to needed by Blue Ridge?

A I think Blue Ridge builds its system for what

it needs, and when Charter or anyone else introduces a facility there and it has to be replaced, then there's no benefit to Blue Ridge. If there were, they would have done that in the first place.

Q Mr. Gillespie asked you several questions about the Tennessee Valley Authority itself and the TVA rate methodology. What are LPCs that you referred to in your testimony?

A Those are the local power companies that purchase power from TVA. They're the electric cooperatives and the municipal power providers that are TVA electricity purchasers. There are four that serve North Carolina, as I mentioned, Murphy, the City of Murphy, North Carolina, and then those three co-ops, Mountain Electric, Blue Ridge Mountain Electric, and Tri-State.

Q I believe there's 170 local power companies, is that right, in that neighborhood?

A I think I calculated the number once and it was 163, so it's between 160 and 170.

Q Okay. Are you familiar with -- or do you do work for any of those 163 local power companies?

A Yes, ma'am. I do. We do work for Sequatchie Valley in Tennessee. I do work for Joe Wheeler and

Coleman Electric in Alabama. I've worked with the Mississippi co-ops in the north part of the state. Yes, ma'am.

Q And is that all of the ones you've worked with or are there others that you're familiar with?

A I'm sure there are others.

Q Okay.

A North Georgia EMC is a TVA company, also, and I've done a good bit of work for them.

Q Okay. Are you familiar with the Pole Attachment Agreements for the local power companies or the co-ops that are TVA co-ops that you've described that you work with?

A Yes, ma'am. In particular, Joe Wheeler and Coleman and Sequatchie Valley and North Georgia EMC, I am familiar with those agreements.

Q And Mr. Gillespie asked you about the recovery of space provision in the 2008 Blue Ridge agreement with Charter. Do you recall that?

A Yes, ma'am.

Q Do any of the TVA co-ops you've worked with have that type of recovery of space provision?

A I believe they all do. I'm sure they all do, yes, ma'am.

Q Do any of the co-ops outside the TVA that you've worked with have a recovery of space provision like the one in the 2008 agreement between Charter and Blue Ridge?

A The 42 EMCs in Georgia and the nine co-ops in Louisiana and ALEC all have those provisions in the agreements.

Q You reviewed that provision yesterday with Mr. Gillespie. Do you recall it?

A Yes, ma'am.

Q Is that an industry standard term?

A I believe it is. It's certainly an industry standard where I've been involved in pole attachment agreements, and that's in the Southeast United States.

Q Could you estimate for this Commission how many pole attachment agreements, either through negotiation or through rate proceeding -- Commission proceedings, you've been involved with?

A Well, it's all in Georgia, and it's 42, 41 now. Alabama probably has 25 or 30. I've been involved with Mississippi, with Arkansas, oh gosh, probably -- it's over 100 for sure.

Q Do you recall in those over 100 agreements you've reviewed and looked at and worked on in your

career there ever not being a recovery of space provision in a third-party pole attachment agreement?

A Not in a third-party agreement, not that I'm aware of.

Q And that's different than a joint user, right?

A Right. The joint use agreements have a section, normally it's Article 8, Division of Cost, where those -- the parties work out how they share those costs, but under the third-party attachment agreements, the license agreements, that's -- that's in every agreement I've worked on.

Q Every agreement. So you would think that the TVA Commissioners and Staff would be aware of that type of provision in their co-ops' and municipalities' agreements, right?

MR. GILLESPIE: Objection. Leading.

A The --

CHAIRMAN FINLEY: Overruled.

A The record shows that TVA talked with the local power companies and got input from the local power companies, and I would expect they would know that, yes.

Q Okay. Mr. Gillespie has asked you a lot of questions, and there's been opposition testimony filed, about you using actual data instead of the presumptions

in both the TVA and the FCC formulas. Do you recall that?

A Yes, ma'am.

Q Why did you use actual data?

A Why would I not use actual data? To do anything else when we have actual data could mean that Blue Ridge under-recovers, and it would be -- it would be incumbent on -- somebody else would have to pay that. That would be Blue Ridge's members.

Q Why, if the presumption is -- the presumption is three under the diagrams that Mr. Gillespie was just showing you, right?

A Yes, ma'am.

Q Okay. And what does the actual data show? Does Blue Ridge have an average of three attachers on its system?

A No, ma'am. It's 2.35 on average.

Q And is it customary to look at actual data when you have it?

A Absolutely. We've done statistical surveys for co-ops and cities to determine that when they couldn't determine it from their records. They absolutely need that if it's a part of an attachment rental formula.

Q So you said if you don't use actual data, Blue

Ridge under-recovers; is that what you said?

A Yes, ma'am.

Q Why would -- what's unique about Blue Ridge's system that it only has 2.35 attachers? What -- can you explain that to us, as opposed to three that's presumed for -- and that's a presumption for rural areas, right, the three?

A That's correct.

Q Okay.

A And five -- five in urban areas. I've never -- I've never looked at a system in any detail where we actually met the rebuttable presumptions of three or five. We did a statistical survey for CPS Energy in San Antonio, very urban system, and of course the presumption there is five. It was actually less than three on that system at CPS Energy. The more rural a system gets, generally the less of the smaller the number of attaching entities. And the reason for that is in rural areas, I think, my assessment and based on my service career in the utility business, telephone companies go underground. They don't put their facilities on poles.

Q Why is that?

A Well, to be honest, overall, if you look at the long-term cost, the telephone companies determine that

underground plant is cheaper from a present worth of expenditures type of consideration. So they look at the overall cost of keeping plant operational instead of just the first cost.

Q Mr. Gillespie asked you about ILEC rates that Charter pays to ILECs. Do you recall that question?

A Yes, ma'am.

Q To your knowledge, are ILECs governed by the FCC cable rate?

A Yes, ma'am. They are.

Q So they are a federally regulated rate imposed under FCC rate, right?

A That's correct.

Q And are the co-ops in North Carolina governed by the FCC?

A No, ma'am.

Q Why were they not governed, based on your understanding in 50 years of working on both a regulated system with BellSouth and unregulated in your consulting career?

A As to attach---

MR. GILLESPIE: Objection. Asked and answered. This is all in his testimony.

CHAIRMAN FINLEY: Overruled. Be quick, please.

THE WITNESS: Yes, sir.

A As to electric co-ops, they're member owned, member operated, member governed. I think that Congress felt that they would act in the best interest of their members. To be honest, co-ops look at advanced communication services as quality of life things. I don't think they're trying to discourage those. In fact, they want to encourage them. So I think Congress recognized that.

Q Okay. Mr. Gillespie asked you about the average retirement accounting practice versus the vintage retirement accounting practice. Do you recall that?

A Yes, ma'am.

Q And it's set out in your rebuttal testimony, correct?

A That's correct.

Q And in the opposition testimony filed, did you review testimony that criticized your use of Blue Ridge's actual data and actual inputs as opposed to presumed inputs into the formulas you were looking at?

A I'm sorry?

Q Let me ask it this way. Why do you believe it's significant to note in your testimony that there is a difference between the average retirement accounting

method and the vintage retirement accounting method?

A It makes a significant difference, I believe, in the --

Q Could you speak up?

A It makes a significant difference -- it could make a significant difference in the average value of the asset itself which would impact the formula.

Q Okay. Can you explain that? I hear the words, but, you know, I'm a lawyer, so can you help me understand what you're -- the point you're trying to make?

A The way the retirement system works for electric co-ops is every year they look at the total dollars in the account for each asset, like the number of poles. They look at the number of poles and the number of dollars by pole type. They develop an average value for those poles. As those poles are retired over time, they take it off the books at the average value. So a pole that's the average value of all poles on the books, if it's $300 when they retire one, they take it off the books. However, that pole is more than likely 25 years old. The older poles are the ones that get replaced unless they're hit by a car. It may have been installed not at $300, but at $75 or $80. The first -- the first

poles that RUS -- that REA talked about on their -- in their pole rental rates were $25 apiece. So when a pole that's on the ridiculous end is retired at $300 that was installed at $25, then you -- what, in effect, happens is they take $275 too much off the books, and that ends up eroding the asset value over time.

Q And is that what the co-ops do, that you're aware of, in North Carolina?

A There's only one co-op that I'm aware of that has vintage retirement accounting records, and that's a company in Maryland.

Q Okay.

A And their -- we have recently looked at their attachment rental rates and formulas, and where Blue Ridge's pole is -- average pole at year end 2016 was $258, this co-op in Maryland is north of $600.

Q Does the -- do the IOUs and the ILECs use this average retirement system?

A I can't speak for all of those, but the ones I'm familiar with, like Duke and Southern Company and Entergy, they all use that. And I worked at Southern Bell for 30 years, and our -- when my engineers retired a pole, there was a vintage date in the records for the pole, and the pole came off the books at the value that

it was installed at. So absolutely, we used vintage retirement accounting.

Q Then why does Blue Ridge and the other North Carolina co-ops you're familiar with not use the vintage retirement method?

A It's the method that was adopted when REA was created. It's still accepted, but it has the effect, as the letter indicates, of undervaluing the assets.

Q Okay. Apart from the letter -- well, let me ask one question first. Is it more expensive or harder to maintain this? Does it take more personnel? What are you trying -- why would a co-op not do it?

A You'd have to change the entire accounting system to do it. It would be very expensive and require different software, different programming. It's one of those things that you set up and you just -- you start doing it that way and you continue it over the years. And it's more expensive to maintain vintage retirement accounting, no doubt about it.

Q Take more personnel?

A Certainly upfront to convert the records, yes.

Q Okay. You mentioned the Louisiana Commission and the Louisiana Commission's order as to co-ops with respect to vintage versus average retirement, correct?

A Yes, ma'am.

Q Were you involved in that proceeding?

A Yes, ma'am, I was. And we met with the Commission's Staff Attorney and discussed the process and met with Chairman of the Commission, and they understood that and they incorporated for those kind of adjustments to be made, subject to review in the 2014 pole attachment order.

Q Okay. So Mr. Gillespie kept saying it would be a doubling of the rate. I would like you to explain what effect that would have in the formula. Well, let me ask you first, do you agree it's a doubling of the rate?

A No, ma'am, I don't. I do think it would have the effect of increasing the rate some, but I couldn't tell you that until I looked at it and the study was actually done. So I can't quantify that. All I can tell you is that I'm confident the assets are under value.

Q Okay. And what that means is it's showing an artificially low base in the accounting system. The account you use, the numbers you pull out and stick into the formula are lower than they would be if you were actually retiring poles at their real depreciated value and not the average value; is that right?

A Yes, ma'am.

MR. GILLESPIE: Objection. This is not only leading; it's testimony.

CHAIRMAN FINLEY: Overruled. I think he's answered the question. Go on. Next question.

A Yes.

Q We've talked about the presumptions and the 37.5-foot pole, right?

A Yes, ma'am.

Q I get real confused between these mathematical studies in the real world. Does a 37 -- can I go out and buy a 37-1/2-foot pole?

A You can buy a 40-foot pole and cut 2-1/2 feet off.

Q Does anybody do that?

A No, ma'am.

Q Okay. So why do you use -- why do these formulas use 37-1/2 feet if no such pole can even be purchased?

A I don't really know how that came about, but it had to be based on averages. It's got to be based on either system averages or some selection of a number of poles or a study, but it's certainly -- it's an average number and it's -- I don't know the source.

Q Is 37-1/2 exactly between 35 and 40?

A It is. It is, yes, ma'am. It is exactly, but you'd have to have a universe where you had exactly the same number of each to get that 37-1/2, and I don't -- there's no place where a power company or a telephone company has the same numbers of both, so it's a presumption.

Q Okay. So when you are applying this information in the formulas, you're using mathematical averages of the system, et cetera; is that right?

A Yes, ma'am.

Q Like the 1.11?

A Yes, ma'am. That's right. Based on the records that Blue Ridge EMC has, we developed a number of 36.87.

Q Okay.

MS. HARDEN: I've concluded, sir.

CHAIRMAN FINLEY: Questions by the Commission? Commissioner Brown-Bland.

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q I just have one that I am confused about because in your summary I thought when you demonstrated with the TVA pole, you indicated that only half in the safety zone is assigned to the cable or communications companies, and then I thought I heard questions where

your response was all of the safety zone is assigned under the TVA methodology. Could you explain?

A I'm sorry if I confused you. The communications workers safety zone under the TVA model is allocated to however many communications companies are on the pole. So if it's one communications company, that space goes to that one company. In the model and in TVA's model, they presume there are two communications companies, so in that case it would be split in half. The allocation would be 50 -- 50 percent to each of the communications companies under the TVA method. I hope that clears it up.

COMMISSIONER BROWN-BLAND: Thank you.

THE WITNESS: Yes, ma'am.

CHAIRMAN FINLEY: Commissioner Patterson.

EXAMINATION BY COMMISSIONER PATTERSON:

Q I've just got a couple of questions just for context here. How many total customers does Blue Ridge have, if you know, roughly?

A No, sir. I don't know for sure.

Q And the other question, are you aware of any situation where Charter or anyone else has been denied an attachment to their poles?

A I'm not, no, sir.

COMMISSIONER PATTERSON: Thank you.

THE WITNESS: Yes, sir.

CHAIRMAN FINLEY: I have a few questions, Mr. Arnett.

EXAMINATION BY CHAIRMAN FINLEY:

Q First of all, Blue Ridge Mountain EMC and Blue Ridge EMC are different entities, are they not?

A Yes, sir. Blue Ridge Mountain EMC, I believe, is in Georgia, headquartered in Georgia, but serves into North Carolina.

Q Blue Ridge EMC is not a TVA distributor or what you call an LPC?

A No, sir, it is not.

Q All right. And I think we're all in agreement that Blue Ridge is a mountainous, for the most part, cooperative, right?

A Yes, sir.

Q And underground and in the mountains costs more than underground and on the coast?

A Well, I've actually asked that question of Lee Layton when Lee and I first started talking about this, and he says -- he has told me that it's not significantly more expensive for undergrounding, as I understand it, for communications companies, and I don't know how he

determined that, but I personally observed on Monday of this week a large -- well, a significant number of places that I looked, my old company, BellSouth, was underground. They had put in direct buried facilities and Charter was overhead, and so I don't know what's driving that decision. As an engineer for BellSouth, it was a whole lot easier for me to engineer an underground plant. And so perhaps laziness on the part of some design engineers, because when you put in aerial plants, you have to get out and check the angle on the poles, the pull, you have to do all these calculations I've been talking about. You put the facilities in underground and you don't have that problem, and you don't have a maintenance problem with them, either.

Q Well, having grown up in the area, I can tell you there's a lot of rocks in the ground.

A In my West Georgia area, there are a lot of rocks in the ground, too, yes, sir.

Q Let me just ask you a few conceptual big picture questions about the difference between the TVA formula and the FCC formula. You know, for context, this Commission has to deal with cost causation and cost allocation principles to come up with rates every day.

A Yes, sir.

Q Just to give you an example, in setting the rates for the electric companies, we have to allocate the cost between jurisdictions, federal jurisdictions, other state jurisdictions, and among customer classes, and for the electric companies, we are -- we have expert economists advocating that that be done in maybe a dozen, maybe 20 different types of formulas, 12 coincident peak, average and access, summer/winter coincident peak, summer/winter peak and average, winter coincident peak. The point is that there are all sorts of ways to allocate cost in each one of those methods. In that context, there's a lot of subjective decisions that have to be made to come up with the allocation and the rates that are produced by that allocation.

A Yes, sir.

Q And if you look at the experts who make those recommendations, if you look at who their clients are, usually the allocation method that they are recommending is beneficial to their particular client.

A Yes, sir.

Q That wouldn't surprise you, would it?

A No, sir. It would not.

Q Is it your position that the FCC formula is based in part on a motivation to enhance the deployment

of broadband?

A I think that's their intended purpose for -- I think it was the intent in the very beginning. When the FCC formula was first adopted, it was to stimulate a business that was in its infancy and just getting -- getting started, but --

Q Well -- finish your answer.

A -- yes, sir -- but it also happened at a time where it was pretty standard practice for the two pole owning entities, the telephone company and the power company, to share 100 percent of the cost of those poles themselves and build networks together. That's no longer the case.

Q Well, to the extent that the FCC formula that Charter is advocating in this case makes some subjective decisions as to how the cost on these poles ought to be allocated and who pays for what, Blue Ridge versus Charter, is it your view that the idea of deployment of broadband influences any of the subjective decisions that their experts are making here, or not?

A For Blue Ridge?

Q Charter.

A I don't believe -- I don't believe Charter has considered the cost of pole attachments in making

decisions about where they expand their service in the past. I don't -- I can't --and I hope I'm answering your question.

Q I don't think you are.

A No, sir.

Q My question is, Ms. Kravtin is going to come up in a few minutes and tell us why we ought to accept the FCC formula, right?

A Yes, sir.

Q You've read her testimony.

A Right.

Q Is it your view that in part, some of the decisions that have been made with respect to what Charter is advocating, what Ms. Kravtin is going to advocate for, is based in part on the motivation for the deployment of broadband?

A I think some of those decisions have been based on that.

Q So in your view, that's not a completely blinders cost -- pure cost allocation method, then --

A No.

Q -- right?

A That -- I would agree with that, yes, sir.

Q All right. Well, is it your view that the TVA

formula that is paid by the LPCs or the -- and put together by the regulatory staff of TVA and approved by the TVA Board, is the TVA formula based on pure -- pure cost of service, pure allocation principles, or is it based in part on an effort to increase the costs that are paid by the TVA distributors?

A I don't -- I don't know what rate -- what drove the TVA regulatory staff, but I do know that they were involved in this decision and had a lot to do with it and actually passed on that recommendation. If you're asking if it was -- if the formula was driven by an attempt by them to increase cost, I don't believe that was the case. I think it was to recover cost.

Q So it's your view that -- I think we would both agree that there's subjective decisions that have to be made in determining the cost allocation principles, right?

A (Nods affirmatively.)

Q And it's your view that perhaps the FCC formula is -- some of the subjective decisions there are based in part on motivation to expand broadband, but as far as the TVA rate is concerned, it was not based in part on increasing the rates that the TVA distributors pay?

A That's right. I believe the TVA regulatory

staff and TVA itself would not have done anything to discourage broadband deployment if they thought that was going to result from -- from the formula.

Q Well, you sure do come out with a lot of wide span in the recommendations, one on this end and one on that end, don't you?

A You do, you do, but I came from a world where the two people enjoying the use of a pole basically split that cost equally, and that's pretty much what we have here with 2.35 attaching entities. The question is should one party pay 7.4 percent or should they pay a fair or a -- a higher percentage of that pole cost, and I came from the telephone industry where we did pay a higher cost.

Q Ms. Mitchell, in her opening statement, talked about some of the history and the background of the Blue Ridge and other EMCs, the fact that they are not-for-profit entities. Charter is a for-profit big corporation, something Fortune something corporation, don't know what it is. Should we take that into account or should we be looking at pure economic cost allocation principles here?

A I think you should be looking at the cost allocation principles. I don't think we want to charge

-- I don't think Blue Ridge wants to charge Charter a higher rate because they're a big company. I don't think that's the intent.

Q On your -- the illustration that you used to show the TVA formula for poles that we moved to the back of the room, the yellow space for the TVA formula --

CHAIRMAN FINLEY: You can leave it back there; that's no problem.

Q -- as I understand it, it's --- the yellow space is 40 inches on the TVA example?

A That's the assumption. And it could be a little bit more as voltages go up, but TVA assumes 40 inches, yes, sir.

Q But in this case, the advocacy is on behalf of your client that it be 72 inches; is that right?

A What we're -- it would be -- the safety space is 40 inches. The way it's allocated would be dependant on the number of attaching entities, yes, sir. So if it's just -- if it's just Charter on the pole, the effect would be the safety space is there for Charter's workers. It would be allocated under the TVA formula just to Charter. If there were four attaching entities, three of them communications companies, it would be split a third, a third, and a third.

CHAIRMAN FINLEY: All right. Want to be sure I'm clear about that. Other questions by the Commission?

(No response.)

CHAIRMAN FINLEY: All right. Questions on the Commission's questions? We'll let this side of the room first.

MR. GILLESPIE: Nothing further.

MS. HARDEN: Just a few, sir.

EXAMINATION BY MS. HARDEN:

Q Do you have your rebuttal testimony in front of you?

A Yes, ma'am.

Q Can you help me, because I'm floundering this morning, as to which of your exhibits does a summary of the spectrum of rates that you looked at and the percentage allocations on rebuttal? I think it's 33. No, it's not. The first page of 33 is missing in mine. There it is. Did you find it? Exhibit 33, the --

A Yes, ma'am.

Q -- rental rate formulas for 2014, '15, and '16 for Blue Ridge?

A Yes, ma'am.

Q Did you, in looking at and recommending TVA, look at a variety of rate methodologies and formulas?

A Yes, ma'am, we did, and that's what's displayed here.

Q And did TVA generate the highest rate for Blue Ridge?

A No, it didn't. Actually, the APPA rate was the highest rate here.

MR. GILLESPIE: Objection. This is well beyond any questions by the Commission.

CHAIRMAN FINLEY: No. It's relevant.

Q Could you -- in looking at this chart and in what you did, you remember discussing the 11 percent rate of return under the APPA, which is one of the five rates here that you calculated?

A Yes, ma'am. I did.

Q And do you remember Mr. Gillespie comparing that to --

CHAIRMAN FINLEY: How is this related to questions by the Commission?

MS. HARDEN: Perhaps it is not, but I was going to explain.

CHAIRMAN FINLEY: Well, let's --

MS. HARDEN: May I ask one other question?

CHAIRMAN FINLEY: Yes, ma'am.

Q What rate of return is used in the FCC rate

that's calculated by both you and Ms. Kravtin?

MR. GILLESPIE: Objection.

CHAIRMAN FINLEY: Overruled.

A Eleven (11) percent for 2016.

Q Okay. And that's a set rate, right, the FCC --

A It's --

Q -- default rate?

A That's the FCC default rate, yes, ma'am.

Q And what rate --

CHAIRMAN FINLEY: That's two questions.

MS. HARDEN: Okay.

CHAIRMAN FINLEY: All right. Thank you, Mr. Arnett.

THE WITNESS: Thank you.

(Witness excused.)

CHAIRMAN FINLEY: Well, we got through two witnesses. Only a few hours left in the day. Next witness.

MS. MITCHELL: Blue Ridge calls Gregory Booth.

GREGORY BOOTH; Having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MS. MITCHELL:

Q Mr. Booth, would you please state your name, employer, and title for the record.

A Gregory Lee Booth. I'm President of PowerServices, Incorporated.

Q And what's your business address?

A 1616 East Millbrook Road, Raleigh, North Carolina.

Q On whose behalf are you testifying in this proceeding?

A Blue Ridge EMC.

Q And did you cause to be prefiled in this docket on October 16th, 2017, direct testimony consisting of 55 pages and eight exhibits?

A I did.

Q And did you cause to be prefiled in this docket on November 6, 2017, rebuttal testimony consisting of 35 pages and two exhibits?

A I did.

Q Do you have any corrections to make to that prefiled testimony at this time?

A I do not.

Q If I were to ask you the questions today as set forth in your testimony, would you answer them the same as stated in your testimony?

A I would.

MS. MITCHELL: Mr. Chairman, at this time I

move that Mr. Booth's prefiled direct testimony and rebuttal testimony be copied into the record as if delivered orally from the stand.

CHAIRMAN FINLEY: Mr. Booth's direct prefiled testimony consisting of 55 pages, filed on the 16th of October 2017, is copied in the record as though given orally from the stand, and his 35 pages of rebuttal testimony filed on November 6, 2017, is copied in the record as though given orally from the stand.

MS. MITCHELL: Also, that the exhibits be marked as prefiled and received into evidence.

CHAIRMAN FINLEY: They shall be marked for identification as prefiled, and we'll hold off on the admission into evidence, but we will admit without objection all of Mr. Arnett's exhibits at this point.

MS. MITCHELL: Thank you, sir.

(Whereupon, WA Exhibits 1-23 and Rebuttal WA Exhibits 24-35 were admitted into evidence. Rebuttal WA Exhibits 34-35 were filed under seal.) (Whereupon, the prefiled direct testimony of Gregory Booth was copied into the record as if given orally from the stand.)

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PUBLIC

DIRECT TESTIMONY OF GREGORY L. BOOTH, P.E.

I. IDENTIFICATION AND QUALIFICATIONS OF GREGORY L. BOOTH

Q. PLEASE STATE YOUR NAME AND THE BUSINESS ADDRESS OF YOUR EMPLOYER AND YOUR POSITION.

A. My name is Gregory L. Booth. I am President of PowerServices, Inc. ("PowerServices"), UtilityEngineering, Inc. ("UtilityEngineering"), and Gregory L. Booth, PLLC ("Booth, PLLC") all located at 1616 E. Millbrook Road, Suite 210, Raleigh, North Carolina 27609. As such, I am responsible for the direction, supervision, and preparation of engineering projects and management services for our clients, including the corporate involvement in engineering, planning, design, construction management, and participation as an expert witness.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS MATTER?

A. I am testifying on behalf of Blue Ridge Electric Membership Corporation ("Blue Ridge") headquartered in Lenoir, North Carolina.

Q. PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND.

A. I graduated from North Carolina State University in Raleigh, North Carolina in 1969 with a Bachelor of Science Degree in Electrical Engineering. I am a registered professional engineer ("P.E.") in twenty-three states, as well as the District of Columbia. I am also a registered land surveyor in North Carolina. I additionally hold a record with the National Council of Examiners for Engineering and Surveying.

Q. HAVE YOU ATTACHED TO YOUR TESTIMONY A COPY OF YOUR CURRICULUM VITAE?

A. Yes. My curriculum vitae is attached as Exhibit GLB-1 to this testimony and includes: (1) educational background; (2) special educational recognition; (3) the professional societies in which I am a member; (4) publications and courses taught; and (5) an overview of my professional experience since beginning work in 1963.

Q. PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE WITH ELECTRIC UTILITIES.

A. I have worked in the area of electric utility and telecommunications engineering and management services since 1963. My work has involved all aspects of engineering, design, construction, construction management and inspection of utility plant including generation, transmission, substations, distribution overhead and underground systems, consumer service facilities and telecommunication system plant (telephone, cable, fiber, broadband, antenna systems and cellular).

My experience specifically related to joint use of electric utility plant by communications companies began in 1963 and has spanned my entire career of more than 50 years. This has included but is not limited to: staking of joint use distribution pole lines for electric and communication companies; designing distribution and communication facilities; inspecting new and existing construction and managing construction projects for electric and communications facilities including highway relocation projects; assisting in the preparation of numerous joint use and pole attachment agreements between electric utilities and communication companies; preparing joint use construction standards; preparing make ready designs for joint use facilities; performing work order and construction inspections identifying NESC violations and other construction

discrepancies on joint use pole lines; inspecting in excess of a million miles of pole line in my career, including for joint use communication company deficiencies and NESC violations; testifying as an expert in property damage and personal injury cases involving electric and communication facilities; investigating and preparing reports and testifying at regulatory commissions on joint use of pole lines, accidents, and the standard of care for electric and communication utilities; and designing a wide variety of communications facilities and structures, including cellular equipment, microwave, fiber, telephone, cable, and interconnection into electric utility substations and operations systems, such as SCADA systems. Additionally, I have been actively involved in utility grid modernization projects that impact communications and joint use issues and have participated as an expert witness in regulatory proceedings in this context, as well.

Q. DO YOU HAVE OTHER INVOLVEMENT AND EXPERIENCE WITH COMPANIES THAT PROVIDE YOU WITH ADDITIONAL EXPERTISE RELEVANT TO THIS DOCKET?

A. Yes. My electric utility reliability assessment work at the Rhode Island Public Utilities Commission for the Division of Public Utilities and Carriers ("Division"); the New Jersey Board of Public Utilities ("NJBPU"); the Pennsylvania Public Utility Commission ("PPUC"); the Massachusetts Department of Public Utilities ("MDPU"), the North Carolina Utilities Commission ("Commission"), and the Virginia State Corporation Commission ("VSCC") over the last ten years has involved working on an in-depth assessment of reliability enhancement, and the costs associated with such enhancement, including annual construction work plan development for electric utility systems

and the impacts of various communication companies use of electric utility facilities, most particularly poles. This includes evaluation, impact and testimony associated with storms, outage restoration and cost recovery.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT BEFORE STATE UTILITY COMMISSIONS AND OTHER REGULATORY AGENCIES?

A. Yes. I have testified on numerous occasions before the Federal Energy Regulatory Commission ("FERC"), including wholesale rate, electric utility reliability, and facility connection standards matters, including Duke Power Company and Dominion Power dockets. I have also testified before the NJBPU, the Delaware Public Service Commission, the Maryland Public Service Commission, Minnesota Department of Public Service Environmental Quality Board, VSCC, the PPUC, Rhode Island Public Utilities Commission, Massachusetts Department of Public Utilities, Maine Public Utilities Commission and the North Carolina Utilities Commission, including, most recently, in the proceedings on-going in Docket Nos. EC-43, Sub 88; EC-49, Sub 55; EC55, Sub 70; and ED-39, Sub 44 concerning contractual issues in dispute between four North Carolina Electric Membership Corporations and Time Warner Cable.

Q. HAVE YOU BEEN ACCEPTED AS AN EXPERT BEFORE STATE OR FEDERAL COURTS?

A. Yes. I have been accepted as an expert in the area of electrical engineering and electric utility engineering, construction and reliability matters and the NESC, NEC, OSHA, the standard of care for electric and communications utilities, and forensic engineering, including standard and customary utility operation practices

in the electric and communications utility industry and the electric industry before 18 state and federal courts.

Q. HAVE YOU BEEN ACCEPTED AS AN EXPERT BEFORE REGULATORY COMMISSIONS ON MATTERS OF JOINT USE AND JOINT OWNERSHIP AGREEMENTS?

A. Yes. I testified before the VSCC in Case No. PUE-2013-00055 and in Case No. PUE-2011-00033. I have also testified before the North Carolina Utilities Commission in Docket Nos. EC-43, Sub 88; EC-49, Sub 55; EC55, Sub 70; and ED-39, Sub 44. I have additionally testified before the Rhode Island Public Utilities Commission on behalf of the Rhode Island Division of Public Utilities and Carriers concerning Joint Ownership Agreements and the party responsibilities on multiple occasions; and have testified on multiple occasions before the Massachusetts Department of Public Utilities on behalf of the Attorney General's Office, including on matters regarding pole attaching entities responsibilities and agreements.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is: (i) to provide a brief overview of the basics of communications attachments to electric utility poles; (ii) to provide evidence on the burdens and costs to Blue Ridge that would not be incurred but for attachments made by Charter Communications Properties LLC ("Charter") to Blue Ridge's poles; and (iii) to provide the Commission with the contractual provisions that are necessary to protect Blue Ridge from the impacts that would not be incurred but for Charter's attachments to Blue Ridge's poles.

Q. PLEASE PROVIDE A BRIEF SUMMARY OF THE COSTS THAT BLUE RIDGE WOULD NOT OCCUR BUT FOR CHARTER'S ATTACHMENTS TO BLUE RIDGE'S POLES.

A. These "but for" costs generally fall into two categories: (i) code and safety violations that require correction; and (ii) Charter's standard and customary practices that encumber Blue Ridge's plant and that inappropriately transfer Charter's duties and obligations onto Blue Ridge, as well as burdens and costs to Blue Ridge, which Blue Ridge incurs even if Charter's attachments are made in a proper and workmanlike manner. With respect to the first category, the most recent inspection of Charter's attachments to Blue Ridge's poles, conducted by Blue Ridge in 2015 and 2016, revealed thousands of safety violations (3,767) discovered among Charter's attachments, which indicates a failure on Charter's part to inspect its attachments or supervise the work of its contractors who make the attachments. With respect to the second category, Charter employs no professional engineers to approve or review the design, construction, or

maintenance, of its attachments and has no safety inspection program for its attachments to the poles as contemplated by the NESC.[1] Additionally, Charter customarily installs its cables and facilities within the space on the pole allocated to Blue Ridge, thus encumbering pole space intended for use to serve electric consumers. Also with respect to this second category, even if Charter attached its facilities in a proper, workmanlike manner, Blue Ridge incurs the following costs associated with Charter's attachments:

(i) administrative oversight, including for example, processing permits and applications and related tracking and paperwork;

(ii) time and resources spent addressing issues in the field, including for example, "make ready" design or construction for new attachments, field inspections of attachments, delays caused when Charter fails to transfer its attachments in a timely manner;

(iii) handling of emergency calls received related to downed lines or other issues that are ultimately related to Charter's facilities, not Blue Ridge's, attachments;

(iv) costs and expenses required to audit and inspect Charter's attachments;

(v) impediments to vegetation management and climbing of the poles caused by Charter's attachments; and

(vi) costs and expenses associated with liability resulting from Charter's attachments to Blue Ridge's poles.

[1] Nestor Martin Deposition Testimony (attached hereto as Exhibit GLB-7), Page Nos. 74-77.

Q. PROVIDE A BRIEF SUMMARY OF THE NECESSARY CONTRACT PROVISIONS, IN LIGHT OF THESE "BUT FOR" COSTS.

A. In light of the "but for" costs discussed above, a pole attachment agreement should include the following provisions to protect Blue Ridge from adverse impacts caused by Charter. Although I discuss each provision in detail in Section IV of my testimony, these provisions can be summarized as follows:

1. **Indemnity**. Charter—not Blue Ridge—should bear all risks associated with Charter's attachments to Blue Ridge's poles. Charter should therefore be required to defend and indemnify Blue Ridge for all existing attachments Charter has made to Blue Ridge's system that violate the NESC, the terms and conditions of the pole attachment agreement, or any other applicable design and/or safety standard. Such a contract provision is critically important given the widespread safety violations Blue Ridge has discovered among Charter's existing attachments.

2. **Certification of Pole Attachment**. In order to ensure safety and Blue Ridge's ability to provide adequate and reliable service to its members, Charter should be required to provide the certification of a professional engineer of each and every attachment made to Blue Ridge's poles, including any overlashing. Both prudent electric utility practice and North Carolina law dictate that Charter provide such certification to demonstrate compliance with all applicable standards, including the NESC.

3. **Non-Compliant Attachments**. In the event that a Charter attachment fails to comply with applicable standards, including the NESC, Charter

should be required to remedy, at its own expense, such non-compliance within a time certain. In the interest of safety and reliability, if Charter fails to implement timely corrective action, Blue Ridge should be authorized to revoke the permit and apply liquidated damages provisions associated with unauthorized attachment. Should Charter not be so obligated and Blue Ridge not be so authorized, the risk of non-compliance will be borne almost entirely by Blue Ridge.

4. **Overlashing**. "Overlashing" is a method Charter uses to add aerial facilities by running new cable over an existing cable and then lashing the cables together, in effect using the existing cable as a way to support and string the new cable. Overlashing affects wind and ice loads on poles and adds structural load to Blue Ridge's poles. In addition, overlashing necessarily involves work by Charter (or its contractors) on Blue Ridge's system. Accordingly, any pole attachment agreement should require Charter to apply for and obtain a permit from Blue Ridge before overlashing to ensure that Blue Ridge has notice of Charter's overlashed facilities and opportunity to review and approve the design and construction of the overlashed facilities. In addition, as is the case with an attachment, Charter should be required to provide professional engineering certification of any attachment, including overlashing.

5. **Unauthorized Attachment Fee and Safety Violation Fee**. Charter's practices of making attachments without providing notice to Blue Ridge (and without a permit), including overlashing, and causing safety

violations imposes significant risk on Blue Ridge. Fees and liquidated damages provisions serve as a deterrent to unauthorized attachments and safety violations. Charter should be required to pay fines or liquidated damages, in addition to back rent, for unauthorized attachments and should be required to pay fines or liquidated damages for safety violations in order to deter such conduct.

6. **Maintenance and Transfers.** The costs associated with a pole replacement necessitated by Charter's attachments should be borne by Charter.

7. **Timely Transfers.** When it is necessary for Charter to transfer an existing attachment to another pole, Charter should bear the cost associated with such transfer. Additionally, in order to ensure that Blue Ridge can continue to deliver safe and reliable power to its members, Charter should be obligated to complete transfers within a time certain in order to minimize interference with or disruption to Blue Ridge's provision of electric service.

8. **Permit Application and Fee.** To protect Blue Ridge and its members from the risks imposed by Charter's attachments to its poles, Charter should be required to notify Blue Ridge and submit a permit application for each and every pole to which Charter seeks to attach. In addition, in order for Blue Ridge to recover costs associated with processing the application (including all technical and administrative work), Charter

should be required to pay a permit application fee for each permit application.

9. **Disputed Invoices**. Disputes related to invoices from Blue Ridge may arise from time to time during the term of the new agreement. In order to deter Charter from disputing amounts indisputably owed to Blue Ridge and from working less than efficiently to resolve disputes, Charter should be required to pay all invoices, including those that are subject to dispute, pending resolution.

10. **Insurance**. The Rural Utilities Service ("RUS") has provided loans to Blue Ridge to finance the construction of its infrastructure, including poles, and these financing arrangements obligate Blue Ridge to provide certain insurance coverage. Therefore, since the RUS has financed the infrastructure to which Charter seeks to attach and obligates Blue Ridge to provide certain insurance coverage, Charter should be required to provide the coverage required by RUS, as well.

11. **Rights and Obligations in the Event of Default**. A new agreement should give Blue Ridge the right to withhold permits for new attachments in the event that Charter defaults under the agreement. Such a provision is necessary to deter Charter from refusing to cure a default and help ensure that Charter will not allow existing violations to persist on Blue Ridge's system.

12. **Right to Withhold Consent**. The parties agree that it would be reasonable for Blue Ridge to withhold any consent required by the new agreement (including, specifically, the granting of new permits) in the event that Charter is in default under the agreement or is more than thirty (30) days past due in any amounts owed to Blue Ridge. However, Charter would deny Blue Ridge the right to withhold consent in the context of granting access to new/additional poles, which effectively abrogates any incentive for Charter to cure a default by depriving BREMC of what should be a standard interim contractual remedy.

13. **Confidentiality**. While North Carolina law grants Charter the right to access Blue Ridge's poles, the agreement that governs this access will involve market sensitive information and is necessarily the result of compromise and negotiation between the parties. For this reason, Blue Ridge should be allowed to require that the terms and conditions of a new agreement will be confidential.

14. **Recovery of Space**. If at any time Blue Ridge requires space on its pole that is occupied by Charter's attachments, Charter should be required to rearrange or remove its attachments, at Charter's expense, within a time certain to allow Blue Ridge to use the space. Therefore, any pole attachment agreement should include a provision obligating Charter to remove or rearrange its facilities, at Charter's expense, in the event Blue Ridge seeks to add additional electrical facilities and there is insufficient space on the pole due to Charter's attachments.

15. Reservation of Space. To enable Blue Ridge to accommodate future electrical facilities and make full use of the space allocated to it, any pole attachment agreement should include a provision specifying that all attachments made after the date of the agreement shall have at least 72 inches vertical clearance under Blue Ridge's grounded neutral. Further, the agreement should make clear that Blue Ridge shall always have the exclusive right to, at a minimum, the uppermost nine feet six inches of the pole as its electrical supply space.

III. BASICS OF POLE ATTACHMENTS AND THE ASSOCIATED COSTS IMPOSED ON BLUE RIDGE

Q. TO HELP THE COMMISSION UNDERSTAND THE COSTS AND BURDENS ASSOCIATED WITH CHARTER'S ATTACHMENTS, WOULD YOU DESCRIBE THE TYPICAL POLE PLANT WITH CHARTER ATTACHED?

A. I have included as Figure 1 a typical, 40-foot three-phase distribution pole, which can be broken into four basic sections.

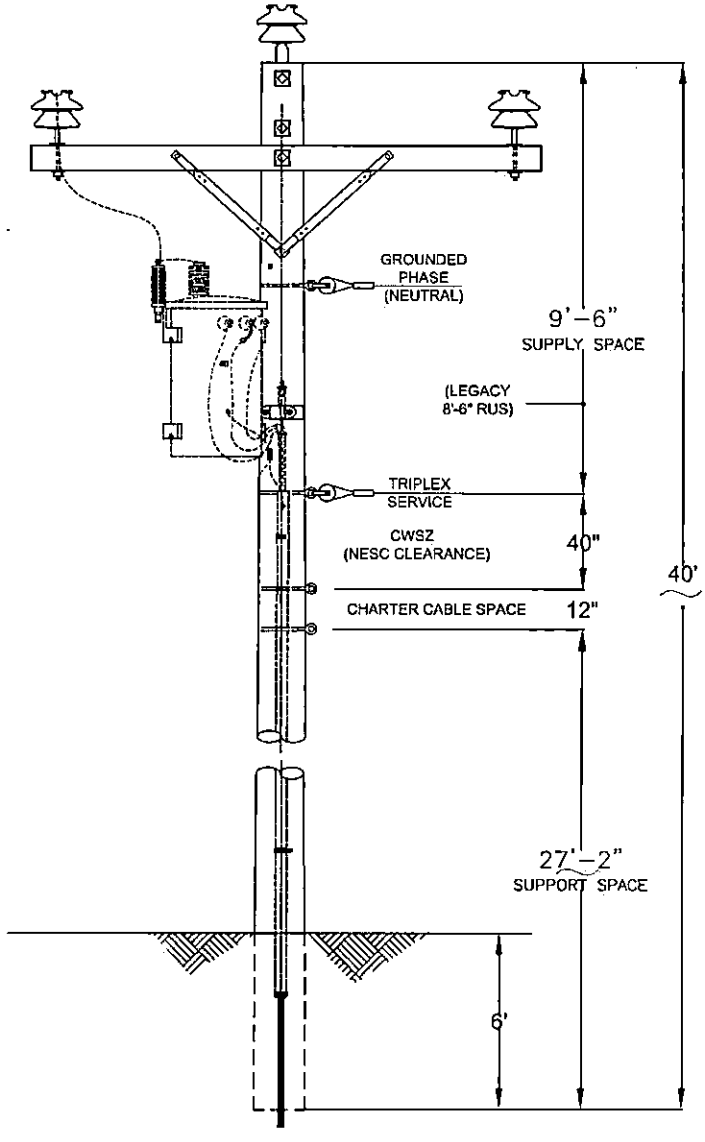

FIGURE 1

Moving from the top of the pole to the bottom, the four sections are described as follows:

(i) At the top of the pole is the electrical "supply space," which is Blue Ridge's allocated area in which to run its electric facilities.[2] Historical RUS design drawings require that a minimum of the top 8.5 feet of a three-phase straight line pole be reserved for the electrical supply space. Figure 1 indicates a 9.5-foot area reserved for Blue Ridge, which is Blue Ridge's current standard.

(ii) The "communication worker safety zone" ("CWSZ") is an area immediately below the electrical supply space that is required for the protection of communications workers (such as Charter's contractors). As required by the NESC,[3] the CWSZ is a minimum of a 40-inch (3.33 feet for a 7.2 kV line) distance in which Charter must maintain clearance from the electrical "supply space" and all electric utility energized lines and equipment. The CWSZ exists for the protection of communications workers, who are often not trained or allowed by NESC or Occupational Safety and Health Administration standards to work on or near the electric utility's energized electrical facilities. It is a space requirement only to the extent that a communications company has attached to the pole. In other words, the CWSZ would not be required "but for" the presence of a communications attachment. For the purpose of responsibility for "make ready" work and associated cost, it is important to understand that the CWSZ should be measured from the bottom of Blue Ridge's reserved electrical supply space—not

[2] National Electrical Safety Code ("NESC"), C2-2017 Edition, Definitions Page No. 17, and Rule 238E.
[3] NESC, C2-2017 Edition, Rule 235.

from whatever equipment happens to be present on the pole when a communications provider, like Charter, makes its attachments to the pole. Just because the pole does not yet have all of the facilities that Blue Ridge may intend to put in the electrical supply space at some point during the pole's life (such as a transformer and a service), does not mean that Charter has the right to invade the utility's supply space without the possibility that it will be later asked to move its facilities. Throughout my testimony I will describe encroachments into the supply space by Charter and provide photographs depicting instances in which Charter's attachments so encroach.

(iii) The "cable space," located immediately below the CWSZ, is the space on the pole assigned to a communications provider, such as Charter, to make its attachments. In the basic example shown in Figure 1, this is the one-foot space reserved exclusively for communications attachments. There may be multiple communication attachments on a single pole, and each must be separated from the other by one foot. Not shown in Figure 1 are the many other types of facilities—such as conduit "risers" that run the entire length of the pole and power supplies, amplifiers or similar boxes that are attached to a pole—that Charter and other communications providers routinely attach to the pole, which seriously impede Blue Ridge's line workers from safely climbing the pole.

(iv) The "support space" is the bottom-most part of the pole, which includes the portion of the pole underground and aboveground that provides for the strength, support, and height necessary to meet all of the requirements of the

NESC, including clearance above ground and strength to support the facilities on the pole.

Figure 2, below, shows a typical "lift pole" or "secondary pole."

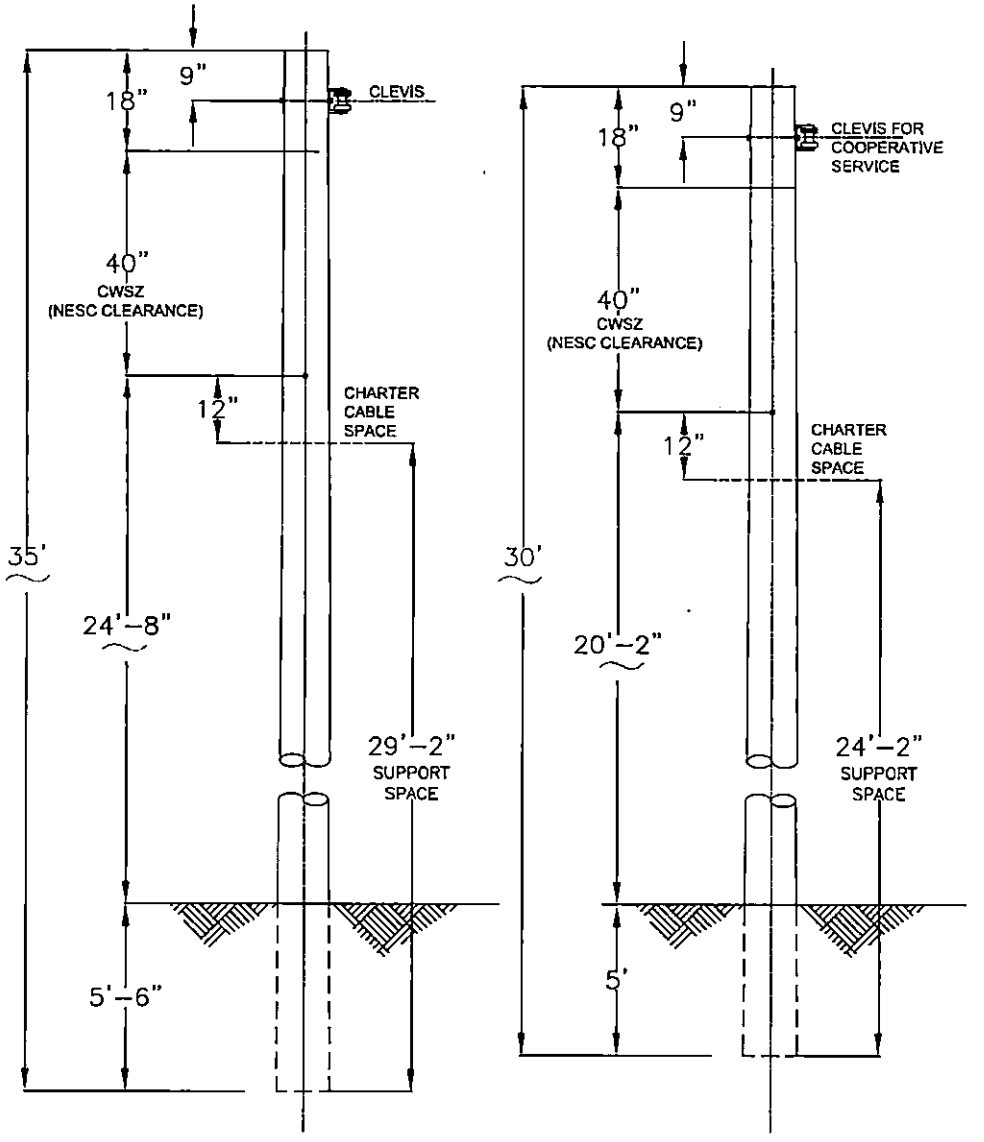

FIGURE 2

A lift pole (also referred to as a secondary pole) is a pole installed between the mainline distribution poles and a consumer's premises because the distance

requires the lift (or secondary) pole to support the wires. Lift poles are typically shorter than mainline distribution poles, but generally involve the same space allocation categories. On such a pole, Blue Ridge's facilities typically occupy approximately 12-18 inches of the top of the pole. It is important to recognize that communications providers, such as Charter, also utilize these poles but that the communications provider is using more space than Blue Ridge since it is both occupying one foot for its facilities and also imposing the required 40-inch space for the CWSZ. Therefore, absent the communication provider's presence, the lift pole could be five feet shorter.

Q. WHAT IS THE NESC AND HOW DOES IT APPLY TO CHARTER'S ATTACHMENTS?

A. The NESC establishes the minimum safety and design standards and work rules for the electric and communications industries. This includes standards such as vertical clearance over roads or above the ground, horizontal clearance from buildings, clearances between electric and communications lines, and the strength requirements associated with the facilities, including the application of guys and anchors. Section 62-350 of the North Carolina General Statutes provides that an electric membership corporation, such as Blue Ridge, shall require attaching entities to comply with the NESC,[4] and, typically, pole attachment agreements, joint use agreements, and joint ownership agreements establish the NESC as one of the minimum standards to which the electric utility and communications provider must adhere. Additionally, Rule R8-26 of the Rules and Regulations of the North Carolina Utilities Commission adopts by reference the NESC as the

[4] N.C. Gen. Stat. § 62-350(a).

electric safety rules of the Commission and specifies that the NESC shall apply to all electric utilities which operate in North Carolina under the jurisdiction of the Commission. The basic premise of the NESC is to provide for the practical safeguarding of the public, and utility and communication company employees. While the NESC provides minimum safety-related standards, it is not a design manual or construction manual, and, typically, utility pole owners have separate design and construction requirements, and manuals, which meet or exceed the NESC.

Q. DO COMMUNICATIONS PROVIDERS ADHERE TO THE NESC?

A. In my experience, communications providers and their contractors are not trained, or at least not adequately trained, regarding the application of the NESC. In many cases of which I am aware, including tort cases, negligence cases, and regulatory proceedings, evidence has shown that communications provider employees and their contractors are often completely unaware of the existence of the NESC and do not have professional engineering staff to ensure compliance with the NESC.

Q. ARE THERE OTHER STANDARDS THAT GOVERN CHARTER'S ATTACHMENTS TO BLUE RIDGE'S POLES?

A. Yes. In addition to electric utility construction and design standards, there are also numerous state, federal and local laws, and rules promulgated by trade groups and other organizations that define best practices in the industry. These include, among others, the National Electrical Code, the North Carolina Department of Transportation, the Occupational Safety and Health Act, the Rural Utilities Service, and the Society of Cable Television Engineer's Recommended Practices for Coaxial Cable Construction and Testing and for Optical Fiber Cable

Construction. In addition, ordinary standards of good and workmanlike construction practices should govern a party's attachments to a utility pole. Charter employee Nestor Martin acknowledges that when making attachments, Charter has a responsibility to comply with the practices set forth by these trade groups and government organizations.[5]

Q. PLEASE DISCUSS THE IMPACTS OF CHARTER'S ATTACHMENTS TO BLUE RIDGE'S POLES.

A. As I will explain in greater detail, in my professional opinion, Charter's attachments impose significant burdens and costs on Blue Ridge that it would not otherwise incur but-for the presence of Charter's attachments. These "but for" costs are not recovered through an attachment rate that is based on the costs of the utility plant.

Q. WHAT ARE THESE "BUT FOR" COSTS?

A. These burdens and costs can be divided into two basic categories. First, Charter's attachments to Blue Ridge's poles often violate the safety standards I described previously. Second, Blue Ridge incurs various other costs in connection with Charter's attachments, irrespective of whether Charter's attachments are made in a good and workmanlike manner, which Blue Ridge would not bear "but-for" the presence of Charter's attachments.

Q. PLEASE DESCRIBE THE FIRST CATEGORY OF "BUT FOR" COSTS IN DETAIL.

[5]Nestor Martin Deposition Testimony, Page No. 72, Exhibit GLB-8.

A. The first category of costs incurred by Blue Ridge relates to Charter's failure to comply with safety standards established by the NESC or necessitated by Blue Ridges' work practices. The following discusses several NESC standards that are applicable to Charter's attachments to Blue Ridge's poles, and the NESC standards referenced are included in Exhibit GLB-2. Further in my testimony, I provide multiple examples, accompanied by photographs, of Charter's failure to comply with these specific standards.

- NESC Rules 010, 011, 012, and 200

These rules establish applicability of the NESC to Charter. The rules not only require that initial design and construction comply with the NESC but also that Charter must operate and maintain its facilities to comply with the requirements of the NESC, including the practical safeguarding of persons and utility facilities.

- NESC Rule 214

This Rule stipulates the requirement for initial inspection for compliance when placed in service and inspection at such intervals as experience has shown to be necessary.

- NESC Rule 232

Rule 232 establishes the minimum vertical clearance to the ground for wires, conductors, and cables. Proper vertical clearances are necessary to accommodate safe passage of people, vehicles or equipment beneath lines.

- NESC Rule 235

Rule 235 establishes the minimum clearances between different utility functions for wires, conductors and cables on the same supporting structure. This rule establishes required distances to prevent communication cables from contacting energized electrical lines. It also establishes a safe perimeter for communication workers when working near energized lines.

- NESC Rules 264 and 279

These rules establish the requirements for guys, anchors, and braces, which are used to support structures under the tension of attached cables. Each utility is responsible for providing guys and anchors to support its own conductors.

- NESC Sections 25 and 26

Both of these sections include the rules pertaining to the general loading requirements and strength requirements for structures. Rule 250 notes it is necessary to assume the wind and ice loads that may occur on a line. The intent of the NESC rules is to apply wind loading in an essentially horizontal plane. Three weather loadings are specified in Rules 250B, 250C and 250D. Rule 260 recognizes that deformation, deflections, or displacement of parts on a structure may change the effects of the loads assumed.

Q. HOW HAS CHARTER FAILED TO COMPLY WITH SPECIFIC NESC STANDARDS?

A. The violations caused by many of Charter's attachments to Blue Ridge's poles are wide ranging and best explained through photographs. To streamline my testimony and illustrate the first category of "but for" costs, I have prepared Exhibit GLB-3, which includes photographs demonstrating the serious nature of the improper actions and inactions of Charter. These photographs reflect a small percentage of violations documented during a recent pole attachment survey, described in detail below. Exhibit GLB-4A, generated using Blue Ridge's GIS tool, depicts all of Charter's attachments in Blue Ridge's service area as well as the Charter violations identified as part of the pole attachment inventory completed by Blue Ridge in 2015 and 2016. Exhibit GLB-4B, generated using Blue Ridge's GIS tool, depicts the Charter violations that were found during the recent survey completed by PowerServices of five (5) circuits in Blue Ridge's service area, which survey is described below in greater detail.

Q. PLEASE DESCRIBE THE RECENT INVENTORY PERFORMED BY BLUE RIDGE AND SURVEY PERFORMED BY POWERSERVICES ON BLUE RIDGE'S SYSTEM.

A. Blue Ridge completed a system wide audit or inventory of all pole attachments in 2015 and 2016. As part of this audit or inventory, a basic assessment of obvious and readily apparent NESC violations was completed, the results of which have been provided to Charter. Separate and apart from this inventory, PowerServices surveyed a representative sample of Charter's pole attachments to poles in Blue Ridge's distribution system in August 2017. As part of this survey, PowerServices took detailed photographs of all of Charter's safety violations and adverse attachment practices. The survey involved the evaluation of five (5) different electric distribution circuits in Blue Ridge's system. Those five (5)

circuits consist of 2,022 poles. As there are 113,641 poles in Blue Ridge's system, the surveyed sample represents 1.7% of total poles. Additionally, as there are 24,888 poles to which Charter attaches in Blue Ridge's system, the surveyed sample represents 8% of the poles to which Charter has attached. The PowerServices survey was conducted over a period of eight days, from August 21-25 and August 28-30, 2017 and was performed by teams comprised of one employee of Blue Ridge and one employee of PowerServices. During this time, two teams physically rode each circuit and photographed each pole containing a violation. Poles with visible NESC violations were also documented on a spreadsheet by type of violation. Of those, a subset of poles was photographed with a tool providing verifiable measurements on the pole. Multiple photographs were taken of each pole evaluated, and the survey produced a total of 2,922 photographs. Each pole with a Charter violation was catalogued and summarized by Blue Ridge pole number and type of violation. Exhibit GLB-5 documents all poles surveyed with violations, by violation type.

Q. WHAT WERE THE OVERALL RESULTS OF THE SURVEY?

A. Of the 2,022 distribution poles surveyed, 879 poles, or 43%, of the poles had at least one instance where Charter violated NESC standards, Blue Ridge work practices, or both. A total of 1,520 violations were documented on the 879 poles surveyed that had at least one violation. This number of violations and high percentage of poles with violations is a clear indication of Charter's egregious disregard for safety standards. Table 1, below, condenses the information included in Exhibit GLB-5 and shows the number of surveyed violations, by type.

Table 1

Type of Violation	40" Separation	8.5' Encumbrance	Guy & Anchor	Pole Equipment & Pedestal	Low Span	Transfer Needed	Total*
Number of Charter Violations	667	565	212	24	6	46	1,520
* 879 poles had violations - some have multiple							

Q. WHAT DOES EXHIBIT GLB-3 SHOW?

A. The photographs in Exhibit GLB-3 document some of the many issues caused by Charter's attachments to Blue Ridge's poles, which can result in damage to Blue Ridge's poles, create public and employee hazards, reflect a disregard for the NESC, create lineman climbing hazards, and impose other operational costs on Blue Ridge. The photographs in Exhibit GLB-3 depict a representative percentage of the actual instances of each of these Charter violations that were documented as part of the survey. A record of the photographed 1,520 violations, as summarized above in Table 1, has been provided to Charter for its records.

Q. HOW HAVE YOU ORGANIZED EXHIBIT GLB-3?

A. The photographs included in Exhibit GLB-3 have been divided into six (6) categories of violations. Of these six (6) categories, five (5) are direct NESC rule violations, and the remaining category involves instances that hinders safe work practices while imposing costs to Blue Ridge. Each photograph visually depicts the violation caused by Charter within a respective category. Many poles have multiple Charter violations, but for the purposes of this discussion, the violation pertinent to a specific category is highlighted.

Q. PLEASE SUMMARIZE THE SIX CATEGORIES OF VIOLATIONS AND EXPLAIN THE SIGNIFICANCE OF EACH.

A. The six (6) categories of violations are as follows:

1. **Failure to Observe Forty-Inch Clearance**. The conditions shown in the photographs of Exhibit GLB-3, Section A, demonstrate how Charter positions its attachments less than the required 40 inches from Blue Ridge's neutral line or lowest equipment on the pole. This is a violation of NESC Rule 235. It also hinders or prevents future expansion down the pole by Blue Ridge. In order to "recapture" the electrical supply space to install transformers, consumer services and other equipment necessary to meet changing electric service needs, Charter's facilities must be moved down the pole, or if space is not available for both Blue Ridge's and Charter's facilities, the pole must be replaced with a taller/stronger pole and all existing facilities must be transferred to the new pole. These attachment relocation and pole replacement costs can be considerable, and would not be incurred by Blue Ridge but-for the use of the pole by Charter and, moreover, Charter's disregard for the NESC requirements.

2. **Encroachment into Electrical Supply Space**. The conditions shown in the photographs of Exhibit GLB-3, Section B, demonstrate how Charter often positions its attachments such that they encroach on the electrical supply space, which is reserved for Blue Ridge's facilities. Although in some cases Charter may position its attachment 40 inches below Blue Ridge's neutral in apparent technical compliance with NESC Rule 235, it is still within Blue Ridge's defined electrical supply space, thus violating the intent of the allocated space for electric utility and communication utility. Placing a communications attachment 40 inches from Blue Ridge's neutral does not technically violate the NESC, though it does

hinder and often prevent future expansion down the pole by Blue Ridge. This is why Blue Ridge's pole attachment agreements with Charter have specified that attachments must be installed at least seventy-two (72) inches vertical clearance under the grounded neutral. In order to "recapture" the electrical supply space from Charter to install transformers and other equipment necessary to meet changing electric service needs, Charter's facilities must be moved down the pole, or if space is not available for both Blue Ridge's and Charter's facilities, the pole must be replaced with a taller/stronger pole and all existing facilities must be transferred to the new pole. Both the relocation of the electric facilities and the communications attachment relocation, as well as the pole replacement costs can be considerable, and would not be incurred by Blue Ridge but-for the use of the pole by Charter. These photographs demonstrate how Charter is consuming 1 foot of space plus 40 inches of CWSZ, while restricting Blue Ridge to as little as 4 feet of space on the pole. Furthermore, in those instances where an outdoor light is installed on the pole, Charter's encroachment into the supply space may make it appear as if the light may be in the CWSZ while the light is actually installed in the electrical supply space. To the extent that Charter argues that Blue Ridge is using the CWSZ for revenue-generating purposes by installing lights in that space, the Commission must be aware that, more often than not, Charter's facilities are incorrectly attached to the pole, encroaching on the electrical supply space and giving the appearance that Blue Ridge's facilities encroach into the CWSZ when in fact they do not.

3. **Guy and Anchor Violations**. The poles shown in the photographs of Exhibit GLB-3, Section C, demonstrate significant and obvious violations of NESC Rules 264 and 279, in addition to good and workmanlike conduct. The violations include: (i) improper or missing guys causing major pole deformation and damage; (ii) improper guy installation too close to Blue Ridge's anchor causing Blue Ridge's anchors not to support as designed; and (iii) attachment of the communication guy to Blue Ridge's anchor, which places more load on the anchor than was intended by the design. These violations lead to early replacement of poles that are weakened and/or deformed due to this additional load and that fail more readily during storms thereby allowing energized conductors to fall to the ground.

4. **Vertical Clearance Violations**. The conditions shown in the photographs of Exhibit GLB-3, Section D, depict instances in which the conditions created by Charter's attachments create a risk of harm to the public. They include, for example: (i) low clearance over roads; and (ii) low clearance over driveways and fields. These are clear violations of NESC Rule 232.

5. **Climbing Impediments**. As shown in numerous photographs of Exhibit GLB-3, Section E, Charter's attachments (even when properly made) require excess time for Blue Ridge's workers to climb poles and, in many cases, present unacceptable hazards to utility workers. Charter has placed excess equipment on pole surfaces, including large cabinets and multiple conduits, along with pedestals at the base of poles. The equipment is

installed in a manner that impedes climbing space for Blue Ridge's linemen. This creates a fall hazard and/or increases climbing time due to the required use of the "Buck Squeeze" OSHA approved fall protection device, as demonstrated in the video which has been provided for review. See this video athttps://drive.google.com/open?id=0B0z4zj3csc2FWXNROTVYWFZyeWc

6. **Failure to Transfer Pole Attachments**. As shown in photographs of Exhibit GLB-3, Section F, Charter has failed to transfer attachments from an old pole to a newly installed replacement pole. In each case, the old pole has been shortened to accommodate Charter's transfer, but Charter has failed to complete the work. This results in excess pole plant in the field, creates an impediment in access to the new pole, and requires unnecessary oversight by Blue Ridge who is responsible for removing old poles. These actions by Charter also necessitate multiple trips to the pole by Blue Ridge. Furthermore, the property owners complain to Blue Ridge creating ill will on the part of the member/consumer and additional administrative effort for Blue Ridge.

Q. DO THESE PHOTOGRAPHS SHOW THAT CHARTER FAILED TO COMPLY WITH THE NESC?

A. Yes. In each of the 879 photographed poles with Charter violations, including the subsets provided in Exhibit GLB-3, the pole is owned by Blue Ridge, Blue Ridge's equipment was installed on the pole prior to Charter's, and all of Blue Ridge's facilities, including conductors, transformers, services, and underground

risers, are located in Blue Ridge's defined electrical supply space. Therefore, the NESC violations between the Charter attachments and Blue Ridge's facilities could only have been the result of Charter's improper design and construction of its attachments. The repeated failures of Charter and its contractors to comply with the NESC is one of the most egregious and serious impacts imposed on Blue Ridge.

Q. DO THE CONDITIONS REFLECTED IN THE PHOTOGRAPHS INCLUDED IN EXHIBIT GLB-3 CAUSE YOU CONCERN BEYOND THE FACT THAT THEY DEPICT NESC VIOLATIONS?

A. Yes. These violations by Charter fall far below the standard of care in the industry. The hundreds of electric utilities with which I have worked have always had in place design and construction standards which, when compromised as Charter has done in numerous instances, result in work rule and public safety concerns. Additionally, Charter's practices adversely impact the electric system reliability and potentially result in more and longer outages for electric consumers. I hear consistently from electric utility clients that the presence of communications attachments to their poles cause outages that would not otherwise occur and that last for a longer duration. This has a significant adverse economic impact, one which even the Department of Energy has quantified in a study.[6] Furthermore, these practices of Charter bring about greater risk of

[6] Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-2132E, Estimated Value of Service Reliability for Electric Utility Customers in the United States; prepared for Office of Electricity Delivery and Energy Reliability-U.S. Department of Energy, principal authors: Michael J. Sullivan, Ph.D., Matthew Mercurio, Ph.D., Josh Schellenberg, M.A., Freeman, Sullivan & Co., Environmental Energy Technologies Division, June 2009, available at http://eetd.lbl.gov/ea/EMS/EMS)pubs.html.

litigation—in which Blue Ridge will necessarily be involved—although the cause could be exclusively Charter facilities.

Q. WHAT STEPS DOES BLUE RIDGE TAKE TO ENSURE ITS OWN FACILTIES ARE IN COMPLIANCE WITH THE NESC?

A. Blue Ridge, generally consistent with the RUS guidelines, follows the NESC for construction and the NESC requirement per Rule 214 for inspection, including having an established institutionalized system of inspection and professional engineering certification that its construction is in compliance with the NESC. Blue Ridge typically inspects its new overhead facilities during or following construction to assure that facilities comply both with Blue Ridge's construction standards and specifications and the NESC. It then has a system by which a licensed professional engineer must additionally inspect a portion of their work orders and new construction to assure that they are in compliance with the NESC, RUS standards, and cooperative standards and specifications. The professional engineer then provides a certification within the work order system on RUS Form 219. This provides a second inspection and additional assurance of NESC compliance.

Q. WHY DOES BLUE RIDGE'S INSPECTION PROCESS ALSO NOT ENSURE THAT THERE WILL BE CHARTER COMPLIANCE WITH THE NESC?

A. These inspections are associated with Blue Ridge's electric construction and do not involve a separate process to inspect Charter facilities after they have been installed. The Charter installations typically are made after Blue Ridge has installed its facilities or built its power line and performed its inspections. The NESC imposes, under Rule 214, the same inspection requirements on Charter,

which are that the initial installation shall be inspected for compliance with the NESC and there should be a system in place to provide for a routine system inspection as experience has shown necessary. My experience, however, associated with cable companies, including Charter, indicates they have no such inspection program in place.

Q. DOES CHARTER INSPECT ITS SYSTEM OF ATTACHMENTS MADE TO BLUE RIDGE'S POLES?

A. No. Deposition testimony in this proceeding shows that Charter fails to properly inspect its attachments.[7] Charter does not have a routine, standard program for the inspection of its lines and aerial facilities for safety violations or NESC compliance, and there is no Charter employee that has responsibility for ensuring compliance safety standards.[8] Rather, the only inspection that occurs by Charter is when field technicians happen to come across violations while in the field on a job.[9] None of Charter's employees that perform construction and maintenance work on its facilities are professional engineers, and, additionally, the only NESC training the Charter provides appears to be "on-the-job training" on limited topics rather than formal, comprehensive training.[10] Furthermore, Charter neither provides training for its contractors related to NESC compliance nor trains its contractors on the requirements and specifications that are specific to Charter's contract with Blue Ridge,[11] which is very concerning given that in every instance in which construction work is performed on Blue Ridge's poles, contractors, not

[7] Nestor Martin Deposition Testimony, Page Nos. 76 – 77; Micheal Mullins Deposition Testimony (attached as Exhibit GLB-8), Page No. 24.
[8] Nestor Martin Deposition Testimony, Page Nos. 76 – 77.
[9] Micheal Mullins Deposition Testimony, Page No. 24.
[10] Micheal Mullins Deposition Testimony, Page No. 25.
[11] Micheal Mullins Deposition Testimony, Page Nos. 26, 40 - 41.

Charter employees do this work.[12] Thus, not only do Charter's contractors perform all construction work on Blue Ridge's system but these contractors are solely responsible for providing training to their employees, as Charter fails to do so.

Q. PLEASE EXPLAIN THE SECOND CATEGORY OF BURDENS AND COSTS BORNE BY BLUE RIDGE THAT ARE UNRELATED TO THE SAFETY VIOLATIONS SHOWN IN EXHIBIT GLB-3.

A. In addition to the costs associated with identifying and correcting violations such as those identified in Exhibits GLB-3, costs and burdens arise from the routine, ordinary course of dealing with Charter's attachments. These costs and burdens are also "but for" impacts because but for Charter's presence on Blue Ridge's poles, Blue Ridge would not incur such costs.

Q. PLEASE SUMMARIZE THESE "BUT FOR" COSTS AND EXPLAIN THE SIGNIFICANCE OF EACH.

A. Yes. I have divided them into six (6) categories, as follows:

1. **Administrative oversight**. These costs are associated with the need for added office and legal personnel to accommodate Charter's attachment requests, monitor and administer Charter's existing attachments, and deal on an administrative level with Charter's failure to follow the terms of the parties' pole attachment agreement. Examples of these administrative and legal burdens include the following:
    a. pole attachment agreement and rate negotiations;
    b. pole attachment agreement administration; and

[12]Micheal Mullins Deposition Testimony, Page Nos. 22, 33.

c. processing permits and applications (personnel and/or software tracking).

These costs increase when Charter does not notify Blue Ridge or follow the permitting process and, instead, makes unauthorized attachments to Blue Ridge's poles in an unsafe of otherwise improper manner, or otherwise fails to comply with the provisions of the agreement.

2. **Field oversight**. Whenever Charter desires to attach to Blue Ridge's pole, numerous issues may arise in the field. There are costs associated with the "make ready" process, by which Blue Ridge's poles are made ready to receive Charter's attachments, but these costs are typically reimbursed by the communications company seeking to attach. Issues arise when Charter attaches without requesting necessary make-ready work, leaving Blue Ridge to sort things out later. A common example is when Blue Ridge desires to recapture its supply space under circumstances in which Charter has installed its cables in a location that impedes Blue Ridge's use of its supply space. Exhibit GLB-3 shows many of these instances in which Charter has imposed on Blue Ridge's ability to use supply space for a future transformer, service, or other equipment. These instances reflect where Charter proceeded as if no make ready work were required, then simply improperly installed its cables in a manner that imposed upon Blue Ridge's supply space. In all cases shown in Exhibit GLB-3, I see no evidence that Charter used a Professional Engineer to design these installations. As a professional engineer since 1973, I am not aware of

any professional engineer that would design an installation with the violations identified in Exhibit GLB-3.

Issues also arise when Charter fails to transfer its cables from an abandoned pole to a new pole. I am aware of circumstances where Blue Ridge had to install a new pole, either for line expansion, system expansion, or because the old pole was rotten and a hazard, and Charter simply ignored these circumstances for long periods of time. The other major circumstance is when Blue Ridge must relocate its poles and lines for subdivisions or other reasons, and Charter fails to relocate its facilities.

Additionally, the relocation of lines by Blue Ridge has revealed unused coaxial cable on the existing facilities that must be removed as part of the relocation. Although Charter has no idea of the magnitude of the problem, it is reasonable to conclude from Charter's relocation practices some portion of Charter's facilities in Blue Ridge's service territory contains "dead" cable that is not being used, but is taking up valuable space and creating potential pole loading safety issues.

Specific examples of the burdens and costs associated with these issues include the following:

a. initial field inspections to verify attachment requests and inspection after completion, including any repeat trips;

b. make-ready design and construction, including confirmation that Charter's facilities meet design criteria;

c. coordinating and resolving any disputes regarding the recapture of supply space taken by Charter;

d. inspections and additional engineering analysis on non-permitted communication installations and overlashing;

e. multiple trips to poles associated with replacement or upgrades due to communication facilities not being transferred in a timely manner or failure to transfer at all;

f. managing abandoned poles, especially when Charter provides no notification of removing its facilities; and

g. safety violation identification and remediation, and disputes over who caused the violation.

In sum, this group of issue has tremendous cost implications for Blue Ridge, which would not be incurred but for the presence of Charter's attachments, and, in many cases, would not be incurred but for Charter's unauthorized attachment activity.

3. **Emergency calls**. Cooperatives are often required to respond to "emergency" or after-hours calls associated with Charter attachments, which would not happen but for Charter's attachments. Often, the public or police call the cooperative regarding downed lines belonging to the communications providers. The cooperative must respond to ensure the public, police, and itself that the downed line is a cable line and not a

hazardous electrical line. Cooperatives, including Blue Ridge, like all electric utilities, have an elevated call and dispatch system for 911 calls and downed line calls. In my experience, communications providers treat a downed line or 911 call just like a customer call about a TV service interruption, with the response that a service technician can be there in, in some cases, three days. This means that the cooperative is often the one responding to the communications provider's downed lines. In my professional experience, I am aware of litigation concerning personal injury cases involving downed lines and Charter's affiliate, Time Warner Cable, in which a cooperative was sued even though its lines were not involved.

Specific examples of these issues include:

a. responding to mistaken customer calls that turn out to be communication lines, instead of the cooperative's power lines;

b. added work and call outs due to communications provider's failure to have an adequate emergency response system, resulting in the cooperative's fixing the communications provider's problems and/or needing to coordinate with the communications provider's contact and response;

c. additional time/expense to replace poles damaged in storms to temporarily move or reattach communications facilities for safety clearances; and

d. additional legal and in-house administrative and managerial expense incurred to respond to and resolve legal issues pertaining to those downed or improperly strung lines.

4. **Pole attachment audits and inspections**. These issues related to pole attachment audits and inspections are required only because of communication attachments. A pole attachment audit counts the number of attachments to verify records and to identify unauthorized attachments. As discussed in my testimony above, Blue Ridge conducted such a pole attachment audit in 2015 and 2016. While obvious, readily apparent NESC violations were noted during this audit, it was not a full safety inspection. As distinct from an audit, a pole attachment safety inspection identifies NESC violations, including but also beyond those which are obvious and readily apparent, and would cost far more. An inspection for NESC violations among Charter facilities would cost far more (as much as four times more) than the cost of a standard pole audit alone. This is because more sophisticated equipment must be used by more highly trained personnel who are taking more time to inspect the pole.

Specific examples of costs and burdens associated with such audits and inspections include:

a. identifying qualified audit and/or inspection contractors;

b. identifying type/cost of the audit or inspection and level of detail required;

c. coordination of contractor selection process with Charter;

d. quality control inspection after audit or inspection (accuracy);

e. preparation and compilation of data;

f. comparing data from inventory or inspection to permitted attachments;

g. preparing inventory/inspection cost allocation among communications attachers, if appropriate; and

h. providing inventory/inspection invoices and negotiating true-up data with Charter.

5. **Interference with Vegetation Management**. The presence of Charter's attachments adds to the complexity and burdens associated with basic vegetation management of Blue Ridge's poles. Charter's presence on Blue Ridge's poles adversely impacts system reliability and causes outages experienced by electric consumers to be extended longer than would be the case if Charter facilities were not on the poles. The Department of Energy has published a study indicating the value of every minute of outage duration reduction is $14/kWh. Charter should be required to take action to remedy its impacts on poles, and also to reimburse Blue Ridge and its members/consumers/owners for the added costs it imposes. While Blue Ridge is constantly modernizing its electric grids to improve system reliability, Charter's facilities and its failure to participate in the operation and maintenance of these facilities in a responsible manner threatens Blue Ridge's reliability.

Specific examples of costs and burdens associated with these issues include:

a. storm removal of trees on communication messengers in order to restore power;

b. additional time/expense for routine vegetation management in order to maneuver equipment around communication facilities; and

c. broken poles due to hazard trees from outside the right-of-way falling on cable messengers that do not create a broken pole but-for the presence of communications providers' attachments.

6. **Liability Risk and Associated Costs**. The presence of Charter's attachments results in substantial expense associated with numerous legal issues that would not exist but for Charter's presence on the poles. In my experience, I have seen that cooperatives are now being forced into more and more litigation in order to protect their poles, systems, and ensure public and employee safety. Charter's failure to observe the NESC, OSHA and the standard of care required in the industry transfers a tremendous risk of legal exposure to Blue Ridge, particularly given Blue Ridge's small size and limited resources to litigate every violation and improper action by Charter.

Specific examples of these issues include:

a. litigation related to communication facilities, including attorneys' fees, as well as management, administration, and technical support for the litigation and expert consultants;

b. dispute resolution before the North Carolina Utilities Commission; and

c. liability exposure related to untrained communication personnel/contractors working on Blue Ridge's poles.

Q. DOES EACH CATEGORY OF "BUT FOR" COSTS IMPACT BLUE RIDGE AND REPRESENT A COST IT WOULD NOT INCUR BUT FOR THE PRESENCE OF CHARTER'S ATTACHMENTS?

A. Absolutely. Each category not only adds to Blue Ridge's cost, it also adversely impacts the safety and reliability of Blue Ridge's system and jeopardizes the safety of the public and the line workers.

IV. NECESSARY CONTRACT PROVISIONS

Q. PLEASE DESCRIBE THE CONTRACT PROVISIONS THAT ARE NECESSARY TO PROTECT BLUE RIDGE IN LIGHT OF THE "BUT FOR" COSTS IMPOSED BY CHARTER.

A. Yes. Below, I discuss specific contract provisions that are necessary to ensure that Charter—not Blue Ridge—bears the risks, costs and burdens associated with its attachments to Blue Ridge's poles.

1. **Indemnity**. In general, while Charter has a right to attach to Blue Ridge's poles at just, reasonable and non-discriminatory rates, terms and conditions, Blue Ridge's primary obligation is to provide safe and reliable electric service—an essential service—to its member-owners. Charter—not Blue Ridge—should bear all risks associated with Charter's attachments to Blue Ridge's poles. Thus, in order to properly allocate risk among the parties, a pole attachment agreement should include a provision requiring Charter to defend and indemnify Blue Ridge for any claims or losses arising from existing attachments Charter has made to Blue Ridge's system, and especially those that violate the NESC, the terms and conditions of the pole attachment agreement, or any other applicable design and/or safety standard. Such a contract provision is critically important given the widespread safety violations Blue Ridge has discovered among Charter's existing attachments. To this end, the agreement should require that, to fullest extent permitted by law, Charter shall defend, indemnify and hold harmless Blue Ridge from any and all lability, losses or damages in any way related to Charter's use of Blue

Ridge's poles. Additionally, the agreement should provide that Charter waives and releases any and all claims, damages and liability of any kind against Blue Ridge that are in any way related to Charter's use of Blue Ridge's poles.

2. **Certification of Pole Attachments**. In the interest of safety and the ability of Blue Ridge to provide adequate and reliable service to its members, Charter should be required to provide the certification of a professional engineer on each and every attachment made to Blue Ridge's poles, including any overlashing. Both prudent electric utility practice and North Carolina statutory law, specifically Chapter 89C of the North Carolina General Statutes, dictate that Charter provide such certification to demonstrate compliance with all applicable standards, including the NESC.

To this end, a new pole attachment agreement between Charter and Blue Ridge should require Charter, no later than 30 days after it installs the last attachment (or the last overlashing) covered by its approved permit application, to provide Blue Ridge with a certification by a professional engineer duly licensed and registered in North Carolina that the attachments (and/or overlashing) are of sound engineering design and fully comply with the safety and operational requirements of the agreement, including without limitation the NESC. If the certification is not received within the 30-day period, Blue Ridge should have the right to declare the attachment to be unauthorized.

3. Non-Compliant Attachments. At a minimum, the pole attachment agreement should require Charter's attachments to comply with the latest requirements and specifications of the NESC, the National Electrical Code, the North Carolina Department of Transportation, the Occupational Safety and Health Act, the RUS, the Society of Cable Television Engineer's Recommended Practices for Coaxial Cable Construction and Testing and for Optical Fiber Cable Construction, and the design and operational standards developed, from time to time, by Blue Ridge. In the event that a Charter attachment fails to comply with such standards, Charter must be obligated to remedy, at its own expense, such non-compliance within a time certain. In the interest of safety and reliability, if Charter fails to implement timely corrective action, Blue Ridge should have the right to revoke the permit and apply penalty provisions associated with unauthorized attachment. Should Charter not be so obligated and Blue Ridge not have this right, the risk of non-compliance would be borne entirely by Blue Ridge. Such an allocation of risk to Blue Ridge is unreasonable and inequitable, given that Charter's conduct has created the risk.

4. Overlashing. "Overlashing" is a method Charter uses to add aerial facilities by running new cable over an existing cable and then lashing the cables together, in effect using the existing cable as a way to support and string the new cable. Overlashing creates a significantly greater cross-sectional area of the multiple cables versus the singular cable, which means greater ice or wet snow accumulation and loading and

far greater wind loading are now all imposed on the pole. Thus, overlashing affects wind and ice loads on poles and add structural load to Blue Ridge's poles. In addition, overlashing necessarily involves work by Charter (or its contractors) on Blue Ridge's system.

The NESC, specifically Sections 25 and 26, require the analysis, design, and strengthening of the structures to accommodate overlashing. However, in practice, Charter simply ignores this safety requirement and does not perform any pole loading study at all when overlashing its facilities.[13] Charter's practice creates a dangerous public safety condition. The significant increase in cable surface area creates much greater ice loading and wind loading. NESC Sections 25 and 26 require the analysis of this impact, and will often necessitate pole upgrades. The analysis required for overlashing must, therefore, be policed through the permitting process—just like any other attachment to Blue Ridge's poles.

Accordingly, any pole attachment agreement should require Charter to apply for and obtain a permit from Blue Ridge before overlashing to ensure Blue Ridge has notice of Charter's overlashed facilities and opportunity to review and approve the design and construction of the overlashed facilities. In addition, as is the case with an attachment, Charter should be required to provide a professional engineer's certification of any overlashing.

[13]Micheal Mullins Deposition Testimony Page No. 30.

It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to submit to the permitting process for overlashing, [BEGIN CONFIDENTIAL] [redacted][14] [END CONFIDENTIAL]

5. Unauthorized Attachment Fee. Charter's making attachments without notice to Blue Ridge (and, therefore, without a permit) including overlashing, and causing safety violations imposes significant risk on Blue Ridge. Fees and penalty provisions serve as a deterrent to unauthorized attachments and safety violations. Charter must be obligated to pay fines or penalties, in addition to back rent, for unauthorized attachments and must be obligated to pay fines or penalties for safety violations in order to deter such conduct. Specifically, the agreement should provide that, in addition to recovering any pole attachment rental rate that is due, Blue Ridge may assess a fee for any unauthorized attachment, including non-compliant attachments that are declared to be unauthorized attachments. The fee should be no less than $150 per unauthorized attachment in order to serve as an appropriate deterrent and appropriately compensate Blue Ridge for the additional costs incurred as a result of the unauthorized attachment. The pole attachment agreement should specify that Charter remedy the unauthorized

[14] See 2003 Pole Attachment License Agreement, Art. 7. The 2003 Pole Attachment License Agreement is attached as Exhibit 1 to Charter's Answer to Complaint and Counterclaims, filed in this docket on February 1, 2017. See also 2008 Pole Attachment License Agreement, Art. 7. The 2008 Pole Attachment License Agreement is attached as Exhibit LL-3 to the Direct Testimony of Lee Layton, filed in this docket on October 16, 2017 on behalf of Blue Ridge Electric Membership Corporation.

attachment within a time certain and should provide Blue Ridge with a self-help option if Charter fails to remedy the unauthorized attachment within the time certain. In addition, to the extent that Blue Ridge resorts to self-help and removes the unauthorized attachment, the agreement should make clear that Blue Ridge has no liability for any damage to the attachment or Charter's system and that Charter will pay all costs incurred by Blue Ridge in removing the attachment. It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to an unauthorized attachment fee, **[BEGIN CONFIDENTIAL]** [redacted][15] **[END CONFIDENTIAL]**

5. Maintenance and Transfers. The agreement should require Charter to bear all costs associated with a pole replacement that is necessitated by the presence of a Charter attachment.

6. Timely Transfers. Blue Ridge may replace or relocate poles for a number of reasons, including without limitation when existing poles have deteriorated, when new attachers require additional pole space, and when poles must be relocated at the request of the North Carolina Department of Transportation, another governmental body or a private landowner. When it is necessary for Charter to transfer an existing attachment to another pole, Charter should bear the cost associated with such transfer. Additionally, in the interest of Blue Ridge's obligation to

[15] 2003 Pole Attachment License Agreement, Art. 10; 2008 Pole Attachment License Agreement, Art. 10.

provide adequate and reliable service to its members, Charter should be required to make such transfer within a time certain in order to minimize interference or disruption to Blue Ridge's provision of electric service. In the interest of not impairing Blue Ridge's right and obligation to maintain and operate its system safely and reliably, the agreement should authorize Blue Ridge to make such transfer without incurring liability to Charter, if the transfer not timely performed by Charter, and: (i) assess the unauthorized attachment fee; and (ii) recover from Charter all costs incurred in making such transfer.

I am aware that Charter's failure to timely respond to transfer requests is a persistent problem. Based on data pulled from the NJUNS system this summer in response to Charter's data requests, Charter had failed to respond to 139 currently outstanding transfer requests, for which it was the next to go, which represents 29.8% of all of the requests issued to Charter. A quarter (24.5%) of the 139 transfer requests Charter has failed to complete have been outstanding for more than three years. Fifty-nine percent (59%) have been outstanding between 3-6 months, even though the 2008 pole attachment agreement requires Charter to complete transfers in sixty (60) days.

7. Permit Application and Fee. To protect Blue Ridge and its members from the risks imposed by Charter's attachments to its poles, Charter should be required to submit permit application for each and every pole to which Charter seeks to attach. In addition, in order for Blue Ridge

to recover costs associated with processing the application (including all technical and administrative work), Charter should be required to pay a permit application fee for each permit application. It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to pay a permit application fee per pole, **[BEGIN CONFIDENTIAL]** [redacted][16] **[END CONFIDENTIAL]**

8. Disputed Invoices. Disputes related to invoices from Blue Ridge may arise from time to time during the term of the new agreement. In order to deter Charter from disputing any amount owed to Blue Ridge and from working less than efficiently to resolve disputes, Charter should be required to pay all amounts, whether disputed by Charter, pending resolution of the dispute.

9. Insurance. The RUS has provided loans to Blue Ridge to finance the construction of its infrastructure, including poles, and these financing arrangements obligate Blue Ridge to provide certain insurance coverage. Therefore, as the RUS has financed Blue Ridge's infrastructure to which Charter seeks to attach and obligates Blue Ridge to provide certain insurance coverage, Charter should be required to provide the coverage required by RUS, as well.

[16] 2003 Pole Attachment License Agreement, Art. 5; 2008 Pole Attachment License Agreement, Art. 5.

10. Rights and Obligations in the Event of Default. In light of the impacts posed by Charter's attachments to Blue Ridge's system, including the risks to safety and reliability, the pole attachment agreement must clearly specify Blue Ridge's rights in the event of default by Charter under the agreement. Specifically, the pole attachment agreement should authorize Blue Ridge, among other remedies, to withhold permits for new attachments in the event that there is an existing default by Charter under the agreement. Such a provision is a necessary deterrent to Charter's refusal to cure a default and provides reasonable protection to Blue Ridge that defaults, which could involve safety risks and threats to Blue Ridge's ability to provide adequate and reliable service, will not persist. To this end, the agreement should provide that if Charter is in default under the agreement and fails to correct such default within the specified cure period, Blue Ridge may, at its option: (i) declare the agreement to be terminated in its entirety; (ii) terminate the permit covering the pole(s) with respect to which such default shall have occurred; (iii) decline to permit additional attachments until such defaults are cured; (iv) suspend Charter's access to or work on any or all of Blue Ridge's poles; (v) correct such default without incurring any liability to Charter and with recovery of fully loaded costs; and/or (vi) obtain specific performance of the terms of this agreement through a court of competent jurisdiction. It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to Blue Ridge's right to refuse to issue permits in the event

of default, **[BEGIN CONFIDENTIAL]** [redacted] [redacted][17] **[END CONFIDENTIAL]**

11. Confidentiality. While Blue Ridge does not refute the fact that North Carolina law grants Charter the right to access Blue Ridge's poles, the agreement that governs this access involves market sensitive information and is necessarily the result of compromise and the give and take of the parties. For this reason, the terms and conditions of the new agreement should be confidential. It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to a confidentiality provision, **[BEGIN CONFIDENTIAL]** [redacted] [redacted][18] **[END CONFIDENTIAL]**

12. Recovery of Space. My experience with Charter, as well as with communications providers across the industry, shows that Charter's employees and contractors only know to allow 40 inches of separation for the CWSZ. It is commonly misunderstood by cable providers (or misapplied) that the 40 inches must be measured from the bottom of the supply space and not from the bottom of the lowest electric facility installed on the pole at the time the communications provider makes its attachment, which typically happens. Therefore, when Charter places its cable on a pole only 40 inches down from whatever electrical facilities are present at that time, it often encroaches on the supply space,

[17] 2003 Pole Attachment License Agreement, Art. 23; 2008 Pole Attachment License Agreement, Art. 23.
[18] 2003 Pole Attachment License Agreement, Art. 30; 2008 Pole Attachment License Agreement, Art. 30.

thereby limiting (or at least complicating) Blue Ridge's ability to later install its distribution transformer, underground risers, services, secondary, or any other facilities because they have no available supply space. Examples of actual Charter attachments that encroach on Blue Ridge's electrical supply space are provided in the photographs of Exhibit GLB-3, Section B. As Charter always attaches to the pole after Blue Ridge has installed its facilities, any encroachment is necessarily caused by Charter.

It is Charter's responsibility to ensure that it leaves adequate room on the pole below the supply space for the CWSZ, even if the supply space is not being fully utilized by Blue Ridge at the time Charter makes its attachments. Of course, if the pole is insufficient to allow for this much space, Charter may either abandon that pole or pay for make ready so that there is adequate space for Blue Ridge to use its poles, because Charter—not Blue Ridge—is the party that requires the additional space. Thus, in cases where Charter facilities have created a violation which would not otherwise exist had it not encroached into the supply space, then that violation is exclusively a Charter violation.

There are four basic principles which have always governed the pole spaces and have been universally recognized. These are: (i) the poles belong to Blue Ridge and were installed by Blue Ridge for the purpose of serving its member/consumers and not for the use of others; (ii) Blue Ridge follows the NESC and RUS standards, including pole top assembly spacing standards, which means Blue Ridge will be using at least the top

8.5 feet of the pole for its minimum requirements of providing safe and reliable service to its consumers; (iii) Blue Ridge has the expectation that each pole it installs will eventually be used to serve a consumer; and (iv) if Charter attaches its cable from 40 inches from the last electric facility on the pole as opposed to 40 inches from the 8.5 foot supply space, as it often does, it takes away a significant portion of Blue Ridge's useable pole space.

Blue Ridge should not be faced with an argument—or, worse, litigation—every time Charter disputes whether its attachments encroached into the supply space. Simply put, if Charter were not on the pole (or at least had bothered to set its attachments in way that allowed ample space for Blue Ridge to have unfettered access to the supply space), then no safety violation would be present.

In light of this, the pole attachment agreement should authorize Blue Ridge to recapture its space immediately, and the effort and cost of recapturing that space should be borne exclusively by Charter. If Charter properly evaluated the line construction at the time it applies for a permit, it would have determined it needs a taller, replacement pole and Charter would pay for the "make ready" cost of this new, taller pole before making its attachments. An explicit right to recapture space will encourage Charter to undertake the permitting process instead of being faced with a dispute much later in time regarding correction of the encroachment.

In addition, when this encroachment creates a NESC violation, the pole attachment agreement should define the processes for remedying the violation so that there is no dispute regarding who created the NESC violation and make clear that the cost of correction is exclusively borne by Charter.

Third, because there is such a systematic problem associated with Charter's causing these violations, the agreement should make clear that an encroachment constitutes an unauthorized attachment and is subject to the unauthorized attachment fee.

13. Reservation of Space. To enable Blue Ridge to accommodate future electrical facilities and make full use of the space allocated to it, any pole attachment agreement must include a provision specifying that all attachments made after the effective date of the agreement should have at least 72 inches vertical clearance under Blue Ridge's grounded neutral on the pole. It should be noted that Charter, in the 2003 Pole Attachment Agreement with Blue Ridge, agreed to such a requirement, **[BEGIN CONFIDENTIAL]** [redacted] [redacted].[19] **[END CONFIDENTIAL]**

Additionally, the agreement should provide that should Charter's attachments encroach within the 72 inches Charter shall, upon receipt of thirty (30) days' notice, either (a) vacate the space by removing its

[19] 2003 Pole Attachment License Agreement, Exhibit B, Section D.12; 2008 Pole Attachment License Agreement, Exhibit B, Section D.12.

attachments at its own expense, or (b) if Blue Ridge decides to replace the pole with a larger pole that can accommodate Charter's attachments, bear the expense of such pole replacement and transfer its attachments to the new pole.

Q. IN YOUR PROFESSIONAL OPINION, ARE THESE CONTRACT TERMS JUST AND REASONABLE?

A. Yes.

Q. IN YOUR PROFESSIONAL OPINION, ARE THESE CONTRACT TERMS NECESSARY TO PROTECT BLUE RIDGE FROM THE "BUT FOR" COSTS INCURRED AS A RESULT OF CHARTER'S ATTACHMENTS?

A. Yes.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

(Whereupon, Exhibits GLB-1 through GLB-8 were identified as premarked.)
(Whereupon, the prefiled rebuttal testimony of Gregory Booth was copied into the record as if given orally from the stand. The confidential testimony was filed under seal.)

REBUTTAL TESTIMONY OF GREGORY L. BOOTH, P.E.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to: (i) rebut the responsive testimony of Charter witness Micheal Mullins regarding Charter's use of space on Blue Ridge's poles, Charter's maintenance and construction practices, and the violations noted in the survey conducted by PowerServices in August 2017 of a sample of Charter's attachments to Blue Ridge's poles; (ii) rebut the responsive testimony of Charter witnesses Nestor Martin and Micheal Mullins regarding Charter's proposed contract terms and conditions; and (iii) clarify the specific relief that Blue Ridge requests from the Commission.

Q. WHAT IS YOUR GENERAL REACTION TO THE RESPONSIVE TESTIMONY FILED BY CHARTER WITNESSES MULLINS AND MARTIN?

A. Although Mr. Mullins and Mr. Martin testify to different issues, there is a consistent theme across their testimonies. Specifically, instead of accepting the responsibilities of safety and prudent utility practices that necessarily accompany its statutorily mandated right of access to the electric poles owned by Blue Ridge, Charter seeks to shift the burden of ensuring safe, workmanlike attachments to Blue Ridge's poles—and the on-going maintenance of those attachments—to Blue Ridge. As is evident from Mr. Mullins' responsive testimony regarding Charter's construction and maintenance practices and his review of the photographic examples of Charter's practices that Mr. Layton and I included in

our direct testimonies, instead of acknowledging and accepting responsibility for problems that we observed, Charter disputes almost every single issue we noted and argues either that the issue does not constitute a safety concern or that Blue Ridge is responsible for the issue.

Additionally, Mr. Mullins testifies that Charter is willing to accept "industry-standard" contract terms, characterizing several of Blue Ridge's long standing requirements as "burdensome and unworkable[,]"[1] and Mr. Martin testifies as to what he characterizes as "reasonable and industry-standard" contract terms and conditions and indicates that Charter is willing to pay for the "reasonable, verifiable and actual costs incurred by Blue Ridge for work directly (and solely) related to Charter's attachments."[2] Review of Mr. Martin's proposed "reasonable and industry-standard" contract terms and conditions, however, reveals that the terms are not reasonable, or even industry standard. Instead, Charter seeks to have Blue Ridge design and engineer its system of attachments to ensure compliance with the NESC and other applicable safety standards, as well as inspect Charter's attachments, on an on-going basis, for compliance with safety standards. In essence, Charter wants Blue Ridge to design, engineer and inspect its attachments and expects that the pole attachment rate will cover the majority of, if not all of, the added cost imposed on Blue Ridge to do so.

[1] Responsive Testimony of Micheal Mullins submitted on behalf of Charter Communications Properties, LLC ("Mullins Testimony"), p. 15, line 24 through p. 16, line 1.
[2] Responsive Testimony of Nestor Martin submitted on behalf of Charter Communications Properties, LLC ("Martin Testimony"), p. 11, lines 14-16.

While Charter concedes that it should reimburse Blue Ridge, separate from the pole attachment rate, for the costs it imposes on Blue Ridge, Charter limits what it is willing to do or pay for by agreeing to reimburse Blue Ridge only after Blue Ridge "verifies" those costs, apparently to Charter's satisfaction, and proves that any such costs are directly and solely related to Charter's attachments. It is clear—Charter will cover the costs Blue Ridge incurs only after it disputes, and perhaps even litigates, whether Charter is responsible for "causing" that cost.

Blue Ridge simply does not have the resources to design, engineer and inspect Charter's system or to fight over every issue that arises. Compared to investor owned utilities ("IOUs"), Blue Ridge has limited resources, particularly staff, and must dedicate those resources to Blue Ridge's primary purpose of providing safe, reliable and affordable electric service to its members. Furthermore, contrary to Charter's contentions about its agreements with other electric utilities, in my experience, utilities such as Duke Energy have substantial additional fees for virtually everything Duke has to do to deal with pole attachers and joint users. The Commission should keep this in mind as it considers the terms and conditions proposed by Charter and those requested by Blue Ridge.

I. REBUTTAL OF TESTIMONY OF CHARTER WITNESS MICHEAL MULLINS

Q. MR. MULLINS TESTIFIES AS TO CHARTER'S USE OF SPACE ON BLUE RIDGE'S POLES. WHAT IS YOUR GENERAL RESPONSE TO HIS TESTIMONY?

A. Mr. Mullins' testimony highlights the ways in which Charter misunderstand the electrical supply space. Specifically, he testifies that:

> Blue Ridge makes its attachments in the top portion of the pole. Charter is typically next, with its attachments framed either 40 inches below the neutral or 30 inches below the transformer (for attachments made prior to 2008) or 72 inches below the neutral for attachments made since then.[3]

This raises a critical issue that I addressed in my direct testimony and that I will address again now: Blue Ridge's specifications, and the specifications and guidelines of the Rural Utilities Service ("RUS"), provide required minimum space on the pole for cooperatives' electrical facilities. These are publicly available at http://www.rd.usda.gov/publications/regulations-guidelines/bulletins/electric. Furthermore, dating back to the mid-1940s these specifications have been publicly available. Mr. Mullins either does not know this or is ignoring it. Instead, he insists that Charter is entitled to attach anywhere on the pole so long as it measures a certain distance from Blue Ridge's existing facilities. Yet, in doing so, he is not leaving or respecting Blue Ridge's allocated electrical supply space.

Historical design drawings of the RUS have provided that a minimum of 8.5 feet of a three-phase, straight-line pole, measured from the top of the pole and

[3]Mullins Testimony, p. 11, lines 2-6.

including transformer and service space, be reserved for the electric utility as the electrical supply space. Because Blue Ridge's current standard pole is taller than poles installed decades ago, the electrical supply space on Blue Ridge's standard poles is now 9.5 feet. For angle poles and other poles taller than the standard pole, RUS design standards dictate that the supply space may be greater than 9.5 feet.[4]

Blue Ridge, as an RUS cooperative, has utilized the standard power line construction drawings of RUS dating back to 1947 or earlier, which have been updated from time to time. These design drawings have always been publicly available, and, therefore, Blue Ridge is not arbitrarily creating design drawings and the associated electrical supply space but rather is relying on RUS drawings and standards which have applied to electric cooperatives for more than 75 years.

Again, Blue Ridge's reliance on RUS design drawings is not arbitrary, but rather is reasonable, given that they are a nationally used and published set of construction drawings to which Charter and the public has access to obtain. This uniquely sets Blue Ridge and other electric cooperatives apart from Charter, IOUs and ILECs, which have their own private construction drawings and practices, whereas those of Blue Ridge have always been publicly open and available.

The electrical supply space is intended solely, and exclusively, for the electric cooperative. If a communications service provider, such as Charter, does

[4] For example, an "angle pole" often involves vertical construction with each conductor installed vertically over the other phase conductors, rather than horizontally, as on a straight-line pole. This creates a much greater supply space, often 13.5 feet or more.

not observe the RUS allocated supply space, and instead attaches its facilities based only on minimum setoffs from a cooperative's existing facilities, it does so at its own risk. If the electric cooperative requires the use of the electric supply space, the communications service provider must move its attachment promptly and at its own expense.

Further, to the extent that the electric cooperative must make use of the electrical supply space in the future, and in doing so installs facilities less than 40 inches from the communications service provider's attachments that are installed within the electrical supply space, the electric cooperative has not caused a safety or NESC violation. Rather, the communications service provider's attachment in the electrical supply space has given rise to the violation and must be corrected by the communications service provider.

Mr. Mullins testifies that he has:

> seen many situations where Charter had properly framed its attachment 40 inches below the neutral, as required by the parties' prior contracts, and Blue Ridge has subsequently installed a transformer within that space creating a safety violation.
> . . . .
> While Charter will work with Blue Ridge to resolve these situations, it is simply not accurate to say that Charter has "created" these violations.[5]

I disagree with Mr. Mullins. To the extent that Charter has attached its facilities in the electrical supply space and Blue Ridge must later make use of the electrical supply space, Charter—not Blue Ridge—is responsible for any spacing violation as it is attached within Blue Ridge's exclusive space. Mr. Mullins

[5] Mullins Testimony, page 34, lines 2-9.

appears to argue that Charter has been on poles for "decades," yet the Blue Ridge poles and facilities and intended use were not only in place first, but its system was started over 75 years ago (beginning in the 1930s), which is long before communications services such as those offered by Charter were even contemplated.

Blue Ridge's contracts have specified that attachments must be made, on a going forward basis, 72 inches from the neutral. It is my observation and experience, through years of working with electric utilities on matters related to pole attachments, that the contractors used by the communications service providers, such as Charter, have no knowledge of NESC standards, RUS guidelines, or even contractual standards. Rather, they have proven they only know one thing—that they should attach the cable company lines 40 inches below the neutral, regardless of how the electrical supply space is defined on the pole to which the attachment is made. My discussion of the examples from the PowerServices survey below support this observation. In building its plant this way, the communications service provider takes away a significant portion of the pole from the electric utility. A contractual provision requiring 72 inches makes it more likely that the attachment is made outside of the electrical supply space than simply requiring a 40-inch separation

Thus, the primary issue is not whether there are 40 or 72 inches between attachments, rather it is that the poles were installed by Blue Ridge with the intent of providing service to its member/consumers long before Charter or any other cable company even existed. Finally, Mr. Mullins' testimony highlights the

general concern I expressed above—instead of working to correct violations when they arise, Charter disputes its responsibility.

Q. MR. MULLINS TESTIFIES AS TO CHARTER'S CONSTRUCTION AND MAINTENANCE PRACTICES. WHAT IS YOUR GENERAL RESPONSE TO HIS TESTIMONY?

A. Mr. Mullins acknowledges that Charter does not conduct regular safety inspections of its attachments to Blue Ridge's poles and, instead, "generally relies on the pole owners to conduct inspections of their aerial plant . . . and notify Charter when those inspections come across code issues related to Charter's plant."[6]

As I testified in my direct testimony, it is gravely concerning that Charter does not implement a formal safety inspection program with a defined periodic schedule, as clearly contemplated by Rule 214 of the NESC. Charter's reliance on Blue Ridge to inspect its plant inappropriately burdens Blue Ridge with this obligation and attempts to shift risk and liability associated with safety code violations to Blue Ridge. This simply is not acceptable.

Q. MR. MULLINS TESTIFIES THAT BLUE RIDGE INSTALLS STREETLIGHTS, FIBER OPTIC WIRES, AND OTHER EQUIPMENT TO GENERATE REVENUE IN THE "SAFETY SPACE." IS THIS ACCURATE?

A. No, it is not. Blue Ridge has attached virtually all of its fiber optic wires in the electrical supply space, *not* the Communications Worker Safety Zone ("CWSZ") or the "safety space" as Mullins refers to it. In fact, Blue Ridge uses all-dielectric self-supporting optical fiber cable (a much more expensive type of line that uses

[6] Mullins Testimony, page 36, lines 10-13.

Kevlar instead of metal for strength) so it can attach its fiber in the electrical supply space. My assessment of the system indicates nearly all of the streetlights are, likewise, located in the electrical supply space, and *not* the CWSZ. The facilities Blue Ridge has located in the CWSZ are riser conduits, which complies with the NESC.

Q. MR. MULLINS CLAIMS THAT PHOTOGRAPHS INCLUDED IN HIS TESTIMONY SHOW BLUE RIDGE FACILITIES LOCATED IN THE CWSZ. DO YOU AGREE WITH HIS ASSESSMENT?

A. Absolutely not. Mr. Mullins fails to have a full understanding of the NESC and, therefore, has applied the wrong standards. In every case, the Blue Ridge facilities are within its supply space, as defined by the NESC and Blue Ridge's standards based on RUS guidelines. Charter's facilities are in the CWSZ and have encumbered Blue Ridge's electrical supply space. This is just one example of why the 72-inch minimum from the neutral is an essential contract term.

Q. MR. MULLINS TESTIFIES THAT "SAFETY IS VERY IMPORTANT TO CHARTER AND TO ME." DO YOU FIND CHARTER'S ACTIONS REFLECT MULLINS' TESTIMONY?

A. Absolutely not. Charter has no professional engineer on staff and fails to understand, or disregards, that the design of its facilities constitute the practice of engineering and require the oversight of a P.E. to provide for the health, safety, and welfare of the public. Additionally, Charter has no periodic inspection program, as required by Rule 214 of the NESC.

Q. MR. MULLINS TESTIFIES THAT BECAUSE THE VAST MAJORITY OF CHARTER'S SYSTEM IN BLUE RIDGE'S SERVICE AREA WAS BUILT "DECADES AGO," THE SPACING VIOLATIONS MUST BE CREATED BY BLUE RIDGE. HOW DO YOU RESPOND TO THIS TESTIMONY?

A. The Blue Ridge system has been in place for over 75 years. The obvious fact is that Blue Ridge installed its poles, and its electrical facilities, before Charter or any of its predecessors were ever there. Charter owns no poles. Mr. Mullins' assertion is unsupported and relies on the vague argument that Charter has been in existence for "more than 30 years" as a way of avoiding responsibility for clearance violations when Blue Ridge's poles and facilities existed long before communications companies like Charter existed, much less attached.

Q. MR. MULLINS DISCUSSES THE FACT BLUE RIDGE PLACES SOME OF ITS EQUIPMENT IN THE SUPPORT SPACE AND CLAIMS BLUE RIDGE HAS EXCESSIVE OR POORLY PLACED EQUIPMENT ON POLES. HOW DO YOU RESPOND?

A. First, this testimony clearly indicates why Blue Ridge needs an agreement that is protective of the primary purpose of Blue Ridge's system—to provide safe, reliable and affordable electric service to its members. Blue Ridge installed its poles to serve its electric member/consumers—beginning more than 75 years ago—when no one else would.

Notwithstanding this, the equipment on the pole shown in photographs 4 and 5 was incorrectly identified by Mullins as BREMC equipment when, *in fact, all equipment is owned by a third party cellular company who is providing cellular and broadband service to the Town of Blowing Rock, North Carolina.* Moreover, it is my understanding that the pole is in a temporary configuration because of utility relocation associated with the NCDOT road construction on U.S. Highway 321 through Blowing Rock. Not only did BREMC remove all of its equipment from the pole, it installed anchors and down guys to support Charter and other pole attachment and joint users. These anchors were necessary to keep

the pole from falling over during the lengthy time frame leading up to Charter, and other pole attachers, vacating the pole so that BREMC can complete the pole removal work for NCDOT.

Q. MR. MULLINS STATES THAT SOME OF THE VIOLATIONS NOTED IN THE POWERSERVICES SURVEY APPEAR TO BE A PRODUCT OF NATURAL EVENTS AND OTHERS APPEAR TO BE THE RESULT OF BLUE RIDGE'S ADDING A TRANSFORMER AFTER THE CABLE ATTACHMENT. HOW DO YOU RESPOND?

A. First, hardly any are due to natural events, but even if they were, this demonstrates Charter does not inspect its system or keep its system maintained.

Second, Blue Ridge built its system to serve its electric member/consumers, which includes and requires transformers. Blue Ridge's facilities are located in the designated supply space below which, per the NESC, Charter must be a minimum of 40 inches. Charter is not in compliance. Mr. Mullins' testimony further demonstrates why Blue Ridge needs the agreement protections requested. Charter wants to dispute, and typically litigate, each of its violations by blaming the utility, including Blue Ridge, for having transformers the utility has placed in its own supply space on its own pole.

Q. MULLINS TESTIFIES THAT YOU AND BLUE RIDGE PURPOSELY WITHHELD THE "IMMEDIATE HAZARDS" FOR MONTHS AS A "LITIGATION TACTIC" AND THAT THEY ARE NOT HAZARDS AT ALL. HOW DO YOU RESPOND?

A. This accusation is both false and should be ignored by the Commission. More than 2,000 photographs of violations were accumulated in the field and completed at the end of August as part of the PowerServices survey process. These photographs had to be individually evaluated and categorized. A detailed

spreadsheet with individual pole numbers and GPS coordinates had to be created. All of this work was done over a 5-week period, after which I personally went through each photograph to evaluate the hazard, categorize it, and create the list of public hazards which should be immediately addressed. This list was then efficiently transmitted through the attorneys. Given the massive amount of data from the five (5) Blue Ridge circuits that had to be compiled, five (5) to six (6) weeks is a very appropriate timeframe and, until the information was assessed and catalogued, a direct assessment of each violation could not be created. The data were transmitted as soon as the review process was completed, and there was no withholding of information for any of the purposes suggested by Mr. Mullins.

Q. MR. MULLINS DISPUTES SPECIFIC INSTANCES OF VIOLATIONS IDENTIFIED IN THE POWER SERVICES SURVEY. HOW DO YOU RESPOND TO EACH OF HIS CONTENTIONS?

A. Mullins attempts to justify the Charter violations and encroachments into the Blue Ridge supply space by asserting that Charter's predecessors framed their attachments "decades ago" 40 inches below the neutral. This ignores the fact that Blue Ridge, in all cases, was there first and often 30 to 50 years prior to the so-called predecessor. Charter purchased the systems of its predecessors, but apparently never inspected what it purchased. With respect to his specific contentions, based on additional field inspection:

Photograph 8: The Blue Ridge transformer is located in the electrical supply space and was attached first since there is no way Blue Ridge would have or reasonably could have put its riser and electric cables where they are had Charter's attachment been there first. Moreover, Charter is

attached 30 inches below the transformer, even though this encroaches into Blue Ridge's allocated space. The fact that Charter's attachment is exactly 30 inches below the bottom of the transformer strongly suggests Charter attached after Blue Ridge and used the transformer as a reference point for its measurement. It is Charter that has incorrectly encroached into the electrical supply space.

Photograph 9: It is my understanding that Mullins incorrectly identified the pole in Photo 9 as Pole No. 16-08-038. Pole No. 16-08-038 is actually the pole number for the pole shown in Photograph 10. Without the location or additional information about this pole, BREMC could not verify any details about the pole or its location. Additionally, BREMC cannot verify that the pole is on its system from the photo and description that is presented in testimony by Mr. Mullins.

Photograph 10: This photograph depicts that Charter is attached 12 inches above an AT&T communication cable. Charter is attached 27 inches below the BREMC transformer, but just above the BREMC riser. The Charter attachment is consistent with other attachments that used the bottom of the transformer as a reference for measuring 30 inches below the transformer. However, in this instance, the location of the BREMC riser prevented attachment at 30 inches, and the Charter attachment was moved to just above the top of the BREMC riser. This resulted in a 27-inch separation. Thus, Charter attached to the pole after BREMC.

Photograph 11: Charter is attached exactly 30 inches from the bottom of BREMC transformers on the pole depicted in this picture, which strongly suggests that BREMC's transformer was installed first, since the transformer had to be there in order for Charter to use it as a reference point.

Photograph 12: The Charter attachment is on the opposite side of the pole from the viewpoint presented in Photograph 12. Attached below is a photo taken to show Charter's attachment to this same pole. Mullins argues that BREMC must have attached second, because Charter's through bolt, holding up its attachment, is installed behind the risers in this picture. *The risers, however, are not BREMC equipment.* The risers are actually customer-owned equipment. Moreover, Charter's attachment is exactly 30 inches below the BREMC transformer, which strongly suggests that the transformer was there first and Charter used it as a reference point for making its attachment.

Photograph 13: On this pole, Charter is attached 27 inches below the BREMC transformers. Charter could not attach at 30 inches because of the BREMC riser that was already in place. Thus, the Charter attachment is just above the top of the BREMC riser. Charter attached after BREMC to use BREMC transformers as a point of reference for attachment spacing measurements.

Photograph 14: Mr. Mullins claims that he somehow knows Charter's attachments in this picture were attached first because Charter has been in this area for "more than thirty years."[7] However, according to Blue Ridge's records and staking personnel, this pole, which is located in Blowing Rock, was part of a project in 1998 in which Blue Ride and Charter both transferred their lines to new poles. The pole itself has a

[7] Mullins Testimony, p. 54, line 5.

wood-burned date mark indicating it was manufactured in 1998, as shown in the picture below:

Moreover, while it is not visible from the picture Mr. Mullins included in his testimony, Charter has used a "set-off" bracket to pull its line to the pole, as shown in these pictures:

This strongly suggests that Charter transferred its attachments to this pole from an existing pole line, and used the stand-off bracket because it did not have sufficient slack in the line to pull it all the way to the new pole. The fact that this pole was part of a transfer project makes it extremely unlikely that Charter actually attached to this pole before Blue Ridge's electric facilities were installed.

Furthermore, Mr. Mullins' comments, and particularly his use of the 8.5 feet from the top of the pole, show his lack of understanding of electric utility construction. This is a three-phase vertical line construction, with each phase over top of one another. It is not the straight-line

horizontal crossarm construction for which 8.5 feet applies. The supply space on this pole is 13.5 feet, and Charter is well inside of that area. Additionally, Charter is located only 12 inches from BREMC secondary conductors.

Q. HOW DO YOU RESPOND TO MR. MULLINS' THAT YOUR ASSESSMENT OF FIVE CIRCUITS FOR SAFETY IS A "LITIGATION TACTIC"?

A. This type of argument, which is a common refrain from Charter whenever its safety violations are at issue, shows a clear disregard and lack of concern for the safety, health, and welfare of the public and Charter's employees working on Blue Ridge poles. Charter is not taking the thousands of identified NESC violations seriously and, apparently, hopes to avoid any contract terms and conditions that would require it to address them, by arguing about whether they are used as part of "litigation tactic." Whether they were identified as part of Blue Ridge's investigation into this proceeding or not, they are still safety violations, and they need to be addressed. This is precisely why Blue Ridge needs a clear, enforceable agreement which protects Blue Ridge, its electric system, its member/consumers, and does not allow Charter to pose a risk to system safety and reliability.

Q. MR. MULLINS DESCRIBES SAFETY SPACE AND INDICATES THAT IT PROTECTS BOTH THE COMMUNICATION WORKERS AND THE COOPERATIVE WORKERS. IS THIS ACCURATE?

A. Absolutely not. First, Mr. Mullins is apparently unfamiliar with all the details of the NESC, particularly Rules 235C and 238E. Rule 235C not only addresses the separation between communication facilities and electric facilities, but also between different electric utility facilities. Therefore, Mr. Mullins has

misrepresented the definition of safety space. In addition, the communication worker safety zone is *only* required if communication workers elect to use only communication workers rules and equipment. The code is quite clear, as are all treatises, regarding that if all the parties were using electric utility work rules in compliance with the NESC, the communication worker safety zone between the communication facilities and electric utility facilities would not be required. This makes it quite clear the communication workers safety zone is exclusively for the communication workers. It is my understanding that Blue Ridge's electric workers employ the electric utility work rules for all facilities on its poles, and, therefore, the communication worker safety zone between the communication facilities and electric utility facilities would not be required. Relevant excerpts from the NESC and guidance on this issue are attached hereto as Exhibit GLB-1R.

II. REBUTTAL OF TESTIMONY OF CHARTER WITNESSES NESTOR MARTIN AND MICHAEL MULLINS ON CONTRACT TERMS AND CONDITIONS

Q. MR. MULLINS ASSERTS THAT CHARTER IS WILLING TO ACCEPT "INDUSTRY-STANDARD TERMS" AND THAT MANY OF THE TERMS AND CONDITIONS REQUIRED BY BLUE RIDGE ARE "BURDENSOME OR UNWORKABLE." MR. MARTIN PROPOSES CONTRACT TERMS AND CONDITIONS HE DEEMS TO BE "REASONABLE AND INDUSTRY-STANDAD." HOW DO YOU RESPOND TO MULLINS' ASSERTIONS AND TO MARTIN'S PROPOSALS?

A. Section IV of Mr. Martin's testimony sets forth Charter's proposals for certain contract terms and conditions. I will address each of Charter's proposals set forth in Martin's testimony separately, responding as I go to the assertions made by Mullins regarding Blue Ridge's positions.

Direct Charges for Pole Attachments. Mr. Martin testifies that Charter is willing to pay for the "reasonable, verifiable and actual costs incurred by Blue Ridge for work directly (and solely) related to Charter's attachments."[8] Martin proposes contract language to this effect, which specifies that Charter, "shall be responsible for the direct, verifiable costs [Blue Ridge] incurs to accommodate Charter's attachments"[9] Additionally, the contract provision specifies that the "make ready fee" shall not include costs to include safety violations that Charter did not cause. While, on its face, it is reasonable that Charter should not pay for a violation it did not cause, I am concerned, based on experience, that Charter will dispute any and every violation, as it has done with the examples that Blue Ridge has provided in this proceeding. Additionally, I am concerned that Charter's position regarding its attachments made in the electrical supply space, will result

[8] Martin Testimony, p. 11, lines 14-16.
[9] Martin Testimony, p. 14, lines 8-9.

in Charter's denying responsibility for any make ready work that must occur to remove its facilities from the electrical supply space and relocated them. Thus, Charter's proposal will force Blue Ridge to spend time and resources in dispute resolution or simply paying to resolve the issue to avoid the fight. For this reason, it is critical that the Commission find that to the extent that Charter has attached a facility in the electrical supply space that Charter, not Blue Ridge, is responsible for all costs associated with removing it. Furthermore, this supply space is not disputable, given the RUS design drawings that have existed back as far as 1947, decades before any cable company existed.

Certifications Related to New Attachments. Charter agrees that a requirement that it certify that its new attachments are made in compliance with applicable safety standards. However, Charter proposes that an "authorized representative"—not a professional engineer (P.E.)—give this certification.[10] Mullins asserts that the requirement that a PE certify installations is "burdensome and unworkable" without real explanation.[11] Martin defends Charter's proposal on the basis that 68 of its and its affiliates TWC's 90 agreements with pole owners in North Carolina include no post-installation certification.[12] Martin also notes that, to his knowledge, Charter has never been asked to provide a certification.[13] Regardless of any contractual obligations that Charter may or may not have with respect to other pole owners, Blue Ridge required the post-installation certification of a P.E. in the 2003 Agreement and **[BEGIN CONFIDENTIAL]** ■

[10] Martin Testimony, p. 15, lines 7-20.
[11] Mullins Testimony, p. 15, line 24 through p. 16, line 3.
[12] Martin Testimony, p. 15, lines 22-24.
[13] Martin Testimony, p. 16, line 1.

[redacted][14] **[END CONFIDENTIAL]** In addition, whether Blue Ridge ever requested a certification from Charter in the past is immaterial for the following reasons. The 2015/2016 audit conducted by Blue Ridge reveals that Charter routinely attaches to Blue Ridge's poles without prior notice to Blue Ridge. Thus, it could be that Blue Ridge did not know to request certification as it did not know that Charter was making attachments. Additionally, as testified by Blue Ridge witness Lee Layton, going forward, Blue Ridge intends to adhere strictly to a formal permitting process to ensure the safety and reliability of its electric system. Therefore, past practice should not dictate practice going forward, particularly one as critical to the safe and reliable operation of Blue Ridge's system as this one.

Finally, I am of the opinion that Charter's design of attachments constitutes the "practice of engineering" within the meaning of North Carolina statutory law and must be performed under the responsible charge of a professional engineer.[15] In reaching this opinion, I have relied on the consultation and guidance provided by counsel to the North Carolina Board of Examiners for Engineers and Land Surveyors that an activity falls within the definition of engineering and requires a professional engineer if it requires engineering knowledge to adequately protect the public. I was advised that loading calculations required by Sections 25 and 26 of the NESC to determine whether a pole can accommodate the attachment or overlashing appear to require

[14] See 2003 Agreement, Exhibit B-8, attached as Exhibit LL-4 to the Direct Testimony of Lee Layton; [redacted]

[15] N.C. Gen. Stat. §89C-3(6).

engineering knowledge. The guidance I received from counsel to the NCBELS is attached as Exhibit GLB-2R.

For these reasons, the Commission should determine that the post-installation certification of a P.E.—and not simply an authorized representative—is a reasonable contract term.

Overlashing. With respect to overlashing, Charter objects to the requirement to submit a permit when overlashing and, instead, proposes to email Blue Ridge in advance of overlashing.[16] Mr. Mullins testifies that if Charter were required to follow the permitting process for overlashing, the process "would significantly delay and inhibit [Charter's] ability to sign up and serve new customers particularly new commercial customers."[17] In addition, instead of performing its own engineering calculations to ensure compliance with the NESC and applicable safety standards, Charter proposes to "pay Blue Ridge's actual costs of any loading analysis it actually performs, including work that Blue Ridge deems necessary from one of its professional engineers."[18] Charter's proposal is not acceptable. As I explained in my direct testimony, overlashing is a method Charter uses to add aerial facilities by running new cable over an existing cable and then lashing the cables together, in effect using the existing cable as a way to support and string the new cable. Overlashing affects wind and ice loads on poles and adds structural load to Blue Ridge's poles. In addition, overlashing necessarily involves work by Charter (or its contractors) on Blue Ridge's system.

[16] Martin Testimony, p. 18, lines 1-6.
[17] Mullins Testimony, p. 14, lines 16-19.
[18] Martin Testimony, p. 18, lines 9-11.

Accordingly, Charter should be required to apply for and obtain a permit from Blue Ridge before overlashing to ensure that Blue Ridge has notice of Charter's overlashed facilities and opportunity to review the design and construction of the overlashed facilities.

With respect to Mullins' assertion that a permitting process for overlashing would impede Charter's ability to provide service to customers quickly, I maintain that Charter's indiscriminate overlashing – without notice to Blue Ridge and without the oversight of a P.E. – poses a serious threat to the reliability of Blue Ridge's system and its ability to provide electric service to those same customers.

With respect to Martin's assertion that overlashing without submitting a permit but by submitting prior notice, such as through email, has been acceptable to Jones-Onslow EMC and Union EMC,[19] my understanding is that these EMCs absolutely expect a separate design calculation and permit for overlashed facilities, as outlined in their recent filings made to this Commission. These cooperatives were appalled to learn TWC had no professional engineer on staff, and that TWC performed no calculations of additional loading for overlashing.

Martin testifies that I suggested that the NESC requires permitting prior to overlashing.[20] This is *not* what I testified. I testified that Charter was required by the NESC to calculate the loading impact of overlashing, including ice and wind loading. Absent performing this engineering analysis and providing it to Blue Ridge, it cannot be determined whether the overlashing causes the loads on the

[19] Martin Testimony, p. 18, lines 3-5.
[20] Martin Testimony, p. 21, lines 15-17.

pole to exceed the capabilities of the poles. Charter would have the Commission believe that overlashing does not have any impact. This is categorically not true. Charter, overlashes indiscriminately and when wind and ice loading are applied to the larger surface areas, much larger than the Blue Ridge primary conductors, they add significant additional strain to the poles. Charter does not employ any P.E.s and does not have the capability to perform these calculations, therefore, I do not understand how Mullins and Martin can begin to testify regarding the impact of overlashing to Blue Ridge's facilities.

As is the case with design and installation of an attachment, Charter should be required to provide professional engineering certification of any overlashing. NESC Sections 25 and 26 absolutely mandate that Charter conduct loading calculations for overlashing and, as discussed above, this requires engineering knowledge.

Furthermore, Charter was required to obtain a permit for overlashed facilities under the 2003 **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**. And, as evidenced by the results of the 2015/2016 audit conducted by Blue Ridge, Charter does not have a good track record of notifying Blue Ridge in advance of making attachments, which makes its proposal all the more suspect.

Finally, Charter's proposal highlights, again, Charter's preference to shift burden to Blue Ridge and, in effect, use Blue Ridge as a contractor, by proposing that Blue Ridge perform the design and engineering of its system.

Unauthorized Attachments. Charter proposes a contract provision that would assess a fee for unauthorized attachments equal to five times the current annual attachment fee and no other fee.[21] As I understand Charter's proposal, Blue Ridge may charge Charter a fee in the amount of five times the current annual attachment fee for unauthorized attachments, presumably those discovered through regular audits. However, this amounts to nothing more than a rental payment – that which was owed but had not been paid by Charter because Blue Ridge was unaware that the attachment existed. Blue Ridge's position is that the fee structure included in the 2003 **[BEGIN CONFIDENTIAL]** [redacted], **[END CONFIDENTIAL]** which authorize the charging of a "discovery" fee for each unauthorized attachment as well as "daily" fee for each day the attachment persists without Charter's applying for a permit "after the fact" within a time certain is a better approach, as it should serve as a deterrent to Charter's making unauthorized attachments – as long as it is enforced.[22] As the 2015/2016 audit conducted by Blue Ridge revealed 1,373 unauthorized attachments made by Charter, the contract must include a strong deterrent to prevent this type of behavior going forward.

Non-Compliant Attachments. With respect to non-compliant attachments, Charter proposes a contract term that obligates Blue Ridge to provide written notice to Charter and that provides Charter with the opportunity to "contest the notice of non-compliance in writing" or correct the non-compliance.

[21] Martin Testimony, p. 23, lines 6-10.
[22] 2003 Agreement, Art 10; **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**

Charter's proposal allows Blue Ridge to revoke the permit for the attachment if Charter fails to correct the non-compliance in "a reasonable timeframe" and specifies that Charter shall not be responsible for the cost of correcting non-compliant attachments that were "placed by or otherwise created by [Blue Ridge] . . . after Charter's facilities were attached."[23]

Charter's proposal invites disputes and litigation. Allowing Charter to correct the non-compliance in a "reasonable timeframe" is not sufficient. Charter must be obligated to correct the non-compliance within a time certain, particularly those instances that pose a risk to public safety and welfare or the safe and reliable operation of Blue Ridge's system. Moreover, I am concerned that Charter's proposal allows it to deny responsibility for the cost to correct the non-compliance of those attachments made in the electrical supply space, as I have previously discussed. The 2003 **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]** include a non-compliant attachment provision to which Charter has previously agreed and that sets forth a defined process and timeframes for corrective action that are reasonable and protective of the public welfare and Blue Ridge's system.[24]

Further, the 2015/2016 audit and the PowerServices survey demonstrate that Charter has a systemic NESC violation problem and lack of regard for the safety and reliability of the Blue Ridge system. Without some form of liquidated damages associated with non-compliant attachments—such as the right to deem

[23] Martin Testimony, p. 25, lines 1-14.
[24] 2003 Agreement, Art 11; **[BEGIN CONFIDENTIAL]** [redacted]. **[END CONFIDENTIAL]**

the attachment to be "unauthorized" and subject to the unauthorized attachment fee—it is very unlikely that Charter will change its practices, thus leaving the liability to Blue Ridge.

With respect to Mr. Martin's assertion that I suggested that all of Charter's attachments should comply with the latest version of the NESC, in this proceeding and in every proceeding in which I have been involved, I have testified consistently that the utilities and attachers must comply with the NESC edition applicable at the time of the installation or rebuild for design and construction practices. The employee work rules and operation practices must comply with the latest edition of the NESC, just as they must comply with the latest OSHA standards.

Recovery of Space. Charter appears to agree with Blue Ridge that the recovery of space provision included in the 2008 agreement is reasonable.[25] However, Mr. Martin testifies that the agreements between Charter and Blue Ridge do not define—in terms of measured space on the pole—the electrical supply space. He testifies as follows:

> [I]t is incumbent on Blue Ridge to tell us that it needs more space, and ask us to rearrange our attachments, vacate the pole or pay for a taller pole to accommodate the change, rather than dropping a transformer too close to our cable and creating a dangerous condition.[26]

[25] Martin Testimony, p. 28, lines 2-8; 2003 Agreement, Art 14; 2008 Agreement, Art. 14.
[26] Martin Testimony, p. 28, lines 19-22.

Martin also testified in his deposition on behalf of Charter Communications Properties, LLC that if Blue Ridge needs to install facilities in the electrical supply space and a new, taller pole is necessary to accommodate Charter's facilities and Blue Ridge's facilities, it is not Charter's responsibility to pay for the new pole if Charter's facilities had been attached to the old pole.[27] Rather, Martin testified that if Charter is already on the pole, then all attachers to the pole—including Blue Ridge—must pay for the new pole.[28] In short, Martin asserted that if Charter is on the pole first, and Blue Ridge later needs the space to install electric facilities, Blue Ridge is responsible for at least some of the cost of rearranging the facilities, which may include the installation of a new pole, even though such rearrangement would not be necessary but for Charter's presence on the pole.

Martin's testimony demonstrates that Charter does not acknowledge an electrical supply space that is the exclusive domain of the electric cooperative. As I have testified, RUS design drawings have demonstrated for many decades that the electrical supply space is 8.5 feet from top of pole. It would be disingenuous for Martin to take the position that he or Charter is unaware of this industry standard. In fact, Charter witness Mullins testifies that "Blue Ridge uses as much as 8.5 feet of space (or more) at the top of the pole for its facilities."[29] To the extent that Blue Ridge allowed or did not prevent Charter (or Charter, without prior notice to Blue Ridge) to locate its attachments in the electrical supply space,

[27] 30(b)(6) Deposition of Nestor Martin, N.C.U.C. Docket No. EC-23, Sub 50, October 4, 2017 ("Martin Deposition"), page 31, lines 4-22.
[28] Martin Deposition, page 31, lines 23-25 through page 32, lines 1-3.
[29] Mullins Testimony, page 2, lines 21-22.

Charter proceeded at risk that it might have to relocate if and when Blue Ridge needed the space.

However, Charter has proposed a contract provision, which it has identified as "Reservation of Space" that requires Charter to relocate its facilities, vacate the pole, or pay for a taller pole, when Blue Ridge requires space on the pole for the provision of electric service. To the extent Charter intends this provision to apply both to recovery of space and reservation of space instances and simply misidentified its proposed language—and to the extent that Charter's language obligates it to be responsible for all costs of rearranging facilities or replacing poles, then Charter's proposal appears to be reasonable, notwithstanding Martin's testimony quoted above, which appears to be inconsistent with Charter's proposed contract language.

Reservation of Space. Charter does not oppose a contract provision addressing Blue Ridge's reservation of space, however, Charter opposes the requirement that all attachments made after the date of the agreement must have at least 72 inches vertical clearance under Blue Ridge's grounded neutral. Charter asserts that such a provision will require Charter to pay to install taller poles even when there is no expectation that the additional space on the pole will be necessary for Blue Ridge. Charter proposes contract language that would obligate Charter to install its attachments at least 40 inches below the grounded neutral but that specifies that 72 inches of clearance is preferred. Charter's proposal is insufficient to protect Blue Ridge's rights and denies Blue Ridge the right to reserve space on its poles, which is allocated to it as electric supply space under

applicable standards and the rate formulas proposed by the parties, for its future use.

Transfer and Relocation of Facilities. Martin acknowledges that there have been instances where Charter has failed to transfer its facilities in a timely manner when requested to do so by Blue Ridge.[30] Charter proposes a contract provision that is "consistent with the 2008 agreement" and requires Charter to transfer it facilities at its own expense within 60 days from receiving notice. As Charter's proposal is generally consistent with the 2008 agreement, it appears to be reasonable. However, in the interest of clarity, Blue Ridge requests that the Commission direct the parties to adopt the transfer provisions from the 2008 agreement.[31]

Indemnification. Charter has insisted that any indemnification requirement must be "reciprocal."[32] However, Charter—not Blue Ridge—should bear all risks associated with Charter's attachments. This includes an obligation that Charter defend and indemnify Blue Ridge for all existing attachments Charter has made to Blue Ridge's system that violate the NESC, the terms of the parties' agreements, or any other applicable design and safety standards. This is especially important given the widespread safety violations Blue Ridge has discovered among Charter's existing attachments, including attachments made outside of the space allocated to Charter.

[30] Martin Testimony, page 32, lines 6-11.
[31] 2008 Agreement, Art. 9.
[32] Martin Testimony, page 33, lines 13-29.

Moreover, I have seen and testified in numerous cases, including a TWC case, in which the electric utility was included in litigation relating to the cable attacher's facilities only because the cable company's attachments were made to the electric utilities poles. This situation caused the electric utility, Wake EMC, to incur significant litigation expenses even in spite of the fact that the jury found that the cable company – and not Wake EMC – was liable for the plaintiffs' damages. Charter's proposed language will not change this risk, liability, and eventual cost to the utility. Blue Ridge should be protected if Charter desires to place its facilities on Blue Ridge poles, particularly since Charter wants to pass on the engineering of its system to Blue Ridge.

Default Remedies. Charter proposes default remedies that include, among others, the right to authorize additional attachments until defaults are cured. Ultimately, Blue Ridge must have the right to deny Charter authorization to make additional attachments while Charter is in default under the agreement in order to deter defaults and encourage Charter to move quickly to cure. Charter proposes a 30-day cure period for all defaults, which is generally acceptable except when the default involves risk to public safety and welfare or Charter's payment obligations. Martin testifies that Charter's proposal "is consistent with the 2008 agreement" but the 2003 and **[BEGIN CONFIDENTIAL]** [redacted] o[redacted].[33] **[END CONFIDENTIAL]** Thus, since the

[33] 2003 Agreement, Art. 23; [redacted].

2008 provision is acceptable to Charter, Blue Ridge requests that the Commission direct the parties to adopt the default provisions from the 2008 agreement.

Disputed Invoices. Mr. Martin testifies that it is not reasonable for Blue Ridge to require Charter to pay disputed invoices in full pending resolution and appears to assert that Section 62-350 of the General Statutes appears to address the issue by requiring a party that seeks "to bring a dispute to the Commission pay only 'undisputed fees' . . . ."[34] In order to deter Charter from disputing amounts indisputably owed to Blue Ridge and from working less than efficiently to resolve disputes, Charter should be required to pay invoices in full, pending resolution. Although I am not an attorney, Martin's assertion that the statute resolves this issue does not appear to be correct, as the statute simply provides that when a communications service provider seeks to initiate a proceeding before the Commission related to the negotiation of a pole attachment agreement it must first pay all undisputed amount owed to the cooperative or municipality under the preexisting agreement.

Insurance. Charter opposes Blue Ridge's position that it be required to provide the same insurance coverage as that required of Blue Ridge by the RUS, which is Blue Ridge's lender.[35] Blue Ridge stands by its position on this issue.

Confidentiality. Charter opposes a confidentiality provision, claiming that Blue Ridge seeks to use the confidentiality provision to cloak "the highest pole rates[,]" "stringent requirements[,]" and obligations that Charter interprets as

[34] Martin Testimony, p. 35, lines 13-23.
[35] Martin Testimony, p. 36, lines 2-10.

"red tape."[36] Further, Mr. Mullins suggests that Blue Ridge's requirement of a confidentiality provision is to enable discriminatory treatment against Charter.[37] While Charter's perspective on a confidentiality provision is telling, it certainly is not Blue Ridge's intention to hide behind a confidentiality provision. In fact, it was Blue Ridge, not Charter, that petition the Commission for help in resolving the terms and conditions, as well as the rate methodology, that will be included in the new contract. As I explained in my direct testimony, while North Carolina law grants Charter the right to access Blue Ridge's poles, the agreement that governs this access will necessarily be the result of give and take between the parties. For this reason, Blue Ridge should be allowed to require that the terms and conditions of a new agreement will be confidential.

[36] Martin Testimony, p. 36, lines 19-22.
[37] Mullins Testimony, p. 23, lines 8-23.

III. SPECIFIC RELIEF REQUESTED FROM THE COMMISSION

Q. ULTIMATELY, WHAT RELIEF ARE YOU REQUESTING THE COMMISSION PROVIDE TO BLUE RIDGE?

A. Although Blue Ridge has, in the past, attempted to work cooperatively and informally with Charter, as evidenced by the results of the 2015/2016 audit and in light of Charter's construction and maintenance practices and assertions regarding its right to space on the poles, this approach is no longer appropriate. In the interest of protecting its members' investments in its electrical system and of providing safe, reliable and affordable electric service, Blue Ridge is asking the Commission to resolve the disputed contract terms and conditions consistent with the recommendations set forth in my testimony. Ultimately, Charter has a right to access the poles owned by Blue Ridge (subject to certain limitations) and Blue Ridge will work to honor that right. But Blue Ridge will not do so in a way that threatens Blue Ridge's ability to provide safe, reliable and affordable electric service or that forces Blue Ridge to choose between constantly engaging in disputes with Charter over its attachments to Blue Ridge's poles or assuming the burdens (and risks) of designing and maintaining Charter's system of attachments to its poles.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

4831-5592-6099, v. 6

(Whereupon, Exhibits GLB-1R and GLB-2R were identified as premarked.)

BY MS. MITCHELL:

Q Mr. Booth, did you prepare a summary of your direct and rebuttal testimonies?

A I did.

Q Would you please provide the summary at this time?

A I would. We have a short PowerPoint, if we can put it up. Very quickly, I -- I've been in the communication electric utility business for -- since 1963, was a professional engineer starting in 1973 in North Carolina, licensed in 23 states. I've done virtually everything in this industry from engineering, design, construction, management services, and inspections for everything except for baseload generation, nuclear plants and coal-fired plants, so pretty much anything else, including testimony on rates, regulations and terms at many, many commissions, including this one.

My testimony has three basic concepts in it, one, the basic communications attachment issue, the but for burdens and costs that are imposed on Blue Ridge or any electric utility by the attachment of a cable

company, and a contract or contractual provisions necessary to protect it.

I want to put this in perspective, that Blue Ridge started building their system 80 years ago on basically 30 and 35-foot poles to serve rural North Carolina with no expectation of cable companies being on their poles. Charter, you know, has filed and is arguing that they started attaching those poles 30 years ago, maybe 40 years ago. You know, the co-op had already been in business for more than half its life then. And Charter is trying to argue that because they did that, that's why all the violations are the fault of Blue Ridge. That's simply not the case.

Also, this is the 1960 edition of the National Electrical Safety Code. It goes back to 1917. And it pretty much looked like this until we got to about 1990, so -- and it didn't have communication worker safety zone in it. So we've got to put all these poles and everything out there in that perspective. This is 2017, and the codes looked like this from about 1990.

The communication worker safety zone -- this isn't safety space; it's a communication worker safety zone is the definition -- didn't exist, you know, until fairly recently. OSHA didn't exist until the mid '70s.

So these work rules that the communication worker safety zone is now intended to protect, you know, go to the communication company. They don't go to the electric utility company at all.

Blue Ridge is there, as you've heard, to provide safe, reliable, affordable electric service as a nonprofit. We've got a new day. It's really important to understand that the Co-op and Charter really tried to work together for decades, but now it's contractors that are out there installing the preponderance of Charter's facilities. They are not trained on NESC. They don't have much OSHA training. They basically know one thing, attach 40 inches from the neutral, and that's a key point that I'm going to go through in just a second.

Blue Ridge -- and I know the Commission has asked some questions. Blue Ridge not only borrows money from rural utility services, the old REA, they're regulated by them. RUS has hundreds of bulletins, regulations, and documents, some of which have been discussed, which are their pole top assembly diagrams. They have to build to these standards. In order to get the money and the loan, they have to file a Form 219, which a professional engineer certifies that they built per the standards that RUS says they must build by. That

establishes, and it has since the '30s, establishes what Blue Ridge has to do. Since the early '40s all the way up to today, all those standards, all those drawings, all those bases have been publicly available to everybody, unique to any other utility organization. Nobody else has that out there publicly.

So I really want to -- I really want to get the pole explanation in place and the codes of all. The top of the pole is called supply space. That's the electric utility space. Underneath the supply space, if there's a communication attacher, is called the communication worker safety zone, and underneath that is the communication space. The communication worker safety zone is absolutely not required except for one reason. It's not because the communication company elected to attach to our pole. It's because the communication company elected to use communication worker rules which are much less robust, much less intense than electric utility supply work rules. They don't have to wear flame retardant clothing. They don't have to use insulated buckets. They don't have to wear high voltage insulated gloves. They don't have to be trained in high voltage operations. It's much, much cheaper to work on your lines and poles under those work rules. OSHA and the

NESC recognize that, so there's rules under both for communication workers and rules for supply electric companies. And so Charter made that decision to operate under those much less stringent rules. That's why the communication worker safety zone was established, and that 40 inches is not from the neutral; that 40 inches is from the bottom of the supply space.

Unfortunately, the industry over time -- and the 30 inches is an exception that's allowed, and Blue Ridge has allowed that some. The 40 inches, unfortunately, the cable companies and their contractors always thought 40 inches from the neutral so we got this measurement down, and that's really not where they ought to be. They're not measuring down from the space of the utility. We provide you a diagram, the 8-1/2 foot legacy, the 9-1/2 now, on a typical straight line three-phase pole. If we have an angled pole, that space could be 13-1/2 feet or 14 feet or 15 feet. So if we're stacking our conductors one over top of another, the space used by the electric utility is much greater, potentially even twice as much as the typical, and they put in taller poles.

So it's just essential to understand that, to understand that the communication worker safety zone is

driven completely by the choice of work rules by the communication company. So anybody can put communication facilities in the supply space if they're going to use supply employee work rules, as is done sometimes.

The but for cost -- and I've got a lot of discussion in my testimony; I won't spend a lot of time on this -- Charter's presence, they're encumbering space that we have, so they're not -- their contractors aren't measuring 8-1/2 feet down or 13-1/2 or whatever from the top of the pole. They're simply measuring 40 inches from the neutral. So because of that, they're winding up in the Co-op space that -- the Co-op built the pole to serve their members, not just put primary lines up, but put transformers on it, secondary services, serve the electric consumer. Charter is often in that space, and that's an encumbrance that causes us extra expense. So it's also again and sort of important to understand that as it relates to this 8-1/2 foot.

The 72 inches -- and I know all these discussion of inches is confusing and it really shouldn't be. The only reason that Blue Ridge and most utilities are asking for 72 inches from the neutral is to hopefully achieve the ability that these contractors that only want to measure from the neutral don't put the facilities in

the supply space that Blue Ridge needs to use to serve its members. It's not increasing the communication worker safety zone at all. That 40 inches is the number below that supply space. It's simply trying to give us some space for transformers and services.

And then we have all the code and safety issues and violations, and I -- you know, me as a professional engineer in this industry for over 50 years, the co-ops, the utilities, I think all of us take a step back and were a little surprised, and we probably should have asked, but I was surprised, Blue Ridge is surprised, my over 300 utility clients were surprised to find out that these cable companies, as big as they are, don't have professional engineers on staff and they're really not designing their facilities in the details of the National Electrical Safety Code and having them certified by professional engineers. That was a surprise to us. And so some of the issues that we're asking for and a lot of the problems that are arising is because of that very fact.

You know, so I have a listed a whole bunch of problems -- you've read it; I won't beat them up -- I mean, whether it's administrative or whatever it happens to be, you know, we want protection. We simply -- it's a

new day. We want a contract that's fair, even handed, but the Co-op has got to be protected from all these extra costs that Blue Ridge wants to place -- or that Charter wants to place on Blue Ridge. We even heard a lot of it yesterday. You know, you guys have a design manual, a staking manual, well, why don't you just make it so it accounts for all of our facilities? You know, Charter has demonstrated they don't want to have the resources to design their own facilities, to inspect their own facilities, you know, to manage the whole installation. They want to place that burden back on Blue Ridge and other electric utilities. We can't have that burden placed on us for a lot of reasons. We don't have the resources, to start with.

You know, the audits are clear. The audits identified lots of violations. You know, we've got maps with areas of the violations. Again, I won't -- I won't bore you with that. The safety issues are extremely important. I mean, in this state as a professional engineer, and I asked for some guidance from the Board and their general counsel, professional engineering is, you know, the practice of the professional engineers doing their job. That's North Carolina's law. It's a law in most states. 62-350 clearly in multiple places

discusses engineering. Engineering is a professional engineer. So how can Charter go about and do this work without doing engineering with a professional engineer?

The inspection issues, I mean, we're asking them have some routine program to check your own facilities. To start with, an electric utility, Blue Ridge, their people aren't trained in what the communication people are doing, so to have them inspecting those facilities is not only an excess burden; it means they now have got to go get a bunch of other training in addition. And then this whole protection of space, it's just so essential. I'm not -- I'm just going to flip through the pictures.

We've got, you know, clearance issues, space encumbrance issues where they've encumbered our space. We've got issues associated with guiding not done properly in all types of ways, either the anchor is put too close and compromises everybody's guys, they don't have a guide and anchor, they attach their guide to our anchor, they leave their poles out there for inordinate periods of time which creates a problem for our people even working on our own facilities, much less, you know, what the consumers say. They've got lines that are too low, in many different instances that don't meet the

NESC, that represent, as Lee Layton said, a significant burden. They have lots of facilities, amplifiers, power supplies, conduits they put on our poles, without regard for the fact our linemen have to climb the poles. And I know you think, well, everybody has bucket trucks. Well, guess what, most of these lines are cross country in places where bucket trucks can't get to. Electric co-op linemen climb poles every day all the time. They even have rodeos on pole climbing every year. So that -- you know, we can't have a pole encumbered for that -- for these impediments.

And so all these violations, the parties need to really, really work together and not dispute and litigate every violation, every problem out there, and that's all we're asking for. We're asking for terms, conditions in the contract that helps protect Blue Ridge from having to just do the work themselves and bear the cost because it's too expensive to dispute and litigate with Charter.

I do want to use one item, and the overlashing, I think, is -- I can use this to really demonstrate the big difference. So here is a coax cable, the steel messenger. Now, this steel messenger is about the same size as most of the Co-op's conductors on the pole. Then

they have this large surface area coax. And then they put their claimed very light fibers overlashed on it and they may have one, two, or three, or five of these. Well, that gets to be pretty big, so you have wind on that. Well, that's a problem. But here's an example which is this is basically a quarter-inch ice. That's what the design has to be. Look at how large that is. That's enormous weight that's placed on the pole. It's enormous wind surface. All of this is going to load the pole, significantly load the pole, and put the poles out of compliance with the National Electrical Safety Code, reducing safety, reducing the reliability of the system. Charter wants to act like they can just put those up willy-nilly, it's not an issue, it's so light, who cares. Well, everybody. The code cares. It has specific requirements to analyze this. The Co-op doesn't have the details to do it. Charter needs to and needs to provide that.

It's those issues we want protection. And that's -- you know, that's really the crux of where, at least from my perspective, I am on the terms and conditions, the but for cost, we want to avoid Charter draining our resources without any reimbursement for us placing excess liabilities on us. And, yes, we're going

forward with an agreement. It's a new day, and it is a new day. I mean, it's -- we're not under this kind of rules with no OSHA regulations. We're under a whole different set of rules and regulations.

MS. MITCHELL: The witness is available.

CHAIRMAN FINLEY: Redirect -- cross examination.

CROSS EXAMINATION BY MR. GILLESPIE:

Q Mr. Booth, you've worked -- you've worked for Blue Ridge before; isn't that right?

A Yes.

Q More than five projects?

A I would say over my entire career, yes.

Q And you worked on confidential projects for Blue Ridge that you would not identify in your deposition; is that right?

A That's correct, because they are under a confidentiality protective order.

Q Are you prepared to identify them here?

A I am not. They're confidential. They're confidential between all the parties. They have nothing to do with pole attachment whatsoever, as I told you.

Q You understand that you may have information treated confidentially by the Commission?

A Yes.

Q How many cooperatives were involved in that project?

MS. MITCHELL: Objection, Mr. Chairman. He's indicated that that project was confidential, and I don't know why Mr. Gillespie is continuing to ask him questions about this.

CHAIRMAN FINLEY: Sustained.

Q Have you been involved in other confidential projects for co-ops?

A Yes.

Q How many?

A I've been in this business 50 years. I don't know. Quite a few.

Q Are they listed in your CV exhibit?

A No.

Q Now, in your -- do you recall that you presented testimony in the June proceedings involving four cooperatives?

A I did.

Q And you had a portion of your CV that included active and historic cases that you had been involved in representing co-ops. Do you recall that?

A Yes. Actually, representing co-ops,

plaintiffs, investor-owned utilities, industrial customers.

Q And there were many cooperatives listed in that list, correct?

A I wouldn't say many. There's a few co-ops. The majority of the cases involved investor-owned utilities and plaintiffs.

Q Well, that active and historic cases list is not included in your CV in this case; is that right?

A No. I did not add that in this case.

Q Do you recall that we raised questions in our briefing about your objectivity in light of all the work you've done and continue to do for co-ops?

A No.

MR. GILLESPIE: I'd like marked as Cross -- Respondent Cross Exhibit Number 2 the active and historic case list that Mr. Booth had in part of his CV in the June proceedings.

CHAIRMAN FINLEY: We will mark the exhibit called Active Case List as Respondent's Exhibit Number -- let's call it Respondent's Cross Examination Exhibit Number 2.

MR. GILLESPIE: Thank you, Mr. Chairman.

(Whereupon, Respondent's Cross

Exhibit Number 2 was marked for identification.)

Q Mr. Booth, between that exhibit and the information included in your Exhibit GLB-1 in this case, do those lists indicate all the work that you have done for cooperatives, including Blue Ridge?

A No. And this list is not just active cases, but it's 40 years' worth of historical cases as well.

Q Yeah, but there -- are there other jobs that you have done for cooperatives that are not listed in either of those exhibits?

A The three different documents attached to this exhibit are simply tort cases, active or historic and regulatory cases, and that is -- and, I mean, there's not very many co-ops in that list and that's not all of my co-op work, nor is it all of my work for communication companies or investor-owned utilities or industrial companies.

Q So you've done other work for co-ops that are not -- that's not listed in those lists; is that right?

A In these cases that you've got -- I mean, this is just one small piece -- doesn't reflect all of my work at all. My work is primarily engineering, design, consulting, rate services, regulatory services for a

variety of utilities.

Q And you've done such work for cooperatives, correct?

A I've done such work for cooperatives, municipals, investor-owned utilities, communication companies, and industrial companies, as I've stated.

Q You recognize that there are a number of NESC committees where rules and interpretations of the NESC are discussed?

A Absolutely.

Q You're not on any NESC committees; is that right?

A I am not.

Q And you've never been, correct?

A I have not.

Q Now, you say on page 19 of your testimony that communications providers and their contractors are not adequately trained in the NESC; do you recall that?

A Absolutely.

Q Do you recall telling me in your deposition that this applies to facilities placed on poles of cooperatives, investor-owned utilities, municipal utilities, and it states beyond North Carolina and to all cable operators? Do you recall that?

A That would be my testimony before this Commission.

Q And your position that communications providers and their contractors are not adequately trained in the NESC applies to some contractors used by the phone companies such as Verizon and AT&T, correct?

A That is correct.

Q And, in fact, you indicated in your deposition that it's your view that lack of training applies to the entire communications industry across the board, correct?

A Yes. I believe that from the perspective of the contractors used by the entire communication industry, they do not have training in the NESC and they have very limited OSHA training.

Q You have a copy of a portion of the NESC that you've included in your exhibit, correct?

A Yes.

Q Now, NESC Rule 214A2 directly says that when lines and equipment shall be inspec--- inspected and they should be at such intervals as experience has shown to be necessary; is that right?

A That's correct. That's the language in the current code. In prior codes it said systematic or it said routine. So with each code, that language has

evolved and changed.

Q And there's no specific time frame mentioned for those inspections, is that right, in Rule 214A2?

A Oh, absolutely not. There wouldn't be because as an example, a relay might have to be inspected once a year, a pole for ground line rot once every eight to 10 years, depending on the region in the country. So every component has a different inspection period and requirement. That's right.

Q And Rule 214A3 says that inspections may be performed in a separate operation or while performing other duties, as desired, correct?

A No. That's a footnote under A2; it's not A3. It's a footnote.

Q That's what it says, right?

A That is what is says. So you can have that done as part -- if it's identified as part of another task. That is correct.

Q Now, under Rule 214A4, when deficiencies are found, the deficiency is to be recorded and records are to be maintained until the defect is cured, correct?

A Absolutely.

Q And the only defects that would reasonably be expected to endanger human life or property are required

to be promptly corrected, disconnected, or isolated; is that also correct?

A That's correct.

Q And under Rule 214A5, for defects other than those that would reasonably be expected to endanger human life or property, there's no time frame mentioned for remediation; is that right?

A No. It says -- where are you reading? I mean, I don't see that.

Q Well, what I said was that there's no time frame that is specified for remediation. Isn't that true?

A The time -- it says promptly.

Q Oh, I'm -- all right. There's confusion here. Other than defects that would reasonably be expected to endanger human life or property, other than those, there's no time frame mentioned for remediation of defects and violations of the code, correct?

A That's right. It doesn't -- it doesn't say to do it promptly.

Q Now, the code would allow Charter to delegate its inspections to contractors, and they may be performed while performing other duties; isn't that true?

A That is true as long as the contractor has a

specific task and is doing specifically inspections, not just a happen so, if I see something, I'll report it. It has to be part of a routine systematic inspection process if it's done as part of something else.

Q Mr. Booth, what percentage of Blue Ridge distribution poles, roughly, have transformers; do you know?

A I don't. I would -- I would have to calculate that. I mean, Blue Ridge knows the number of transformers and number of poles, so I don't know what that percentage is right now.

Q Do you have an estimate?

A I don't without looking at the numbers.

Q Now, you want Blue Ridge to be able to reserve space on its poles for transformers, right?

A I want Blue Ridge to be able to protect its space in order to be able to install transformers and services for its members in a timely fashion, which means within a week, and if they have to recover that space, that Charter is responsible; if they encumbered the space necessary, that Charter is responsible for that cost.

Q What --

A Either Charter gets off the pole, moves down the pole, or pays for a larger pole.

Q What percent of Blue Ridge poles don't already have transformers? You don't know that; is that right?
A I do not.
Q Does Blue Ridge use grounded neutrals?
A Yes.
Q Does it primarily use grounded neutrals?
A It is a grounded Y multi-grounded system, which means it has a minimum of four grounds per mile for the overhead, eight for the underground.
Q And that includes the neutrals; is that right? The neutral is effectively grounded, right?
A I just said that.
Q Okay.

MR. GILLESPIE: I would like to have marked as Cross Exhibit 3 an exhibit of pages 7 through 20 of the NESC.

CHAIRMAN FINLEY: We will mark for identification sections of the National Electrical Safety Code as Respondent's Cross Examination Exhibit Number 3.

(Whereupon, Respondent's Cross Exhibit 3 was marked for identification.)

Q Do you recognize this as containing those pages from the NESC?

A This is Section 2, Definitions of Special Terms, from C2-2017 Edition of the NESC.

Q Now, would you agree that Rules 235C and 238 of the NESC contain clearance requirements and that these are measured surface to surface between facilities?

A Yes.

Q And that's how clearances are defined in the code, from surface to surface, correct?

A For the preponderance of the clearance measurements, yes.

Q Well, the word clearance in the code is defined as "The clear distance between two objects measured surface to surface, and usually filled with a gas such as air." Is that right? Did I read that right?

A You did, and for most clearances, that's true. If you look at the definition for communication space or you look at the definition for supply space and those diagrams, you know, on page 8, for instance, in the diagrams, the same later, that measurement is between the spaces. That measurement is not stated as surface to surface.

Q Well, we'll get to that. So you have included some of the NESC in your exhibit, on page 160 of the NESC, and that's Exhibit Number 2, is it, to your

testimony; is that right?

A That's correct.

Q Now look at page 160.

A I'm there.

Q Okay. And in 235C1(b), it says that the vertical clearances at the pole are measured between supply lines and communications lines; is that right?

A That is correct.

Q And it says that the clearance requirements in Table 235.5 shall apply, correct?

A That is correct. And, again, on the basis that the communication company is working under the communication rules and not under the supply company work rules because this -- 235C also applies to clearances between electric utility lines. So it's not just communication lines; it applies to vertical clearance between different electric utility lines as well.

Q Now, turn to page 175 of the NESC, and that's a table of vertical clearances between conductors it supports, correct?

A That is correct.

Q In inches?

A This particular table you're referencing is in inches.

Q And in this table, the distance between supply cables and neutrals on the one hand and communications conductors and cables located in the communications space on the other is 40 inches with some exceptions, right?

A That is correct. Again, if you're working under the communication company work rules, not supply company work rules.

Q And that distance is measured from surface to surface of the facilities, correct?

A That is correct.

Q Now --

A And that's for all grounded objects in that area, so that would be transformer tanks included is 40 inches, per this table.

Q Well, effectively grounded transformers are required only to have a clearance of 30 inches, actually, subject to an exception to that table; is that not true?

A That is right. There is an exception that if the parties agree on less clearance, it could be reduced to as much as 30 inches, and Blue Ridge has accommodated Charter on that to help this entire situation.

Q Where does it say that that's subject to an agreement between the parties?

A I don't think it says it in two seven -- in the

two hundred or 2017 edition. In all the prior editions, that language has been upon mutual agreement. Since the electric utility is the one that makes the decision on allowing you on the pole based on the clearance, the electric utility, in fact, could unilaterally do that.

Q Well, we're operating now under the current version of the code, correct?

A No. Now, that's a misconception. The code applies to the facilities on the date those facilities were installed. So if Blue Ridge installed facilities in 1960, the 1960 Edition of the NESC applies for everything except for certain operation issues, including inspection and work rules, but relative to clearances, strengths, heights of poles, vertical clearances above ground, you apply the code that was enforced at the time the facilities were built, not the 2017 Edition.

Q All right. Well, the 2017 Edition applies to new installations in 2017; is that right?

A Not all. If in---

Q If --

A If installations are for maintenance purposes, replacement and maintenance purposes, the code at the time the line was originally built is the one that applies, not 2017. A utility could elect to use 2017 if

they wanted to, but the applicable code is the one at the time the facilities are built.

Q Well, Mr. Booth, in terms of attaching a cable facility to a Blue Ridge pole in 2017, it would be the 2017 NESC that would apply; is that right?

A For the Charter facilities, that's correct, not for the Blue Ridge facilities. The Blue Ridge facilities, if they were built in 1980, then the code applicable in 1980, which would be the 1977 Edition, would be applicable.

Q Well, you understand I'm talking about the attachment by Charter to a Blue Ridge pole, correct? You understand that?

A I understand exactly what you're saying. I think you don't understand that it's Blue Ridge's pole, so what code applies to Blue Ridge's facilities is one thing; what applies to Charter and its installation is going to be the code at the time that Charter is doing its work. So if it's in 2017, Charter has to do the loading analysis for its facilities based on the 2017 Edition of the code. It doesn't mean that Blue Ridge has to bring their facilities up into compliance with the 2017 Edition of the code.

Q Mr. Booth, the 2017 version of the code for

attachments by Charter to Blue Ridge poles would allow a transformer to be and a communications attachment to be as close as 30 inches, and it would not in the code require the mutual consent of the parties; isn't that true?

A No. I think -- I think with the agreement and the code and the way it works, if the electric utility doesn't want to accept that exception on a given pole, the utility can refuse attachment to their pole unless there are other changes or accommodations. It's the electric utility's pole.

Q Where does the NESC say that in the 2017 Edition?

A It says it quite simply, Rules 10 and 200, this code is driven by the practical safeguarding of the public and the employees. This is a code that's applicable to both utilities. The pole belongs to Blue Ridge. So if Blue Ridge deems that the practical safeguarding of the public is not going to be honored by the manner in which Charter wants to attach to the pole and it's Blue Ridge's property, Blue Ridge can say you cannot attach because it's going to violate the code, and the agreements say everybody's going to meet the National Electrical Safety Code.

Q Well, it wouldn't violate the National Electrical Safety Code to make an attachment within 30 inches of a transformer in 2017; isn't that true?

A No. I will not agree with that. There are certain circumstances where you could have facilities on the pole and a transformer where that represents an impediment on operation, maintenance, public safety, and the safety of the employees, including Blue Ridge's, and the utility makes that decision. It's not -- you just don't get to willy-nilly say I measure 40 inches or 30 inches and attach. That's what everybody seems to want to do, but that's not how the code works and it's not how utilities should build their facilities.

Q Mr. Booth, the 2017 code would also allow attachments of communications facilities and the grounded neutral to be within 30 inches of one another, correct?

A There's an exception for that. And, again, practical safeguarding -- I don't know of any utility that as the normal course of business, and I've argued this before the Commissions and they've accepted my argument, takes the exceptions. They use the rules. There are some exceptions in there that can be applied, but it has to be applied in the context of the practical safeguarding of the public, the employees, and the

reliability and safety of the system. It's a Blue Ridge pole. They make that decision. You know, some Charter contractor doesn't just get to go up there and decide that on their own, but that's what's happening.

Q Looking at page 163 of the NESC --

A I'm there.

Q Okay. And there is a definition of the communication worker safety zone there, is that right, Rule 235C4?

A That's not a -- that is not a definition. That is, in fact, a rule.

Q All right. And it says that the clearances in Rules 235C and 238 create a communication worker safety zone between the facilities located in the supply space and the facilities located in the communications space, correct?

A Yeah. And that's what I've been saying and that's what I pointed out in the definitions. This is the clearance between the spaces. It is not between physical objects.

Q This says that the clearances are between the facilities in those spaces; is that not true?

A That is correct.

Q And facilities are measured surface to surface;

isn't that right?

A Clearances are surface to surface.

Q Okay. And this section of the rule talks about the clearances in Rules 235C and 238, correct?

A That is correct. This talks about the facilities being there and this communication worker safety zone that's created. It talks about the zone that's created for the safety of the communication worker.

Q Yes. And the zone that is created is between the facilities located in the supply space and the facilities located in the communications space, correct?

A That's right. And the electric utility owns that pole, and if they believe that to protect their pole, reliability, and safety, and affordable electric service to their consumers, they need to protect that pole for the installation of all of its facilities.

Q You understand that what I'm trying to educate the Commission on is the wording in the NESC?

A No. I understand what you're trying to do is as an attorney distort how this works and what it says. It says the spaces, the facilities located in those spaces, the very diagram I showed, the co-op expects the facilities to locate in their supply space. That's the

distance between those spaces. The definition shows the distance between those spaces. It doesn't show a transformer or anything else. It shows communication worker safety zone between the spaces and the definition.

Q Well --

A So they expect -- the facilities that are going to be in that space include primary lines, secondary lines, transformers, services, and other facilities that they're going to put in that space, so the 40 inches between the supply space and the facilities they expect to put in that space.

Q Well --

CHAIRMAN FINLEY: Mr. Gillespie, if it's okay with you --

Q -- I'm a lawyer, so --

CHAIRMAN FINLEY: Mr. Gillespie -- Mr. Gillespie, if it's okay with you, we would like to take our morning recess at this point.

MR. GILLESPIE: Sure. Thank you.

CHAIRMAN FINLEY: Come back at 11:00.

(Recess taken from 10:46 a.m. to 11:00 a.m.)

CHAIRMAN FINLEY: Let's come back on the record. Mr. Gillespie.

Q MR. Booth, would you agree with me that the 40-

inch separation required by the NESC for a safety space is measured surface to surface between communications conductors and supply conductors in the supply space?

A I would agree that the communication worker safety zone is between the supply space and whatever facilities would be in that space, not just existing, but proposed, and wherever the communications conductor is going to be placed.

Q So you would not agree that the -- this clearance required by the code of 40 inches for safety space is measured surface to surface between communications conductors and supply conductors?

A I didn't say that. In fact, there's two errors in what you asked. Number one, the clearance is absolutely surface to surface. Number two, it's not safety space; it's communication worker safety zone.

Q Well, you've used the term safety space, have you not?

A Not much. I try to keep it to communication worker safety zone, particularly when I'm talking to a Commission.

Q Is there anything else that is wrong with the way that I asked that question?

A I stated what was wrong with it.

Q All right. Let me ask it this way. Would you agree that the 40-inch separation required by the NESC for the communication worker safety zone is measured surface to surface between communications conductors and supply conductors?

A No. I would not agree with that. It is measured between whatever -- for the 40 inches it's from whatever the grounded facility is in the supply space and the bottom of the supply space and wherever -- the surface of wherever the communications conductor is going to be. It's not just between conductors. A 40-inch -- if I have a transformer on the pole and a service on the pole and I measure 40 inches from the neutral, I'm in violation of the NESC.

Q Mr. Booth, do you recall me asking this question at your deposition several weeks ago?

A No, not precisely the way you asked it.

Q Well, you have in front of you in that black binder a copy of your deposition. Would you turn to page 29, please?

A I think it's in the white binder. It looks like the black binder is only exhibits.

Q I think it's the black binder in front of you, isn't it?

A Well, I'm looking at it, and I'm seeing my deposition in the white binder. Is that okay to use it?

(Ms. Wigger indicates binder.)

A Okay. Well, you really are confusing me now. So this isn't even this case. Okay.

Q Okay.

A So tab 36 --

Q Page 29, please. This is 29 of your -- page 29 of your deposition taken on October 26, 2017, in this matter.

A I'm there.

Q All right. Do you see line 16? Question, "The 40-inch separation requirement in Table 235-5 is measured on surface to surface of the communications conductors and the conductors in the supply space, correct?" Answer, "Yeah. That's a definition of clearance."

A That's right, and you've obviously extracted one Q and A out of a page. We were talking about definitions, and my answer is exactly what I've been giving here. And your question is different, but my answer is the definition of clearance is surface to surface.

Q So turn to the NESC, page 8, which is included in the exhibit that we had marked this morning as Cross

Exhibit 3, I think. Turn to page 8 of that.

A I'm there.

Q Okay. These are more definitions in the NESC. And the communications space is defined here as space on joint use structures where communication facilities are separated from the supply space by the communication worker safety zone. Do you see that?

A Absolutely, and that's what I've been testifying to consistently here. It's the separation between communication facility and the supply space.

Q Well, we'll get to that definition in a minute, but the communication space begins where the communication worker safety zone ends; is that right?

A No. The communication worker safety zone begins at the bottom of the supply space, so it's not a communication pole; it's an electric utility supply pole. So everything is built from the top down, not the bottom up.

Q All right. Take another look at your deposition, page 30.

A I'm there.

Q Line number 13. I asked you, "And the communication space begins where the communication worker safety zone ends, correct?" Answer, "That's correct,

which is 40 inches below the supply space."

A And I've just spent at least 10 or 15 minutes testifying exactly that way.

Q All right. Let me ask you this. The supply space, which is defined on page 17 of this exhibit, which is our Exhibit Number 3, now, supply space is defined as space where supply facilities are separated from the communication space by the communication worker safety zone. Do you see that? Did I read that correctly?

A You did not.

Q Would you read it into the record, what it says, then, please?

A Yeah. "The space on joint use structure is where supply facilities are separated from the communication space by the communication worker safety zone."

Q All right. Thank you. Now, to unpack this, it basically says as follows, does it not, that, "The supply space is the space where supply facilities are separated from the communication space [the upper bound of which begins with the uppermost communication facility] by the communication worker safety zone [the upper bound of which begins with the lower most supply facility]." Isn't that what this -- these definitions do?

A I don't even know where or what you're reading, but no. I mean, it would be nice to be able to see what you're reading from. What these definitions do is it's a supply space and what supply facilities are going to be in that space. That includes a transformer and service. I mean, that's the reason for the electric facilities. So the separation from that space is a communication worker safety zone, and at the end of that zone is where the communication companies can begin installing their facilities.

Q The communication worker safety zone is measured from supply facility to communication facility surface to surface; isn't that right?

A That is what it says. It doesn't say existing facilities. The diagram is clear. It's the space. It talks about space everywhere. It's the space that the supply facilities will occupy, but you can't -- the communication company just doesn't have the right to take away from the electric utility the space that it built its system to serve to start with. It just doesn't.

Q Well, Mr. Booth, I'm simply trying to work our way through the language of the NESC.

A And I'm trying to answer your questions as clearly and succinctly as possible.

Q So just to try to clear this up for a moment here, the communication worker safety zone is measured between supply facility and communication facility surface to surface; is that right or not?

A Not existing facilities. It's the facility -- the supply facilities that are intended to be there, from surface to surface what's intended to be there. So if the bottom of a distribution transformer is the lowest facility that's intended in the supply space as one of the supply facilities and you're 40 inches below that, if that bottom of that transformer or service conductor is 8-1/2 feet from the top of the pole, you're 40 inches below that. If it's 13-1/2 feet from the top of the pole, you're 40 inches below that.

Q So your --

A That's the whole -- I mean, that's what my testimony is all about, is cable companies just want to measure 40 inches from a neutral and take the space away from the electric utility and then argue it's the electric utility's fault for creating a code violation using their space.

Q So is it your -- is it your interpretation of the code that these communication worker safety zone where it talks about facilities and surface to surface,

it's really referring to some sort of virtual facility or facility that may be there sometime in the future, but it's not there now? Is that what your testimony is?

A I didn't say anything about virtual facilities.

Q But you're talking about facilities that are not yet in existence, are you not?

A I'm talking about protecting supply space, exactly.

Q Take a look at the drawing on page 14 of your direct testimony.

A I'm there. I do.

Q And you projected that in your -- to the Commission in your opening comments here today, correct?

A I did. I used this exact diagram.

Q All right. And this exact diagram shows the supply space ending at the triplex service line about midway in the pole diagram; do you see that?

A That's right. So for this particular three-phase line construction with one transformer and one service, legacy was 8-1/2 feet, new construction is 9-1/2 feet to that point.

Q And the supply space ends at the triplex service facility of Blue Ridge, right?

A On this particular example. If we had a

different pole, it could be at a completely different location.

Q And this measures the communication worker safety zone as going from the triplex service to the Charter cable facility; is that right?

A This diagram is illustrative of one of thousands of types of poles, and that is absolutely correct, and that is exactly what I've been saying and what the code calls for.

Q So Mr. Booth, do you have any written interpretation or statement in the NESC handbook or a ruling by any utility commission that says that the utility can set the supply space without regard to the facilities that are actually currently on the pole?

A I'll say yes. I'm not sure if I brought them with me. I thought I did. There are numerous interpretations on the communication worker safety zone, what's intended and why it's intended.

Q Do you have a citation for us?

A I'm -- you'll have to give me a second to see if I can find it. So in July 12th, 1977, Information Request, Interpretation 504 was asking -- the request was in regard to the different types of spaces and whether the facilities could be in the supply space. The answer

was, yes, if Rule 240 -- 224A1 was followed, which requires Section 42 and 44. And then it asks whether the facilities outside of the space had to be separated between the communication space intended for the communication worker rules per Rule 238, 235 and 238, and the interpretation agreed with all of that request, and that is how it's so stated. And it, in fact, clarified what I was saying earlier, and that is Rule 224A dictates whether the communication worker safety zone is required or not, and that is whether the communication company is using communication work rules or supply work rules.

Q Now, would you provide a copy of that to me, please?

A It's my only copy, but you're welcome to it.

Q And this has to do with the clearance requirements for communications cables installed in the supply space, right?

A And for those not installed in the supply space, so it's got -- it's got multiple questions.

Q Well --

A And it deals with the application of 235C and 238 and 224A.

Q Well, I don't see anything here that I think answers my question. I would like to have this -- could

we have this marked for identification and then have copies made and returned to you?

A Certainly.

MR. GILLESPIE: We would ask that this be marked as Exhibit Number 4 for us.

CHAIRMAN FINLEY: All right. What are you calling that besides Exhibit Number 4? Is it --

Q How did you describe this?

A That is an Information Request 504, dated July 12th.

CHAIRMAN FINLEY: Information Request 504 is marked for identification as Respondent's Cross Examination Exhibit Number 4.

(Respondent's Cross Exhibit 4 was marked for identification.)

Q Is this, what you've given me, the entire document, Mr. Booth? May I have the entire document?

A I believe so, yes. Let me see if I missed anything. I missed one page, the first page.

CHAIRMAN FINLEY: We'd ask counsel for Blue Ridge to make a copy of it and give it to counsel for Charter. Charter can duplicate it and pass it out.

THE WITNESS: Thank you for picking up that, Ms. Page.

MR. GILLESPIE: I'd like that back so we can look at it, and we'll have a copy made.

CHAIRMAN FINLEY: He wants you to give it back to him for the moment.

Q Mr. Booth, you indicated in your rebuttal testimony that Blue Ridge places its streetlights in the supply space. Do you recall that?

A Yes.

Q And that statement is based in part on your -- your view that the supply space can extend more than 40 inches below the lowest electric conductor; is that right?

A No. It's based on the fact that in all the cases that I've seen, transformers, that the streetlight is, in fact, within the space where the transformer and service conductors already exist, so it's actually within -- clearly within the existing facility supply space.

Q So the only streetlights that you've seen are on poles with transformers on them. Is that your testimony?

A It is not.

Q And isn't it true, Mr. Booth, that in many cases Blue Ridge's streetlights are located within 40 inches below the neutral?

A Well, I disagree with the statement "many," but I would agree that there are some streetlights that would be more than 40 inches below the neutral with a transformer or a bank of transformers on the pole taking up more than 40 inches, but I would disagree with the statement that that's many of them.

Q Well, in terms of your example, you're telling us that in your view, all the streetlights that are located within 40 inches below the neutral are within 30 or 40 inches of a transformer? Did I understand you correctly?

A I didn't say any of the words you just said.

Q Did you use the word transformer?

A I used the word transformer in describing it, so most of -- the majority of the streetlights out there have transformers associated with it. With very few exceptions, all of the streetlights are within the electric utility supply space, so they're right where the electric utility has its electric service lines, which are obviously serving the streetlight, either a triplex line, an open secondary, a transformer with a connection to the transformer, so they all have the electric utility service facilities there with the streetlight. The streetlight is not in the communication worker safety

zone; it's in the supply space.

Q In the supply space as defined by you as 8-1/2 feet or as the Cooperative determines the supply space?

A No, no. Actually, the determination, and I'm sure you're going to ask questions about this, but -- and I brought a few copies of them, but I've got '47 standards, I've got '62 standards we obviously talked about, and I brought the most recent RUS standards. RUS is not just the co-op's lender; it's their regulatory agency. They have published the construction standards that the co-ops are to use since back in the '40s, publicly available, and I'm using those construction standards to establish the space for the co-op's facilities. That's their electric supply drawing in space. I'm not arbitrarily making up 8-1/2 feet or 9-1/2 or anything else. It's based on a published federal standard the co-op -- the co-op has to do it. If the co-op doesn't do that, when it submits a Form 219 to get its money, it's not going to get its money because it doesn't have a professional engineering certification saying he met those standards.

Q And those standards indicate where, if a co-op is constructing, where it needs to place its facilities to be consistent with those design standards; is that

right?

A That's right. It's hundreds and hundreds of drawings, depending on the type of construction, where they would put their facility. So we've got one example, the 8-1/2 foot, 9-1/2 foot example, for one out of hundreds of different construction configurations.

Q Well, Mr. Booth, since you're here, let's stay here. I'm having placed before you what has been marked as Cross Examination Number 1.

MR. TILLEY: Can we get a copy first, please, before you hand it to the witness? Thank you.

MR. GILLESPIE: This is the exhibit that was marked yesterday, admitted today, and we now have copies.

Q So Mr. Booth, does this represent the current RUS standards for construction?

A This is one of many, many bulletins for the RUS standards, yes. This is not the only one.

Q Does this bulletin of RUS standards contain a diagram that you are referring to in terms of the 8-1/2 feet of supply space that you're asserting is required by the RUS?

A Well, you have to put multiple diagrams together, so you have to put the pole top assembly diagram for three-phase line construction that would

typically be expected, you have to put a transformer service on the pole, so you have to take multiple diagrams out of this, put them together, and then you take whatever the neutral spacing is that the co-op has. And different co-ops get separate permissions from RUS for spacing. The typical has been 4 foot. Most co-ops have now moved to 5 or 6 foot spacing of the neutral from the center of the crossarm, and that's what creates the 8-1/2 feet. So you have to add multiple drawings together. It's effectively --

Q Now, where does --

A It's effectively a design of the electric system.

Q So where does this document, if anywhere, show that the RUS requires that space be reserved by the cooperative for future facilities such as a transformer?

A It doesn't talk about that at all. You'd have to go to a different RUS bulletin to see where they talk about the reservation of space from particular co-op items that are expected -- that's 1726A, if I remember correctly -- but what this does is it shows what the construction is that the co-op would use for their facilities. It doesn't talk about reservation of space. This is how a co-op designs and builds its electric

system. That's the business they're in.

Q All right. Are you telling me that -- what was that number? 726A?

CHAIRMAN FINLEY: 1726.

A 1726A-125. I brought a copy with me. And it shows all of the different recommendations for 40 inches from the bottom of the transformer that's expected to be put on the pole.

Q Let's have a -- would you provide a copy of that to me, please?

A (Witness complies.)

Q And Mr. Booth, it's your position that this bulletin 1726A-125 contains a requirement that cooperatives reserve space of 8-1/2 feet -- let's put it this way, reserve any space for future construction?

A That is not what I said. This is one of many bulletins that RUS publishes that establishes the regulations, standards, specifications, and guidelines that co-ops are to build by and to have approved by a PE in order to get their loan funds.

Q Okay. So --

A So there is not -- there is not a singular place -- I know you attorneys like to see this, but there's not a singular place with a line that says you

reserve 8-1/2 feet, 9-1/2 feet, 13-1/2 feet, because depending on the line construction, it could be anywhere from 5 or 6 feet, upwards of 20 feet. So the di--- what I just gave you shows the expectation of 40 inches, the recommendation and expectation and guideline from RUS of 40 inches from the bottom of the transformer.

Q And that's a construction standard for construction that is actually being done, correct?

A And that -- that is one of many of the RUS specifications and construction -- we would have more boxes than you brought with you if we brought all of the design standards and regulations of RUS in here.

Q Well --

A I'm trying to make this simple, and you're trying to make it difficult.

Q I appreciate that, Mr. Booth, but all I'm looking for is some document, some language that we can all see, including the Commission, that establishes that the supply space is based on reservation of space for future construction, and I thought you said that RUS had said that, and I'm asking you for a citation to that. Do you have one?

MS. MITCHELL: I'm going to object, Mr. Chairman. Mr. Booth has been testifying to that very

question for 15 or 20 minutes now. I believe the question has been asked and answered multiple times.

CHAIRMAN FINLEY: Well, he's given him one reference and he said that there are many there. I don't think he's going to be able to give all of them from the stand right now. Is that right, Mr. Booth?

THE WITNESS: That's right. I mean, RUS has a massive quantity of bulletins and standards. The one in front of you, 1728F-804, which is, as you can see, hundreds of drawings, you know, a design engineer, professional engineer, staking engineer --

CHAIRMAN FINLEY: Well, I just asked you if there -- you can't give a reference to all of them today; is that right?

THE WITNESS: The only reference I can give was I gave the website reference in my testimony that will --

CHAIRMAN FINLEY: That's enough.

THE WITNESS: -- carry you --

CHAIRMAN FINLEY: That's enough.

THE WITNESS: -- to all the bulletins.

CHAIRMAN FINLEY: That's enough. So Mr. Gillespie, he can't answer your question right now from the stand.

MR. GILLESPIE: Well, let me ask it this way

because I'm just asking for one reference that says what this witness says RUS has dictated.

Q Mr. Booth, I understood you to say that RUS requires that cooperatives reserve space, reserve 8-1/2 feet of space for facilities to be built in the future. Is that your testimony?

A It isn't. It hasn't been. The record will speak for itself, obviously, since it's been transcribed. My testimony is that the 8-1/2 feet comes out of a straight line three-phase pole with a transformer and service on it that each particular pole, by RUS, as defined. The NESC is very clear -- you don't want to agree with me, but it's very clear -- on the definition of supply space, communication worker safety zone, and the supply space is defined by the manner in which the co-op construct per the RUS drawings. Nowhere does it say or would it ever say a specific number because every one of these drawings are going to give you a different number.

Q All right. Let's -- let's -- let's -- let's --

CHAIRMAN FINLEY: Well, hold on a minute. He's not asking you for a specific number, Mr. Booth. He's -- I understand the question is he wants to know where in the RUS documentation it says that the safety space can

be below the future anticipated installed facility of the electric supplier. And you've given him one reference and you've said that there are others, but you can't put your finger on them; is that right?

THE WITNESS: That's correct.

CHAIRMAN FINLEY: All right.

THE WITNESS: And RUS doesn't have an absolute number. It's based on whatever the line construction is going to be.

CHAIRMAN FINLEY: So he can't give you any more right now, Mr. Gillespie, than he's given you already.

MR. GILLESPIE: All right. Obviously, my question is whether it exists, but I'm going to ask that this be marked as Exhibit Number --

MS. MITCHELL: Mr. Chairman, I'd move to strike that commentary from Mr. Gillespie.

CHAIRMAN FINLEY: Let's both, counsel and lawyers, stop ascribing to the other, you know, motives and that type of thing -- that's not getting us anywhere -- both of you.

MR. GILLESPIE: Yes, sir. Yeah. I'd like that -- this marked as Cross Examination Exhibit Number 5. We will have copies made.

CHAIRMAN FINLEY: What is this?

MR. GILLESPIE: For the record, this is Bulletin 1726A-125.

CHAIRMAN FINLEY: All right. Respondent's Exhibit Number 5.

MR. GILLESPIE: Thank you.

(Whereupon, Respondent's Cross Exhibit 5 was marked for identification.)

Q Would you agree, Mr. Booth, that placing a communications attachment 40 inches from Blue Ridge's neutral is not an NESC violation?

A I would agree with that if there's nothing else on the pole, but it is an encumbrance of their space and it is in the defined supply space.

Q What's the dimension of the communication worker safety zone in a case of a grounded transformer or a grounded neutral?

A Ask that again. That wasn't clear to me.

Q Let me ask it this way. Would you agree that the communication worker safety zone in the case of a grounded transformer or a grounded neutral would be 30 inches rather than 40 inches?

A As an exception, but the Table 235-C calls one -- or five calls out to be 40 inches. So you can take

the exception and make it 30 inches if the utility decides they're allowed the exception, but that's not the rule. The rule is 40 inches.

Q And there's nothing in the code that says that the closest communications facility must be 72 inches from the neutral; is that true?

A Oh, gosh. That's absolutely true. I mean, that 72 inches -- and I know it's discussed over and over and over again -- it's only what the utilities and communication companies are typically agreeing on in order to preserve that space so you don't have all these extra costs down the road because the contractors know a number, 40 inches. If they're given 72 inches, that's going to help protect the space. It not only protects the electric utility's facilities and the ability to efficiently provide service to its members in a timely manner, but it protects the communication company from not having to pay all these excess make ready costs later. It really protects both parties by preserving the supply space concept, but, no, it's not an NESC number. It doesn't show up anywhere in the NESC.

Q And it's not a violation of the NESC to place a communications attachment closer than 8.5 feet from the top of the pole; is that right?

A It could be. I mean, 8.5 feet from the top of the pole on a vertical construction would put it in the middle of the power line conductors. So, I mean, that's -- again, I mean, I don't -- I don't want people to focus on 8-1/2 feet or 9-1/2 feet. I want people to focus on the fact this is a space that the utility knows they're going to use for the construction of their power lines and to serve their members, whatever it turns out to be. I mean, the 72 inches is from the neutral to help preserve that because even if it's 13-1/2 feet, if you're 72 inches from the neutral, the co-ops put in a 45 or 50-foot pole and it's all above it. You're going to preclude these incursions in these code violations. It's just good business based on today's work practices.

Q Would you agree that cable companies around the country regularly attach closer than 8.5 feet from the top of an electric pole?

A I wouldn't use the word regularly, but there isn't any question that -- I mean, I work in over 40 states, and I watch cable company contractors all the time attaching 40 inches from the neutral and creating NESC violations day in and day out. And, in fact, contract -- I've been at a lot of tort cases where the contractors were killed, you know, on power lines because

their installation was improper.

Q Now, I thought you just told us that attaching 40 inches from the neutral is not an NESC violation?

MS. MITCHELL: Objection. I don't --

Q Did you just say that it is?

MS. MITCHELL: I don't believe that was his testimony.

CHAIRMAN FINLEY: Reask your question, Mr. Gillespie.

Q Well, did you just -- I believe the record will show that you just said that attaching within 40 inches of a neutral is an NESC violation. Is that -- is that -- is an attachment that is 40 inches from the neutral an NESC violation?

A It can be, depending on if I have a transformer or a service or other facilities below the neutral, attaching 40 inches is absolutely an NESC violation. And what I said was if you do that, you have encumbered the absolute supply space defined by the NESC.

Q Are you aware of any utility commission ruling that has required there be a 72-inch separation from a neutral for a communications attachment?

A I can't think of one that said 72 inches. I know the Virginia Commission and I know that Comcast case

supported our position that Comcast needed to be out of our supply space. In Novak's case, I think that was even more than 72 inches. And the Commission fully supported the full compliance with the NESC and the RUS work rules. And Charter, in fact -- or Charter, excuse me -- Comcast, in fact, agreed to remedy all the violations we found that had that. So that would be the -- that would be the one I would point to.

Q So how would I find a copy of that decision?

A Go to the Virginia State Corporation Commission.

Q And what year was it?

A I don't remember. Three years ago, roughly.

Q Who were the parties?

A Northern Virginia Electric Co-op and Comcast.

Q All right.

A And, again, I -- you know, everybody wants to talk about 72 inches. I don't care whether it's 72 or 80 or 8 and, you know, some distance from the top of the pole. It's not intended to do anything but protect the electric utility space, the worker, and the cable company from future, you know, cost that would be greater than doing things reasonably because contractors are unaware of the supply space requirements. They just know that

it's 40 inches from the neutral.

Q Mr. Booth, would you agree that -- well, let's put it this way. Are you aware of any situation where Charter's overlash has caused a Blue Ridge pole to violate loading requirements?

A I haven't done -- well, I'll say yes first off. I haven't done any analysis myself, but there's a 100 percent guarantee that if you've got a messenger, a coax, and four or five fibers lashed on there, like is done by Charter, that that is placing significant additional load on the pole. And I know, because I happened to be involved in the staking manual, that the poles designed and installed by the Co-op have not been designed and installed to accommodate a cable line with multiple overlashings on that cable line. So if they're there, there are absolutely going to be poles on that system that do not meet the NESC strength requirements.

Q Turn to page 57 of your deposition in this matter, please.

A I'm there.

Q All right. At the top of the page, line 1, tell me if I'm reading this correctly. Question, "Mr. Booth, are you aware of any specific instance where Charter's overlashing of its facility has caused a pole

to violate -- to come into violation of a wind loading requirement?" Answer, "I haven't made any of those calculations, nor has anybody else, including Charter, so, no, I don't know of any. I would be pretty confident that there are some out there." Was that your answer?

A Absolutely, and that's the answer I just finished giving to you.

Q So is it your testimony that this Commission should require that a professional engineer be involved with every attachment and overlash by Charter?

A That -- that is my testimony. I mean, I've been licensed in this state since 1973. I've worked with the Board and the general counsel there for a long time. And 62-350 clearly talks about engineering. Engineering, as defined in this state, is the practice of a professional engineer. So I -- my testimony is absolutely, Charter or someone needs to be -- a professional engineer needs to be designing the facilities and involved and in responsible charge of the design of the facilities that are built.

Q And you rely, in part, on a statute in North Carolina that you believe relates to this; is that right?

A I rely on that statute, I rely on the guidance letter from the Board itself and the general counsel, I

rely on all of my years of practice as a professional engineer in this state and across the United States as to what, you know, what the rule is for what is done by companies when they're doing engineering work. That's correct.

Q Well, the statute that you're relying on is included as Exhibit GLB-6; is that right?

A That is correct.

Q And in your rebuttal testimony, you give testimony, and you provide an exhibit that consists of a letter from a lawyer from the Board of Examiners for Engineers and Surveyors.

A Not just a lawyer. It's their General Counsel. He's been there for as long as I can remember.

Q Well, this is a letter -- well, this is Exhibit GLB-2R, correct?

A I believe so, yes.

Q Okay. And this is a letter dated November 2, 2017, right?

A Let me get there. That is correct.

Q From David S. Tuttle, Board Counsel, right?

A That is correct.

Q Did you talk to this gentleman before he wrote this letter for you?

A I did. I mean, I've been talking to David Tuttle about interpretations and applications of our ethics and rules for decades --

Q Okay.

A -- and I talked to him specifically about this multiple times.

Q And you asked him to write this letter for you?

A I actually wrote him a letter making a specific request, so I made it a formal issue, not a verbal discussion issue.

Q So you talked to him first and then you wrote him the letter; is that right?

A I've talked to him multiple times over the course of the last year or more about this subject, yes.

Q In connection with the letter he wrote on November 2nd, did you talk to him first and then send him your letter that this is in response to?

A I mean, I've said yes at least three times now.

Q Now, you have not included in this exhibit a copy of your letter; is that right?

A I have.

Q And --

A I have my letter of October 31, 2017.

Q Is it a part of this exhibit?

A It is.

Q It's not in my copy.

A It's in my copy.

MR. GILLESPIE: Could I get a clarification from Blue Ridge Counsel on this?

MS. MITCHELL: Yes. Mr. Chairman, Mr. Booth's letter is not included in his official exhibit, but we're happy to provide it as a late-filed exhibit if you so deem necessary.

MR. GILLESPIE: Well, I think we should be living with the exhibits as they've been provided.

MR. MILLEN: It's your choice.

CHAIRMAN FINLEY: It's your choice, Mr. Gillespie. Do you want it or not?

(No response.)

CHAIRMAN FINLEY: It's your choice, Mr. Gillespie. Would you like it or not?

MR. GILLESPIE: Yes. I'd like it.

CHAIRMAN FINLEY: All right. If you'd present it, we'd appreciate it.

MS. MITCHELL: Okay.

Q Now, this letter from Mr. Tuttle notes that to get a definitive answer, you would need to ask the Board's Engineering Committee to review and make a

recommendation to the full Board, right?

A That's absolutely correct. I not only would need to do that, based on where we are at this point in my rules and code of ethics, I'm going to have to do that because I've brought the subject up now.

Q Well, it ultimately requires a full Board determination, correct?

A This is purely a guidance letter to get the full Board's opinion that then the Attorney General could act on requires the Board's action, absolutely.

Q To the best of your knowledge, the full Board has not acted on this; is that right?

A They absolutely have not acted on this at all. This is -- I guess from my perspective, I've been, through these proceedings, very, very flabbergasted that Charter doesn't have professional engineers or Time Warner doesn't, either.

Q Now, you're not aware of any state commission that requires communications providers to have a professional engineer certify pole attachments; is that right?

A I guess I wouldn't agree with that because I believe the state commissions follow the laws of the state, and 89C is one of the Statutes in North Carolina,

and I believe this Commission follows the statutes in North Carolina. I mean, we can hear the -- the lawyers can debate the legality of it. As a professional engineer, it's my professional opinion, you know, with tremendous amount of experience, that Charter is putting their facilities on public property, and they're expected to engineer those facilities with a professional engineer.

Q Now, the NESC has not issued any ruling that states that a communications company needs to have a professional engineer certify pole attachments, has it?

A Oh, absolutely. That's a state -- that's a completely separate statute. That's a state issue that doesn't come under the purview of the National Electrical Safety Code at all. The National Electrical Safety Code talks about what the engineers have to do in the engineering. If a particular state defines engineering as requiring a professional engineer, then they would be consistent.

Q Now, you conducted an inspection of Charter's facilities on Blue Ridge's poles in August of this year; is that right?

A That's right. The end of August.

Q And after you were retained, you decided to

conduct this inspection for purposes of creating a record in this case; is that right?

A No, no. Blue Ridge asked me -- because of their concern with the large number of violations that they identified in their audit, they wanted me to do an inspection as a professional engineer, a true NESC inspection, as opposed to simply as part of an audit, identify obvious ones because, frankly, they thought that the number was extremely high and probably wasn't correct. So five circuits were arbitrarily selected that had -- that would have Charter facilities on them, and five circuits were reviewed. That was reviewed to put in this record, information on the NESC by a professional engineer in North Carolina that's been an expert in the NESC for some 50 years and teaching it since the late '70s. And that's what the intent was, but it was driven by the Co-op surprised at the quantity and expected I would find a substantially lower percentage, but I didn't; I found a much higher.

Q Now, what effort did you make -- this was an inspection that was conducted by your employees, right?

A Yes. Two of my trained employees and two of Blue Ridge's employees --

Q Okay. So you --

A -- traversed the system. They took a minimum of three pictures per pole to gather all the information. They followed the complete protocol I gave them.

Q You did not personally participate in the inspection; is that right?

A Well, I personally -- I didn't go out in the field for these five circuits. I personally participated because I drove it from day one to the end, including the protocol, who I selected in my office that's been doing these types of inspections for years, how it would be done, how the pictures would be taken, how the measurements would be completed, so that I could evaluate it because, frankly, I was hoping we wouldn't find a large quantity of problems. That's what we would always hope.

Q Mr. Booth, what effort did you make to determine whether Charter had placed its facility in violation of the code or whether Blue Ridge or some other party had placed its facility in violation?

A For the violations I identified, I looked at all of the photographs. I took, number one, the poles of Blue Ridge -- in every case it's a Blue Ridge pole, so their pole was there first long before Charter. The facility violations, I know what Char--- what Blue Ridge

must do to get their loan funds from an inspection procedure in process. Because of that, to a reasonable degree of professional engineering certainty, I believe that all those violations I've ascribed to Charter are Charter's. Since my direct testimony and in my rebuttal, we went back out because Charter was disputing what I was saying and was saying, no, the Co-op did this. My rebuttal testimony is clear that we've shown even greater evidence of why this is, in fact, Charter's violation and not Blue Ridge's. But, you know, I mean, I -- for the Commission and for me as a professional engineer, the whole reason we're asking for some decent language in the agreement is because what's going on here is what's been going on for years. The cable companies want to dispute, argue, and litigate all these violations, and nobody -- and they just don't want to cooperate to fix a problem that ought to be fixed and not be allowed to exist. I just -- I'm baffled. I don't quite understand it.

MR. GILLESPIE: Mr. Chairman, could I ask for instruction of the witness to answer the question? We're going to be here all night, otherwise.

CHAIRMAN FINLEY: Let's -- I think you've done a lot more than answer that question, Mr. Booth. I think let's -- Mr. Gillespie, if you would, you know, be as

concise as you can and, Mr. Booth, if you would be as concise as you can without compromising your ability to answer the question, we'd appreciate it.

THE WITNESS: Absolutely.

MR. GILLESPIE: Thank you, Mr. Chairman.

Q So Mr. Booth, did you make any effort to determine how many years ago a Charter attachment that is judged to be too close to a Blue Ridge attachment, when that was made?

A I did not. The Co-op and their people went out, spent significant time to identify, and it's in my rebuttal testimony on the ones that have been disputed by Charter when the Co-op was there and it was ahead of Charter. And it is my professional opinion that because of the inspection program the Co-op has for its facilities and the requirement of engineering certification to get their loan funds, that those violations wouldn't have been put in by Charter -- or by Blue Ridge. They would have been by Charter.

Q Now, you say that they -- Blue Ridge went out to determine when the Cooperative was there. You mean when the Cooperative first made an attachment to the pole or when the Cooperative placed a facility with which the Charter attachment is deemed to be in violation?

A No. They went out -- Mike High and engineers under Mike High went out and looked at each one of these facilities, came back to me, gave me the information and assurance that their transformers, their facilities, were there first.

Q And who at Blue Ridge told you that they had checked to see whose facility was there first?

A Mike High.

Q Pardon me?

A Mike High who's a professional engineer.

Q And did he review the records to determine when the Charter attachment was authorized?

A He did not.

Q Did he review the records to determine when the Blue Ridge facility was placed?

A No. He looked at the dates on things like transformers and conduits and established that they were -- had been there not only for a long time, but that measurements by Charter could have only been used if the Co-op's facilities were there.

Q So he did not check the records that I've referred to; is that right?

A He did check records. He's checked the physical equipment. He didn't check any Charter records.

Charter needs to check their records --

Q Well --

A -- and it's a Charter violation. The violation needs to be remedied.

Q The information with regard to when Charter was authorized to attach to a pole, that is information that Blue Ridge should have, right?

A Well, it should, but I think we've already identified -- the audit said there's some 1,400 or more that Charter attached without a permit, so they wouldn't have any record of that. It's a pretty high percentage.

Q And the Cooperative would have a record of when it placed a transformer or a riser to serve that transformer, would it not?

A Not necessarily. Depends on -- but they would certainly have the name plate with a date on the transformer, so a transformer with a particular date couldn't have been installed any later than the date on the transformer.

Q Mr. Booth, is it your understanding that the determinations of causation and remediation required by Section 62-350 regarding alleged violations of Charter has yet to be completed?

A I would agree that all of those issues have not

been completed, so we don't know if we need to put in a new pole, whether Charter gets off the pole, or whether rearrangements are necessary. It's not been done.

MR. GILLESPIE: I have no further questions. I would move for the introduction of the exhibits that we marked.

MS. MITCHELL: No objection.

CHAIRMAN FINLEY: Without objection, the cross examination exhibits are introduced into evidence.

(Whereupon, Respondent's Cross Exhibits 2 through 5 were admitted into evidence.)

CHAIRMAN FINLEY: Redirect?

MS. MITCHELL: No questions.

CHAIRMAN FINLEY: Does anybody have any questions?

(No response.)

CHAIRMAN FINLEY: I have a few questions, Mr. Booth.

EXAMINATION BY CHAIRMAN FINLEY:

Q I know we've about beat this horse to death, but let me just make sure that I understand this. So, you know, I'm a lawyer, too, but I'm just trying to get to the bottom of this.

A I understand.

Q So the 40-inch communication safety space is to be measured from the point on the pole below the supply facilities that may be installed in the future by the owner of the electricity pole in order to preserve the right of the supply space for the utility owner's own use?

A That -- that's the way the code has laid it out. That's the way it functions. The code absolutely would allow the electric utility to permit the cable company to locate 40 inches below the neutral, recognizing some day they'd recapture that pole and space, and that would meet Table 235-1 -- dash 5, excuse me, in the code. So they do have that ability to do that.

Q And I think you said in one answer to Mr. Gillespie's questions that they could reserve up to 20 feet.

A No, no. What I'm saying is that they would -- they wouldn't reserve. What they do is they would ask to be 40 inches below where they would put their lowest facility. So if they -- if the co-op needed 20 feet on the pole, let's just take an extreme, two vertical circuits stacked on one another and they needed 20 feet

on the pole, the co-op is going to have to put in a 60 or 70-foot pole to do that. So the basic straight line 40-foot pole, the co-op is going to be above that, so they're not going down with that space. That's the space up. So if they've got a 70-foot pole in there, that doesn't mean the cable company can locate way on the top. They've got to locate 40 inches below where that transformer would be. So it's not pushing the cable company further down; it's pushing the electric utility further up, taller poles.

Q Well, let's say we've got a 40-foot pole.

A Okay.

Q What criteria is the electric supplier going to use to tell the potential communications attacher how far below the top of the pole it needs to attach its facilities?

A But it's going to say you need to be 72 inches below my neutral, and it's going to look at what their construction facilities are. So let's take the example of that they allow Charter to attach 72 inches below the neutral, which is 40 inches below their supply space, and the Co-op wants to put another circuit in there, which means a taller pole, the Co-op has to pay the money to put their taller pole in, not take away from the cable

company to do that. That's not the intent of any of the agreements or the 72 inches. They wouldn't -- Charter wouldn't pay for that taller pole. They'd only pay for a taller pole if there wasn't space on the existing pole they wanted to attach to. And the 72 inches is obviously arbitrary. It's based on the RUS drawings and what the Co-op thinks is reasonable to protect its space for putting up a transformer and service below the neutral. That's all it is.

CHAIRMAN FINLEY: All right. Thank you. Other questions?

(No response.)

CHAIRMAN FINLEY: Questions on the Commission's questions?

MR. GILLESPIE: None from me, Mr. Chairman.

MS. MITCHELL: No questions.

CHAIRMAN FINLEY: All right. Without objection, we will admit Mr. Booth's exhibits.

(Whereupon, Exhibits GLB-1 through GLB-8, and Exhibits GLB-1R and GLB-2R were admitted into evidence.)

MS. MITCHELL: Mr. Chairman, before we go off the record, if I may, we've spoken to Charter counsel, and Charter counsel has indicated no objection to our

moving that Charter's Responses to the Data Requests of Blue Ridge EMC be admitted into evidence, the Data Requests of Charter to Blue Ridge EMC.

MR. TILLEY: Other way around.

MS. MITCHELL: Yeah.

MR. TILLEY: The responses to our data requests.

MS. MITCHELL: Right. The response -- let me start over. Mr. Chairman, we would move that the Responses of Charter to the Data Requests of Blue Ridge EMC be admitted into evidence in this proceeding.

CHAIRMAN FINLEY: All right. Without objection, they may be --

MR. GILLESPIE: No objection.

CHAIRMAN FINLEY: Without objection, they may be admitted. You'll have to give us a copy of it.

MS. MITCHELL: Will do.

(Whereupon, Charter Communications Properties, LLC's Responses to Blue Ridge Electric Membership Corporation's First Set of Data Requests were admitted into evidence.)

MR. GILLESPIE: Mr. Chairman, I did neglect to

have marked as an exhibit the October 31st letter, 2017, from Mr. Booth to Mr. Tuttle that was produced here today by counsel for Blue Ridge. I'd like that marked as our Cross Examination Exhibit Number 6 and that it be admitted.

CHAIRMAN FINLEY: We'll mark it Exhibit 6. Any objection?

MS. MITCHELL: No objection.

CHAIRMAN FINLEY: It shall be admitted.

(Whereupon, Respondent's Cross Exhibit 6 was marked for identification and admitted into evidence.)

CHAIRMAN FINLEY: Who's next?

MR. GILLESPIE: And we'll make copies of it. Do I give it back to you or would you rather make copies?

MS. MITCHELL: I'll have copies made.

CHAIRMAN FINLEY: Does that complete Blue Ridge's case?

MS. MITCHELL: Yes, sir. It does.

CHAIRMAN FINLEY: All right. Charter.

MR. GEORGE: Charter calls Mr. Micheal Mullins.

MICHEAL MULLINS; Having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. GEORGE:

Q Good afternoon, Mr. Mullins. Would you please state your name and business address for the record.

A Micheal Mullins, 220 McLean Drive, Lenoir, North Carolina, 28645.

Q Did you cause to be filed in this proceeding responsive testimony consisting of 57 pages and 18 exhibits?

A Yes.

Q And if I asked you the questions in your prefiled submission today, would your answers be the same?

A Yes.

Q Do you have any corrections to your testimony?

A I do have one correction. Photograph 9 on page 50 should be identified as Pole Number 03-10-094.

MR. GEORGE: I would ask that Mr. Mullins' responsive testimony, with the correction that he just noted, be entered into the record, and the corresponding Exhibits 1 through 18 be marked for identification.

CHAIRMAN FINLEY: Mr. Mullins' responsive testimony consisting of 56 pages, filed on the 31st of October 2017, is copied in the record as though given orally from the stand, and his 18 exhibits are marked for

identification as premarked in the filing.

(The prefiled responsive testimony of Micheal Mullins, as corrected, was copied into the record as if given orally from the stand. The confidential testimony was filed under seal.)

I. INTRODUCTION

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

A. My name is Micheal Mullins. I am currently the Construction Supervisor for Charter Communications Properties, LLC ("Charter") for the Western North Carolina Market Area. My business address is 220 McLean Drive, Lenoir, North Carolina 28645.

Q. On whose behalf is this testimony being presented?

A. My testimony is offered on behalf of Charter.

Q. Have you ever submitted testimony in a North Carolina Utilities Commission proceeding?

A. No.

Q. Please describe your professional experience.

7A. I have worked in the cable industry for 29 years. I have worked out of the Lenoir office for Charter and its predecessors the entire time. I started out as an installer and have worked my way up into supervisory roles. I have been in my current position for the last 11 years. I currently supervise construction and maintenance activities handled by Charter's construction group in the Western North Carolina Market Area, which includes the service area of Blue Ridge Electric Membership Corporation ("Blue Ridge" or the "Cooperative").

Q. What is the purpose of your testimony?

A. I am submitting testimony in this proceeding to address a number of factual issues that have bearing on the current dispute between Charter and Blue Ridge related to pole attachment rates, terms, and conditions. My testimony also addresses the

testimony filed by Lee Layton, Gregory Booth, and Wil Arnett on behalf of Blue Ridge.

Q. Please summarize your testimony.

A. My testimony describes the types of attachments Charter makes on Blue Ridge's poles, and how those attachments compare to attachments made by the Cooperative and other users of the poles. Less than one-third of the roughly 86,500 third-party attachments to Blue Ridge's poles are made by Charter, with the remaining attachments made by telephone companies (AT&T, CenturyLink, Skyline Telephone Cooperative, and Wilkes Telephone Membership Cooperative) or other communications companies such as Morris Broadband and Charter's competitor Skybest, an affiliate of Skyline. Charter makes its attachments under a pole attachment agreement entered into in 2008 and attached as MM Exhibit ("Ex.") 1 ("2008 agreement"). The 2008 agreement is similar to an agreement entered into by the parties in 2003. I understand that Charter had very little leverage in either the 2003 or the 2008 negotiations because, at the time, there was no law regulating pole attachment agreements between cable operators and electric cooperatives, and Charter already had extensive aerial facilities installed on Blue Ridge's poles that would be prohibitively expensive to move underground. In other words, Charter was essentially stuck with whatever terms Blue Ridge decided to impose.

Regarding the physical attachments, Blue Ridge uses as much as 8.5 feet of space (or more) at the top of the pole for its facilities. The Cooperative attaches a variety of facilities in that space and elsewhere on the pole, ranging from conductors, cross-arms, transformers, streetlights, fiber optic wires, wireless

antennae and associated facilities, and other equipment. Blue Ridge uses the so-called "safety" space between its conductors and Charter's facilities for the installation of streetlights, fiber optic wires, and other equipment to generate revenue or for other purposes.

Charter attaches below Blue Ridge's conductors, using a single through-bolt and bracket to support its communications wires. While Charter's bolt uses only about an inch of space, industry standard practices assign cable operators like Charter one foot of space on the pole. Blue Ridge licenses Charter to use "surplus" space on its poles—i.e., space that is not otherwise actively in use by the Cooperative or the incumbent telephone company. Where there is not enough space on a pole to accommodate Charter's attachment, Charter pays to create more space, either by paying to rearrange the existing facilities or to install a larger or stronger pole. Even when Charter pays for a larger pole, Blue Ridge continues to own the pole, and Charter still pays an annual attachment fee to attach to it. Charter does not dispute these aspects of the parties' relationship.

The telephone companies typically attach their larger and often heavier bundles of wires below Charter's attachment. The agreements between the telephone companies and Blue Ridge assign them two feet of space on the pole. The other communications companies typically attach fiber either above or below Charter's attachment. Blue Ridge, the telephone companies, Charter, and other communications attachers all run risers down the pole where they transition their aerial network underground. These risers do not foreclose the use of the space on the pole for the attachment of horizontal wires or other aerial facilities.

My testimony also explains how the Cooperative has systematically singled Charter out for different, more burdensome treatment as compared to the other attachers on its poles. Blue Ridge charges Charter the highest annual pole attachment rate of any third-party attacher. The annual rate Blue Ridge has imposed on Charter is almost double the annual pole attachment rate it has charged Charter's direct competitor Skybest. Blue Ridge also imposes more burdensome terms and conditions of attachment on Charter. For example, while virtually every other attacher is required to allow only 40 inches of separation from Blue Ridge's neutral, Charter must allow 72 inches of separation. Charter is only one of two attachers required to obtain certifications from a Professional Engineer for every attachment. The other is Morris Broadband (who has only a small number of attachments), but Blue Ridge apparently is not enforcing that requirement on it. Charter is one of the only attachers required to submit a permit prior to overlashing, although overlashing by third-party communications, including phone companies, is common. And Charter's current agreement, entered into in 2008 and attached as MM Exhibit ("Ex.") 1, is the only agreement Blue Ridge is renegotiating. In its negotiations with Charter, Blue Ridge has sought to impose many of the same burdensome terms and conditions Charter was forced to accept in the 2008 agreement.

I understand that Blue Ridge asserts that it is treating Charter this way because of the results of a 2015-2016 pole attachment count and inspection that Blue Ridge conducted. But that explanation does not make sense. While Blue Ridge's audit found more ***attachments*** than was reflected in the billing records, it

actually found fewer ***poles***. The 2008 agreement requires an annual rate ***per pole***, not per attachment, meaning the audit actually revealed that Blue Ridge has been overbilling Charter for years—a fact Blue Ridge anticipated before the audit and confirmed after it. Yet, rather than fix its overbilling, Blue Ridge doubled-down on it by invoicing Charter for the higher attachment count and demanding that Charter pay back-rent on those attachments. (And Blue Ridge never told Charter that it had found that Charter's pole count was actually much lower than the attachment count). Blue Ridge's audit also found that other attaching entities had purported unauthorized attachments. And it found that all entities, including Blue Ridge itself, have compliance issues. Some entities had as many or more compliance issues as Charter, and several had higher rates of noncompliance than Charter. But Blue Ridge is not renegotiating its agreements with those entities and apparently has no intention of doing so. This suggests the only reason Blue Ridge is singling Charter out for different treatment is because Charter has challenged the annual rate Blue Ridge wants to charge it.

Finally, my testimony also addresses a number of false accusations made against Charter related to safety and our construction practices. I also discuss the results of my investigation into a number of poles Blue Ridge says pose "immediate hazards to public safety." It is clear that Blue Ridge created many of these conditions—in some cases more than a decade ago—and apparently has not considered them imminent threats until now, and does so only because it is convenient for purposes of this litigation.

II. CHARTER'S ATTACHMENTS TO BLUE RIDGE POLES

Q. Does Charter make attachments to Blue Ridge's poles?

A. Yes. According to a recent audit conducted by Blue Ridge, Charter has 27,674 attachments to 24,888 poles owned by Blue Ridge. Charter makes its attachments to these "mainline" and "secondary" poles pursuant to the parties' 2008 agreement. Charter and Blue Ridge executed the 2008 agreement prior to the enactment of G.S. § 62-350. I am not a lawyer, but as I understand it, no state or federal law at the time of the 2008 agreement (or the 2003 agreement preceding it) regulated the rates, terms, and conditions Blue Ridge could require of Charter for making attachments to its poles. As a result, Charter had little choice but to accept the rates, terms, and conditions Blue Ridge imposed.

Q. Why do you say Charter had little choice but to accept Blue Ridge's rates and terms?

A. Due to economic, aesthetic, legal, regulatory, and other factors, Charter often has no practical alternative to using Blue Ridge's poles to build its cable system. Also, it is important to remember that Charter has had attachments to Blue Ridge's poles for decades. When I started working in this area 29 years ago, most of Charter's current aerial plant was already in place. These facilities were installed at a time when Blue Ridge charged lower rates, imposed less stringent requirements, and had an informal and cooperative approach to pole attachment issues. So when Blue Ridge began imposing higher rates and more burdensome terms in 2003 and 2008, Charter had to accept them if it wanted to remain on Blue Ridge's poles. Moving Charter's extensive existing aerial plant underground would have been and remains prohibitively expensive. Charter currently budgets

$45,109.40 per mile for underground construction, compared to $26,432.37 for aerial construction. If we estimate Blue Ridge has 20 poles per mile (based on the average span lengths calculated by Mr. Arnett), then Charter's aerial network on 24,888 Blue Ridge poles spans about 1,244 miles. Moving 1,244 miles of aerial plant underground would cost more than $56 million, not counting the cost to wreck out the aerial facilities or the expense of obtaining the necessary regulatory approvals, permits, and easements associated with undergrounding work.

Q. If undergrounding is so expensive, why does Charter build underground at all?

A. Sometimes Charter has no choice. For example, a lot of new developments are built with all utilities underground—electric, telephone, and cable. In these areas, there are no poles and Charter must go underground. But it is easier to build underground in a new development than it is go underground in an existing development because you can often do all your work before landscaping is done and before the residents move in. Other times, if the make-ready is too expensive or the current pole configuration is unworkable, Charter will build underground for a few spans. Even with new developments being built mostly underground, about 75% of Charter's existing plant in the counties that include Blue Ridge's area is aerial.

Q. Mr. Layton said that Charter serves areas with an average of 53 homes per mile in the Blue Ridge territory, is that accurate?

A. No. Charter's discovery response said that Charter serves an average of 53 homes per mile in the areas that ***include*** Blue Ridge's service territory. These areas also include the more densely populated areas (like Boone and Hickory) that Blue Ridge does not serve. These dense areas inflate the average, particularly a college

town like Boone that has lots of apartments and multi-family housing units. Charter was not able to isolate its homes passed in Blue Ridge's territory, but I am confident it is much lower than 53 homes per mile. And I know that Charter has extended service to areas served by Blue Ridge that have far fewer than 53 homes per mile.

Q. You mentioned that Charter makes attachments to mainline and secondary poles, what is the difference between the two types of poles?

A. A mainline pole refers to a pole along the main distribution route of a network. When you travel along a road with a line of poles installed about every 200 feet or so, those are typically mainline poles. A secondary, "drop," or "lift" pole is one that is set off from the mainline, typically to provide clearance across a street to provide service to a particular customer's location.

Q. Can you describe Charter's process for making new mainline attachments to Blue Ridge's poles?

A. Yes. Charter's construction coordinators pre-inspect and collect information about all poles and spans involved in any new aerial construction project. Charter's construction coordinators either call or email Blue Ridge's technicians to inform them where Charter proposes to attach, and to give them any information they request (such as span lengths, current facilities on the pole, and design maps). The Blue Ridge technicians assess Charter's request and respond informally either by approving the attachments, or by identifying necessary "make-ready" work and providing an estimated cost for it. Make-ready work is work necessary to accommodate Charter's requested attachments, such as the rearrangement of existing facilities on the pole or the installation of a taller or stronger pole. When Charter gets a make-ready estimate, it either approves the

estimate, in which case Blue Ridge does the make-ready work and Charter pays for it, or Charter chooses another approach that avoids the need for make-ready work. Alternative approaches could include rerouting to avoid the problem pole or going underground.

Q. Is that the process set out in the 2008 agreement?

A. No. The 2008 agreement outlines a more formal process for making new mainline attachments to Blue Ridge's poles. Charter would be willing to follow an approach like the one described in the 2008 agreement for mainline attachments, if Blue Ridge required it, because we follow similar formal procedures with other pole owners. But Blue Ridge has never insisted that Charter follow this approach, and its staking technicians have instead asked Charter to follow the more informal approach I described above. The informal approach has worked well because Charter does not make that many new mainline attachments and Blue Ridge's technicians have been very responsive.

Q. Has that process changed over the years?

A. Yes. Charter's construction team has long had very good working relationships with their counterparts at Blue Ridge. Charter's team has long followed the instructions given by Blue Ridge's technicians for making new attachments—whether that is a phone call, an email, or a formal application. When I was a construction manager about 11 or 12 years ago, the Blue Ridge technician my team worked with asked for formal applications, so that is what we gave him. But the current Blue Ridge technicians have asked us to follow more informal approaches.

Q. How does Charter construct its mainline attachments?

A. Charter attaches its steel support strand to a Blue Ridge pole using a through-bolt in the pole. Charter then lashes its communications wire to this support strand. We currently space our attachment 72 inches below Blue Ridge's neutral wire, based on the standards in the 2008 agreement, and typically between 18 and 21 feet from "grade" (or ground level). Charter only uses space on the pole that is not otherwise used by Blue Ridge or another joint user, like a telephone company, and where it can make its attachment in compliance with the National Electrical Safety Code ("NESC").

Q. Are all of Charter's attachments on Blue Ridge's poles spaced 72 inches below the neutral?

A. No. It is important to remember that Charter's predecessors built most of its aerial plant in this area decades ago, long before Blue Ridge adopted the 72 inch separation requirement it currently requires of Charter. Previously, Blue Ridge required 40 inches below the neutral and 30 inches below a transformer, consistent with the applicable safety codes. Most of Charter's existing aerial plant was built to these specifications. This is why the standards in both the 2003 and 2008 agreements specify that attachments existing on the commencement date of the agreement do not have to comply with the 72 inch separation requirement. I also note that the current standards allow us to place our attachment 40 inches below Blue Ridge's neutral with the Cooperative's permission, which we will seek if the 72 inch requirement would result in a costly pole replacement. Blue Ridge's technicians have typically worked with us to accommodate these situations.

Q. Has Blue Ridge ever required Charter to leave 8.5 feet of "supply space" at the top of every pole for Blue Ridge's exclusive use?

A. No. Blue Ridge's standards have specified only the separation between Charter's facilities and Blue Ridge's facilities, typically either the neutral or the bottom of a transformer.

Q. What happens if there is not any surplus space on the pole, or there is not enough space to accommodate Charter's attachment?

A. Charter must pay to create space to accommodate its attachment or its attachment is not permitted. This could mean paying to rearrange the existing facilities on the pole. Or it could require Charter to pay for a taller or stronger pole, including all of the work to install the pole and transfer the existing facilities to it.

Q. Does that mean Charter owns the new pole?

A. No. Although Charter pays to replace a pole with a taller pole if necessary to safely accommodate its attachments, the pole will still belong to Blue Ridge. And, even though Charter bought the pole, Charter still pays an annual attachment fee for its attachment to the pole.

Q. What happens if Blue Ridge needs space on a pole to which Charter is attached?

A. Under the parties' 2008 agreement, if Charter is already occupying the pole and Blue Ridge determines it needs additional space for its electric service, we are required to rearrange our facilities to accommodate the change at our own expense within a time period prescribed by the Cooperative. MM Ex. 1.

Q. Are these obligations in dispute?

A. No. Charter remains willing to accept similar requirements in a new pole attachment agreement, and Nestor Martin has proposed language to address these obligations.

Q. Does Charter overlash its existing strand with additional communications wires?

A. Yes. As described by Mr. Martin, overlashing is an efficient and cost-effective way for Charter to increase its network capacity by adding a new fiber optic or coaxial cable onto the steel strand. Overlashing is often necessary to serve commercial customers who require robust data connections. Overlashed fiber optic and coaxial cables are lightweight and about a half-inch in diameter. Often Charter will swap out an existing coaxial or fiber optic cable with a new one that has increased capacity, or where the old cable is no longer functioning properly.

Q. Does Charter currently seek permission from or notify Blue Ridge prior to overlashing its existing wires?

A. We do not notify Blue Ridge where it is part of our maintenance, for example, where we swap out an existing cable with a new one. We do contact Blue Ridge's staking technicians prior to adding an additional wire to the bundle.

Q. Has that process worked for Charter and Blue Ridge?

A. It has generally worked well because Blue Ridge's staking technicians typically respond very quickly to our requests. If they insisted that we follow the full permitting process specified in the 2008 agreement, however, the process would significantly delay and inhibit our ability to sign up and serve new customers—particularly new commercial customers.

Q. Why does Charter make attachments to secondary poles?

A. As I mentioned before, a secondary pole is usually placed off the mainline to allow clearance across a street. Charter will attach to these poles to extend a service line to a particular customer's location.

Q. Is the process for making attachments to secondary poles different from mainline poles and, if so, why is it different?

A. It is different because the secondary pole attachment is made to provide a particular customer service, and is performed by Charter's installation group. Like Blue Ridge, it is important for Charter to serve customers quickly when they request service. In fact, under FCC customer service rules, Charter is obligated to provide service within seven days of a customer's request. These operational considerations explain why Charter cannot agree to submit permit applications for secondary pole attachments—they could not be processed and approved in only seven days.

Q. What would Charter propose instead of a permit process?

A. The 2008 agreement includes an after-the-fact notice requirement from secondary pole attachments that Charter would agree to follow going forward. While Charter has had difficulty tracking its secondary pole attachments in the past, it is open to exploring approaches with Blue Ridge that would solve this problem. One option Charter discussed with Blue Ridge, and Blue Ridge at one point accepted, was to capture these attachments in the periodic audits, with the understanding that Charter would pay appropriate back rent on them. Another option would be for Charter to estimate the number of new drop attachments on a monthly basis, with a reconciliation in the next audit.

Q. What is a riser?

A. Risers are used to transition aerial facilities to underground. For example, there are places where all of the aerial facilities attached by Blue Ridge, Charter, and the telephone companies may need to go underground to traverse a major

highway. In those cases, all of the parties will bring their facilities down the pole and underground using a vertical "riser" and guards affixed to the pole. The facilities then run underground to the next pole, where they go from the ground up to the space that is usable on the pole for horizontal attachments. The companies also use risers where they serve customers using underground drops.

Q. If Charter uses a riser, does that prevent other parties from using space on the pole?

A. No. Charter often "follows" the power or the telephone company. Meaning that if those companies are going underground, Charter will go underground as well. This also means all of the parties on the pole will affix risers next to one another. Charter's use of a riser thus does not prevent other entities from using risers as well. Charter's riser also does not prevent the attachment of horizontal conductors in the usable space at the top of the pole. Charter's risers, for example, will commonly extend past the horizontal attachments made by the telephone companies. In the same way, the Cooperative's risers will often extend past the horizontal attachments made by Charter and the telephone companies. Whether used by Charter or the Cooperative, these risers in no way limit the use of the pole for other horizontal attachments.

Q. Does Charter make attachments to poles owned by other entities in the same areas where it makes attachments to Blue Ridge's poles?

A. Yes. Charter also attaches to poles owned by Duke Energy, New River Power & Light, AT&T, CenturyLink, and others. Poles owned by AT&T, CenturyLink, and other telephone companies are interspersed with the Cooperative's poles, as they have each agreed to use the others' poles. Other electric providers, like Duke Energy and New River Power & Light, have service areas that are adjacent to the

Cooperative's service area. Often, Charter's mainline attachments will touch poles owned by these companies and the Cooperative's poles along the same street. It is not unusual for Charter's attachments to switch back and forth between poles owned by Duke, AT&T, CenturyLink, and the Cooperative as its line runs down a street or highway. The poles used by each of these companies, including Blue Ridge, are very similar. In the field, we often have to look at the pole identification tags to determine who owns the pole, because the poles owned by the Cooperative look the same as the poles owned by the telephone companies or the other electric companies.

Q. Are Charter's attachments to poles owned by Blue Ridge any different than its attachments to poles owned by these other companies?

A. No. Charter's physical attachments—i.e., the through-bolt, strand, brackets, risers, and wires—are the same no matter whose pole they are on. The only thing that varies are the processes required by each pole owner to obtain permission for an attachment and, in the case of Blue Ridge, its atypical separation requirements.

Q. Have Charter and Blue Ridge attempted to negotiate a new pole agreement?

A. Yes. When Blue Ridge approached Charter about a new agreement in 2014, it was the first opportunity Charter had to negotiate a new agreement with Blue Ridge since the General Assembly enacted Section 62-350. *See* MM Ex. 2. Charter had long believed the annual rate Blue Ridge charged was excessive, but until Section 62-350, Charter had little choice but to pay it.

Q. What were Charter's goals in the negotiations?

A. Agreeing upon a just and reasonable rate was one of Charter's primary goals in the negotiation. There were also a number of burdensome and unworkable terms

in the 2008 agreement that Charter sought to negotiate under the new law. Among them were terms that required Charter to obtain a Professional Engineer certification for new attachments, and to follow an extended permitting process for overlashing. Charter also hoped to work with Blue Ridge to find a workable solution for tracking attachments to secondary poles. Charter was (and remains) willing to accept industry-standard terms regarding the process for making new attachments, paying make-ready fees, paying its share of audits and inspections, and allowing Blue Ridge to recover space on its poles for its core electric service.

Q. How did the negotiations unfold?

A. Charter sent a redline of the proposed Blue Ridge agreement in May 2015. MM Ex. 3. Shortly after receiving Charter's proposed redline agreement, Blue Ridge suggested we suspend negotiations pending the legislature's review of Section 62-350 in 2015. MM Ex. 4. The discussions resumed later in 2015 when Blue Ridge sent a revised agreement in October. The revised agreement contained a number of changes. In addition to lowering the annual pole attachment rate to $18 per year, per attachment, and among other changes, Blue Ridge proposed to:

- eliminate its proposal for an unauthorized attachment daily penalty;
- allow the use of correction plans to remedy non-compliant attachments;
- require Charter to pay five years back rent and apply for a permit for any attachments found in an initial inventory that lacked a permit.

MM Ex. 5. Blue Ridge also supplied a formula and calculation showing how it derived its $18 rate. MM Confidential Ex. 6.

Q. What happened next?

A. Charter still had concerns about the rate and the operational implications of some of Blue Ridge's proposed terms and conditions. Charter and Blue Ridge had additional discussions in late 2015, including a face-to-face meeting. Blue Ridge sent an additional redlined agreement in December 2015. MM Ex. 7. In it, Blue Ridge proposed to:

- allow an authorized Charter signature for the engineering certification, pending a discussion about a state statute;
- allow Charter to attach to secondary poles without notice or a permit, provided those attachments will be picked up in the next inventory and Charter will pay five years back rent on those secondary attachments; and
- require Charter to pay five years back rent for unauthorized attachments, with no additional penalty.

Charter sent a redline back to Blue Ridge in 2016, noting, among other things, that the rate was to be determined based on further discussions. Blue Ridge then filed this lawsuit. I understand Blue Ridge now asserts that the terms it proposed in our negotiations are unreasonable.

III. OTHER ATTACHMENTS TO BLUE RIDGE POLES

Q. In addition to Charter, who else is attached to the Cooperative's poles?

A. Blue Ridge of course attaches its own electrical conductors and other equipment to its poles. Telephone companies, including AT&T, CenturyLink, Skyline Telephone Cooperative, and Wilkes Telephone Membership Cooperative, also attach to Blue Ridge's poles. Other third parties also attach to the Cooperative's poles, including other cable and fiber-optic companies like Skybest, ACTV, and Morris Broadband. Other entities also maintain a handful of attachments to Blue Ridge's poles, including Duke Energy Carolina, Granite Falls Electric

Department, New River Power & Light, and the North Carolina Department of Transportation.

Q. What kinds of attachments does Blue Ridge make?

A. In addition to its electrical conductors, Blue Ridge also attaches cross-arms, transformers, streetlights, floodlights, its own fiber-optic wires, wireless antennae, risers, meters, and other equipment to its poles.

Q. How do the attachments made by Blue Ridge compare to the attachments made by Charter?

A. Obviously Blue Ridge makes many more attachments on a pole than Charter. Blue Ridge attaches multiple electrical conductors, neutrals, and other wires necessary for the provision of its utility service. Sometimes it will install cross-arms at the top of the pole to accommodate its facilities. Some poles contain one or more transformers, which step down the voltage for use by a particular customer. Some poles also have streetlights and floodlights owned by Blue Ridge. Blue Ridge also owns its own communications system consisting of fiber-optic wires, wireless facilities, and associated equipment attached to its poles.

Q. What kinds of attachments do the telephone companies make?

A. The telephone companies attach fiber-optic wires and copper bundles to Blue Ridge's poles.

Q. How do the attachments made by the telephone companies compare to the attachments made by Charter?

A. In many cases, the telephone companies will have two attachments to the pole, as opposed to Charter's single attachment. Also, the copper bundles attached by the telephone companies are typically much larger and heavier than the fiber-optic and coaxial cables attached by Charter. The telephone companies' fiber-optic

cables, which are often affixed using a separate attachment placed above its copper bundles, are similar to the fiber-optic wires attached by Charter.

Q. Do these other entities all have pole attachment agreements with Blue Ridge?

A. Many do, but not all of them. For example, I understand from Blue Ridge that it does not have an agreement with New River Power & Light because that utility has a minimal number of attachments on Blue Ridge poles (only 134).

Q. Are Blue Ridge's agreements with these other entities similar to its 2008 agreement with Charter?

A. Not at all. In fact, most are very different. Most significant, Charter's annual pole attachment rate is the highest rate paid by any other entity that attaches to Blue Ridge's poles. A document produced by Blue Ridge in discovery shows that Charter's annual rate is nearly double what another cable operator, ACTV, pays (identified as Ashe Cable and Alleghany Cable on the document), and $9 more than what Charter's direct competitor, Skybest, pays. *See* MM Confidential Ex. 8 at BREMC-014279. Charter's rate is also higher than any rate paid by the telephone companies.

Q. What services does Skybest offer?

A. Skybest is an affiliate of Skyline. It offers video, phone, and Internet services in direct competition with Charter in Blue Ridge's service area.

Q. What else is different?

A. The agreements with the telephone companies give them more rights than Charter. In Charter's agreement, Blue Ridge specifically disclaims any responsibility to build its system to accommodate Charter's facilities. In fact, Charter must pay to create space on Blue Ridge's poles and, if Blue Ridge needs

space for its electric service after Charter is attached, Blue Ridge can require Charter to get off the pole or pay for a taller pole. All of the telephone companies (AT&T, CenturyLink, Skyline, and Wilkes) are guaranteed ***BEGIN CONFIDENTIAL*** [redacted] ***END CONFIDENTIAL*** *See* Confidential Exs. 9 (AT&T); 10 (CenturyLink); 11 (Skyline); 12 (Wilkes). Additionally, in several agreements, Blue Ridge must pay for ***BEGIN CONFIDENTIAL*** [redacted] ***END CONFIDENTIAL*** *See* Confidential Exs. 9 (AT&T); 10 (CenturyLink); 12 (Wilkes).

Q. Do you think the telephone companies should be treated differently than Charter because they are joint users?

A. No. Blue Ridge's own records show that it maintains very few attachments on poles owned by the telephone companies. For example, Blue Ridge has only 135 attachments to Skyline's poles (compared to 27,081 Skyline attachments to Blue Ridge poles) and only five attachments to poles owned by Wilkes (compared to 959 Wilkes attachments to Blue Ridge poles). These numbers are so unbalanced that these companies are essentially third-party attachers like Charter. But it is not just the telephone companies that are treated different from Charter. Other third-party attachers also have much more favorable terms than Charter.

Q. Can you elaborate?

A. Yes. Here are just a few of the major differences:

- The 2008 agreement requires, and Blue Ridge's proposed new agreement would require, Charter to submit a Professional Engineer certification for

all attachments, and to follow the full permitting process for overlashing, which would include a loading analysis for all new and overlashed poles.

- All of the telephone companies, Skybest, and ACTV have more favorable terms. None of these companies is required to submit a Professional Engineer certification or perform any kind of loading analysis. *See* Confidential Exs. 9 (AT&T); 10 (CenturyLink); 11 (Skyline); 12 (Wilkes); 13 (Skybest); 14 (ACTV).

- The 2008 agreement imposes, and Blue Ridge's proposed new agreement would impose, penalties on Charter for the discovery of noncompliant attachments and unauthorized attachments.

  - All of the telephone companies, Skybest, and ACTV have more favorable terms. None of these companies is required to pay a penalty for the discovery of noncompliant attachments. *See* Confidential Exs. 9 (AT&T); 10 (CenturyLink); 11 (Skyline); 12 (Wilkes); 13 (Skybest); 14 (ACTV). Most of these companies are not required to pay a penalty for the discovery of unauthorized attachments. *See* Confidential Exs. 9 (AT&T); 12 (Wilkes); 13 (Skybest); 14 (ACTV).

- The 2008 agreement requires, and Blue Ridge's proposed new agreement would require, Charter to place its attachments 72 inches below Blue Ridge's neutral.

  - All of the telephone companies, Skybest, and ACTV have more favorable terms. None of these companies is required to place its attachments 72 inches below the neutral. *See* Confidential Exs. 9 (AT&T); 10 (CenturyLink); 11 (Skyline); 12 (Wilkes); 13 (Skybest); 14 (ACTV). Consistent with the NESC, several of these agreements specifically allow as little as ***BEGIN CONFIDENTIAL*** [redacted] ***END CONFIDENTIAL*** between the company's attachment and Blue Ridge's neutral. *See* Confidential Exs. 9 at Ex. D (AT&T); 10 at Ex. B (CenturyLink); 11 at Ex. B (Skyline).

Q. Is Blue Ridge renegotiating any of these agreements?

A. No, not according to Blue Ridge's deposition testimony. Most are either expired or could be terminated if Blue Ridge believed they were not working or needed to be replaced. But Blue Ridge has not terminated them or sought to renegotiate any of them.

Q. Mr. Layton testified that Blue Ridge's 72 inch separation requirement is intended to give the Cooperative room to add additional facilities, such as transformers, without first having to ask Charter to relocate its facilities or pay for additional make ready work. Does this explanation make sense to you based on what you now know about these other agreements?

A. No. If that were a valid concern for Blue Ridge, I would expect that it would have the same requirement in all of its agreements. Imposing the requirement on Charter alone makes little sense given that Charter is attached to only about 30 percent of the Blue Ridge poles with third-party attachments. Additionally, and as I discuss in more detail below, Blue Ridge often does not ask Charter to relocate its facilities when it places a transformer—instead hanging the transformer in the 40 inch space Charter allowed between the neutral and Charter's wire when it first installed its facilities decades ago. When Blue Ridge does this, it creates a violation of the NESC and makes it very dangerous for Charter's employees and contractors to do work on the pole.

Q. Do you know why Blue Ridge has singled out Charter for these more stringent requirements and a much higher pole attachment rate?

A. No. Blue Ridge has insisted on keeping these agreements confidential, so I did not know about these differences until this case.

Q. Are you aware that Blue Ridge said it was because it believed Charter had a lot of unauthorized and noncompliant attachments in the 2015/2016 audit?

A. I had heard that, but it does not make sense. Blue Ridge imposed the terms of the 2003 and 2008 agreements on Charter, but not others, long before the recent audit. And Blue Ridge opened negotiations with Charter on a new agreement a full year before the recent audit. I will discuss the audit in more detail below, but a few key takeaways contradict Blue Ridge's explanation. Blue Ridge testified in its deposition that most, if not all, attaching entities had unauthorized attachments,

yet it has only assessed penalties against Charter. I have examined the results Blue Ridge provided and it is clear that all parties (including Blue Ridge) have compliance issues, and that some of the other companies have more compliance issues than Charter and higher rates of noncompliance than Charter. *See* MM Ex. 15. Yet, while Blue Ridge dumped thousands of repair tickets on Charter in a single day, it has admitted that it has done nothing to address these issues with the other companies. MM Ex. 16 at

Q. Do you believe this treatment is discriminatory?

A. I believe it is. Several of these companies compete with Charter to provide video, broadband, and voice services. For example, as noted above, Skybest competes directly with Charter in Blue Ridge's footprint. Saddling Charter with a higher pole attachment rate and more stringent terms and conditions of attachment favors Skybest and makes it cheaper and easier for Skybest to deploy and maintain its facilities.

Q. Do you believe the terms of Blue Ridge's pole attachment agreements should be confidential?

A. I believe this case proves they should not be confidential. I understand Blue Ridge testified in its deposition that there was no proprietary or sensitive information in its pole attachment agreements. Rather, its justification for keeping the terms confidential is that it is "nobody else's business." MM Ex. 16 at 237-38. I strongly disagree with this position. It is certainly our business when we are forced to pay higher rates and comply with more stringent terms than our competitors.

IV. USE OF SPACE ON BLUE RIDGE POLES

Q. Where on Blue Ridge's poles does each company make its attachments?

A. Blue Ridge makes its attachments in the top portion of the pole. Charter is typically next, with its attachment framed either 40 inches below the neutral or 30 inches below the transformer (for attachments made prior to 2008), or 72 inches below the neutral for attachments made since then. Charter will also frame its attachment 12 inches above telephone. The telephone companies' attachments are typically the lowest on the pole. I understand the telephone companies reserve two feet of space for their attachments on Blue Ridge's poles. Other entities might attach above or below Charter's attachment, depending on how the existing attachments are configured on the pole.

Q. What is the "safety space" on a pole?

A. The safety space refers to the minimum separation required by the NESC between third-party communications facilities and the Cooperative's electrical conductors. The safety space is typically 40 inches, but there are exceptions.

Q. Who does the safety space protect?

A. The safety space is intended to protect both the communications worker and the Cooperative's workers. It also allows the Cooperative's employees clear space for work on its facilities.

Q. Is the safety space unusable?

A. It is unusable for third-party communications companies like Charter. But it is usable by the pole owner. The pole owner may use the safety space for many purposes that generate revenue. MM Ex. 16 at 32-36. It may attach streetlights or floodlights within a few inches of the communications facilities, so long as they

are grounded. The pole owner also may install its own communications wires in the safety space or traffic equipment for a government entity. Safety codes allow these other uses because they do not pose a danger to workers on the pole.

Q. Does Blue Ridge use the safety space on poles with Charter's attachments?

A. Absolutely. Blue Ridge regularly places streetlights, its own fiber, and wireless antennae in the safety space. I have identified a number of instances where Blue Ridge is using the safety space for its own facilities.

Q. Can you provide examples?

A. Yes. My team and I inspect and observe Charter's attachments to Blue Ridge's poles on a daily basis. I recently took photos of several Blue Ridge poles that are generally representative of those with Charter attachments. Those photos are depicted on the following pages with descriptions of what can be seen in each one.

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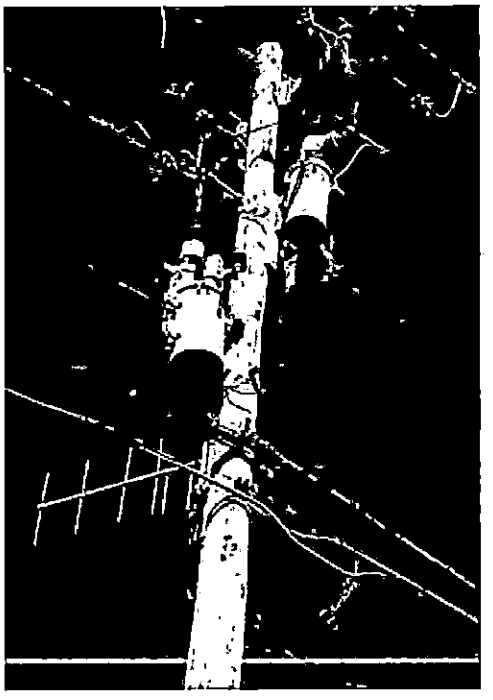
Photo 1, below, shows how Blue Ridge is able to make full use of the safety space. This pole is numbered 05-11-225.

Photo 1



Charter's attachment is the lowest on the pole, with the necessary safety space between it and the bottom of Blue Ridge's transformer. In that safety space Blue Ridge has attached its own fiber optic bundle and an antenna extending horizontally from the pole. I also note Blue Ridge has slung a large coil of fiber next to its attachment—a practice it would surely complain about in this proceeding if it were Charter's fiber.

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Photo 2, below, is another Blue Ridge pole showing its use of the safety space. This pole is numbered 05-07-267.

Photo 2

This photo shows Blue Ridge's fiber (marked with an arrow) attached in the safety space between the bottom of its transformer and Charter's attachment, which is the second from the bottom. The lowest attachment belongs to the telephone company.

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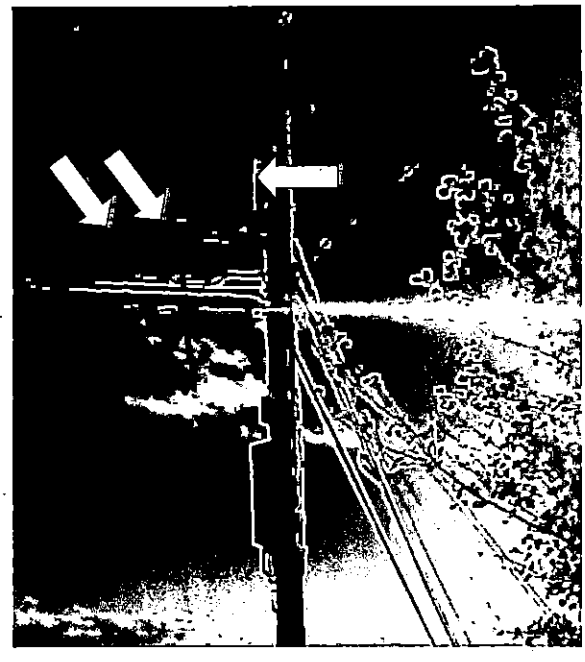
Photo 3 is another Blue Ridge pole showing its use of the safety space. This pole is numbered 05-07-165.

Photo 3



There is more than 30 inches on this pole from Charter's attachment (the second from the bottom) and the bottom of Blue Ridge's transformer. But it is clear that Blue Ridge is maximizing its use of all of this space by placing a large cylindrical antenna extending well below the transformer and multiple fiber optic wires below that, as marked on the photo with arrows. This pole also has multiple Blue Ridge risers and several large boxes attached below the lowest communications attachment. I note this equipment because they pose a number of climbing obstructions (what Blue Ridge calls a "mess" when discussing Charter) on a pole that cannot be accessed by bucket truck.

Q. Have you observed other poles in Blue Ridge's pole network with characteristics similar to the poles you describe above?

A. Yes.

Q. Are the attachments and poles you observed generally representative of the other Blue Ridge poles with Charter attachments?

A. Yes.

Q. What is Charter's approach to transfer requests?

A. We have processed hundreds of transfer requests this year, in addition to performing work related to relocations. We know there are pending requests and we are working our way through them. The 2008 agreement allows Blue Ridge to make the transfer at Charter's expense.

V. AUDIT RESULTS

Q. Have you seen the results of the attachment inventory and audit Blue Ridge conducted in 2015/2016?

A. Yes. But I did not see any detailed results until Blue Ridge provided documents in response to discovery requests in this case.

Q. Did Charter verify the results of the attachment count?

A. Usually when an audit is conducted we have an opportunity to verify that the attachments counted belong to us and are not attributed to us mistakenly. But we received detailed results only recently, again through this case, and have not had any opportunity to verify the tens of thousands of attachments identified in those results. That process would take many months and substantial resources. It would take far more time than we have had since receiving the detailed results from Blue Ridge in this proceeding.

Q. Does Charter dispute the results of the attachment count?

A. Charter does not dispute that the numbers are generally accurate, and is willing to accept them for billing purposes. But Charter certainly disputes Blue Ridge's decision to bill on an "attachment" basis when the 2008 agreement specifies that Charter should pay on a per-pole basis. I have learned in this case that the audit actually disclosed that Charter has attachments to far fewer poles than it has been billed for and has paid for. If Charter's new rate is a per-pole rate, like its old rate, it should be based on the actual number of poles to which Charter is attached.

Q. Why did Charter pay Blue Ridge $182,884 for back billing on the additional attachments found in the audit?

A. Blue Ridge sent Charter an invoice indicating it found additional attachments in the audit, and that Charter owed that the amount for back-billing amounts. When we talk with Blue Ridge, we sometimes use the terms "attachment" and "poles" interchangeably, and we assumed that Blue Ridge found additional poles with attachments in the inspection. Blue Ridge certainly did not advise Charter that it had counted far fewer poles than it had been billing Charter, even though documents produced in this case show that Blue Ridge knew that was the case. *See* MM Ex. 17. Now that we know the whole story, we believe it was improper and misleading for Blue Ridge to back-bill for this amount and to adjust the billing total moving forward. And we certainly dispute the back-billing amount Blue Ridge required Charter to pay. In fact, we now believe we have been overpaying Blue Ridge for years—possibly the entire term of the 2008 agreement.

Q. What did the audit find with respect to compliance issues?

A. Blue Ridge says it found 3,767 "safety violations" among Charter's attachments, including cases where it asserts Charter attached too close to Blue Ridge's electrical facilities, made improper mid-span attachments, or had other issues like missing or broken guys and anchors. I have reviewed the documents Blue Ridge provided and it is clear that Charter is not the only attacher with compliance issues. Every attaching entity, including Blue Ridge, has violations. As noted above, Skyline and Skybest are affiliated companies providing voice, video, and Internet services. *See* https://www.skybest.com/. Together, the audit showed that they have nearly 700 more violations than Charter. But the raw number of violations does not tell the whole story, because both Charter and Skyline/Skybest have many more attachments than the other entities. So I also calculated each entity's violation rate, expressed as a percentage of poles with a violation compared to the total number of poles with its attachments. That analysis found that ACTV's violation rate (29 percent) is double Charter's violation rate (14 percent). It also found that Charter's violation rate is comparable to the violation rates of AT&T (9 percent), CenturyLink (10 percent), Morris Broadband (11 percent), and Skyline/Skybest (15 percent). These violation rates remain essentially the same if they are calculated as a percentage of attachments (rather than poles) with a violation. My analysis is summarized in the table on the following page.

	Total Poles with Attachments (from 2016 Audit)	Total Poles with Violations	Violation Rate
ACTV	1,868	533	29%
AT&T	15,976	1,460	9%
Charter	24,888	3,544	13%
CenturyLink	5,453	554	10%
Morris	5,289	575	11%
Skylink/Skybest	28,469	4,173	15%
Wilkes	959	50	5%

Q. When did Blue Ridge identify these issues?

A. Blue Ridge identified these issues during the course of its 2015/2016 audit. According to its documents, it noted the first violation involving Charter facilities in January 2015, and the last one in October 2016.

Q. When did Blue Ridge notify Charter about these issues?

A. Blue Ridge did not notify Charter of these issues or submit tickets through the National Joint Use Notification System ("NJUNS") as it discovered them, or even after the audit had been completed. Blue Ridge waited until the end of August 2017, when this litigation was underway, to provide any notice to Charter. That notice, when it came, consisted of more than 3,500 NJUNS tickets dumped on Charter over a two-day period.

Q. Blue Ridge says that its delay was not an effort to punish Charter or gain leverage in this proceeding. What do you think?

A. Blue Ridge says it has notified Charter of these issues because they need to be fixed. But, again, it just does not add up. If these problems need to be fixed so urgently, why did Blue Ridge wait so long to do something about them? Consider that Blue Ridge waited two-and-a-half years before notifying Charter of the first issues it identified, and almost a year before notifying Charter of the last issue it

identified. Also, Blue Ridge has submitted NJUNS tickets only to Charter. It has not submitted any tickets to any of the other entities with violations. Nor could it confirm that it ever sent the other entities the results of the audit. *See* MM Ex. 16 at 231-35. I understand from Blue Ridge's deposition testimony that it has not even fully evaluated the violations attributed to other attachers. Again, if the motive is to have these issues fixed, why has Blue Ridge focused solely on Charter and why did it wait until now to do so? I also note that many of the violations identified by the audit had clearly been present for many years, if not decades. To the extent these violations were "apparent and obvious," the standard that Blue Ridge claims were used by the auditors, they must have been evident to Blue Ridge's employees for years. It seems to me the only explanation is that Blue Ridge felt no urgency to do anything about these issues until it decided to make them a focus of this litigation (as it has in Mr. Layton's and Mr. Booth's testimony).

Q. Does Charter dispute the results of the compliance inspection?

A. We have not yet had an opportunity to review every violation identified by Blue Ridge. Recall that Charter received the results of an audit that took Blue Ridge's outside contractor nearly two years to complete only about two months ago. And then, the results were provided in a massive NJUNS ticket dump that has swamped Charter's local resources. The NJUNS tickets themselves provide scant information about the violation—generally only whether it is a pole separation, mid-span, or down-guy issue and the proposed fix (e.g., "lower," "raise," etc.). But I have reviewed a number of the tickets Blue Ridge submitted and it is clear there are problems with them. For some, it is unclear what Blue Ridge believes to

be the violation involving Charter's facilities. For many, it is unclear who created the violation, or abundantly clear that Charter did not create it. I have seen many situations where Charter had properly framed its attachment 40 inches below the neutral, as required by the parties' prior contracts, and Blue Ridge has subsequently installed a transformer within that space creating a safety violation. There are others where, after Charter attached to a pole, Blue Ridge has installed risers that are too short and, thus, too close to Charter's existing attachment. While Charter will work with Blue Ridge to resolve these situations, it is simply not accurate to say that Charter has "created" these violations.

Q. Are there other problems with the NJUNS tickets?

A. Yes. The tickets do not appear properly sequenced, meaning that Blue Ridge or the telephone company would need to do work on the pole before Charter could perform the proposed fix. In most cases any fix will require a coordinated effort between Blue Ridge, Charter, and any other party on the pole. For example, for some tickets, Charter cannot perform the required fix until the telephone company first moves its attachment. For others, Blue Ridge's proposed solution would actually create other issues on the pole (e.g., an instruction to "lower attachment" might create a road clearance violation). Still others will require Blue Ridge to take the first action (such as replacing the pole) before Charter can transfer its attachments, or to ensure Charter's contractors can work on the pole safely. Others can be fixed without any action by Charter, such as extending a riser owned by Blue Ridge.

Q. What has Charter done with the NJUNS tickets?

A. We have developed and submitted for budgetary approval for a remediation plan that would address each ticket, beginning in November and concluding in July 2018, at a cost of nearly four hundred thousand dollars. This schedule and budget assumes that the work can be completed at the time the crew is on-site. But from what we have seen, there will be many locations where we cannot complete our work until additional work is completed by either Blue Ridge or the telephone company, which will be a wasted trip for our crews and will add unnecessary costs and avoidable delays to this project.

VI. CONSTRUCTION & MAINTENANCE PRACTICES

Q. What is Charter's culture with regard to safety?

A. Safety is very important to Charter and to me. It should go without saying that the safety of the people who work on our facilities and the general public is always the top priority. I have conducted regular safety training sessions for my employees for years, covering topics ranging from pole-attachment issues to driving safety, and more. One of Charter's safety practices that my team and I follow every day is to place orange cones in front of and behind our trucks, no matter where we park or for how long. This requires us to do a "walk-around" of our truck before starting it to make sure there are no safety risks, such as a child playing behind it. In addition to these safety concerns, building a high-quality and safe network is necessary for Charter to have a reliable network. A reliable network is what our customers expect and depend upon for their business and personal needs. If we do not build a reliable and safe network, then we risk losing customers to our competitors.

Q. How does Charter address safety violations?

A. We maintain open lines of communications with pole owners to ensure any safety issues identified among our facilities on a pole are brought to our attention and swiftly addressed. We are always on the alert for dangerous conditions, and seek to ameliorate hazards in order to protect our workers, contractors, and the general public. With a network the size and breadth of ours, issues inevitably do arise, and we are always ready to do the work necessary to resolve them.

Q. Does Charter conduct its own safety inspections?

A. Charter employees generally note violations when they come across them and fix them in the course of their regular work. As far as conducting regular separate safety inspections, Charter generally relies on the pole owners to conduct inspections of their aerial plant, which they do on a regular basis, and to notify Charter when those inspections come across code issues related to Charter's plant. In some cases, the pole owners have provided in their pole attachment agreements that the parties will conduct regular joint safety inspections, with Charter paying for its share of the costs.

Q. Do you agree with Mr. Layton's characterization of Charter's workmanship?

A. Not at all. Mr. Layton seems to be leaping to conclusions about Charter's workmanship—and its contractors and subcontractors—without sufficient facts. Mr. Layton cites the audit results as the primary source of his beliefs. But those results do not tell the full story—especially when it comes to identifying who created a particular violation. As I mentioned above, my own investigations have revealed a number of circumstances where Blue Ridge created the violation when

it placed a transformer too close to Charter's wire, without giving Charter notice or a chance to move its facilities.

Q. Why would Blue Ridge add transformers to poles after Charter's facilities have been constructed?

A. Transformers are used by Blue Ridge to translate the high voltage power carried on their secondary lines to voltage used by customers. Often transformers are added by the Cooperative as new houses are added along its distribution system. In many cases where new residences are built, Charter already has attached to the pole on which the Cooperative plans to place a transformer to provide electricity to the residence. This could arise where Charter has already extended service to older homes deeper in the same neighborhood. In some cases, the pole does not have room above Charter's attachment for the transformer to be installed consistent with applicable safety codes or the Cooperative's own standards. Although the pole agreement provides that Blue Ridge may require Charter to move its attachments to make room for a new transformer, in some cases Blue Ridge gives Charter no notice of the installation of the transformer, even where there is insufficient room to meet the required separation. And in some cases, rather than having Charter move its attachment, Blue Ridge goes ahead and installs the transformer in a pole location that does not comply with the applicable safety codes or its own standards.

Q. Is this a dangerous practice?

A. Absolutely. It puts Charter's workers at risk when they need to work on Charter's facilities. That is why Blue Ridge has the right to require us to move our facilities *before* they install the transformer, and why their failure to do so is a safety violation for which they are responsible.

Q. What about Mr. Layton's assertion that these problems were created by Charter's failure to honor the 72 inch separation requirements in the 2003 and 2008 agreements?

A. That assumes Charter has made the majority of its attachments in the last fifteen years. In fact, the vast majority of Charter's system in this area was built decades ago—long before Blue Ridge had conceived or required 72 inches of separation. The 2003 and 2008 agreements specifically state that attachments made prior to the commencement date of the agreement may be placed within 40 inches of the neutral because that is when most of Charter's attachments were made. As I understand it, Blue Ridge's auditor made no effort to identify when Charter's attachments were made, and whether they were made before or after 2008.

Q. Are there other reasons you disagree with Mr. Layton's characterization?

A. Yes. Mr. Layton seems to be suggesting that the existence of a violation necessarily means Charter employs poor workmanship. If that were true, then everybody has poor workmanship, Blue Ridge included, because the inspection discovered violations related to everyone's attachments. Even though the auditors were focused only on third-party attachments, for example, they noted hundreds of Blue Ridge violations related to separation requirements, missing or broken guys and anchors, mid-span violations, road clearance issues, and more. MM Ex. 16 at 231-35. Many violations are the product of the forces of nature—wind, ice, storms, fallen trees/branches, rust, corrosion, rot, etc.—not to mention third party tampering. For example, a properly installed attachment may become noncompliant if rot on a nearby pole or storm damage causes it to sag, or if a tree limb lands on the cable line but does not disrupt service. Or a properly installed attachment may become noncompliant if Blue Ridge or a third party installs

facilities without notifying Charter, or moves Charter's facility as part of a relocation or transfer. Or a properly installed guy or anchor could be damaged by corrosion. Even with constant maintenance, issues will inevitably arise, and the only thing we can really do is commit to fixing the issues as we discover them or they are brought to our attention.

Q. Mr. Layton says Charter's use of "excess" and "poorly placed" equipment creates impediments for Blue Ridge personnel climbing poles. How do you respond to this?

A. It is perplexing to me because Blue Ridge typically places many more facilities than Charter in the climbing space on a pole. For example, photo 3 above shows a pole that is not accessible by bucket truck with multiple Blue Ridge risers on all sides of the pole and several large boxes that would make the pole very difficult, if not impossible to climb. Blue Ridge creates these conditions on other poles as well. Photos 4 and 5 on the following page show a pole on Main Street, off Highway 321 in Blowing Rock. The pole is tagged as an AT&T pole. But its climbing space is full of Blue Ridge equipment, including large boxes, multiple risers, an antenna, and lots of wires. It is another case of Blue Ridge taking a normal practice—one that it uses far more than Charter—and making it seem as if Charter is a bad actor.

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Photo 4

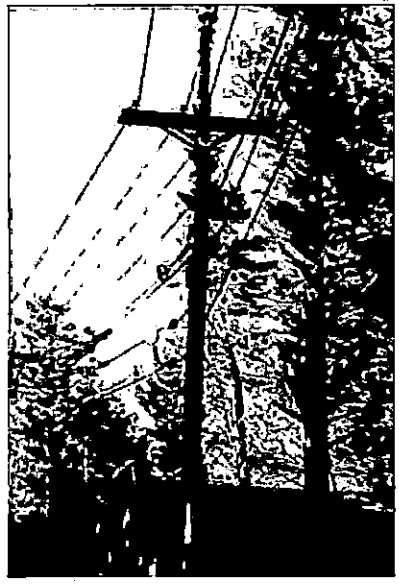
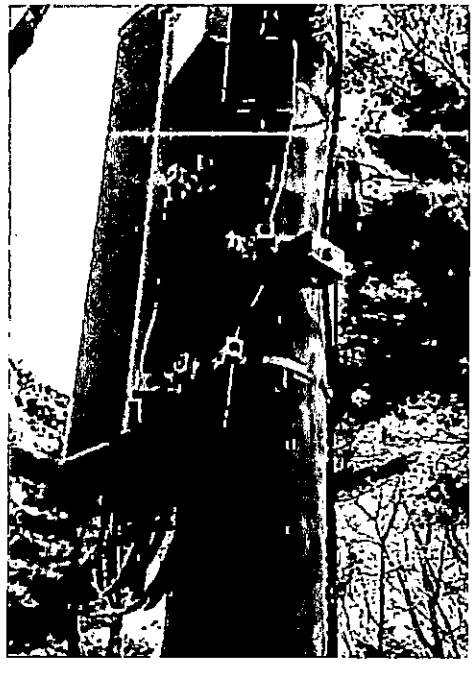


Photo 5



Q. You mentioned storm damage, what is Charter's process for responding to downed lines?

A. We have an on-call team ready to respond at all hours to emergencies like downed lines immediately. Downed main line distribution cables are treated like any other outage, where we ensure all issues are, at the very least, temporarily secured while a plan is put in place to fix the line. Whenever there is a major storm, like the one that struck our area last week, we devote as many resources as possible to riding our lines to proactively identify and remediate problems.

Q. Mr. Layton places the blame for poor workmanship on Charter's use of contractors. How do you ensure your contractors are complying with applicable standards?

A. We oversee every project that is sent out to a contractor. This involves regular communication with our contractors, and upon completion of the project we receive a report back from the contractor detailing the work completed. Our construction coordinator reviews the report in detail, which may include photographs of the work done and precise location data so we can verify that the work was completed in compliance with the work order and specifications.

Q. Were you able to inspect the locations identified in the photos Mr. Layton and Mr. Booth included in their testimony?

A. Yes. I was able to inspect most of the locations identified by Mr. Layton in his testimony, except for a few where he did not provide location information. I was able to inspect a few of the poles depicted in Mr. Booth's photos, but with the major storms that hit our area last week I could not devote my time to chasing down each and every pole.

Q. What did you find after inspecting the locations identified by Mr. Layton?

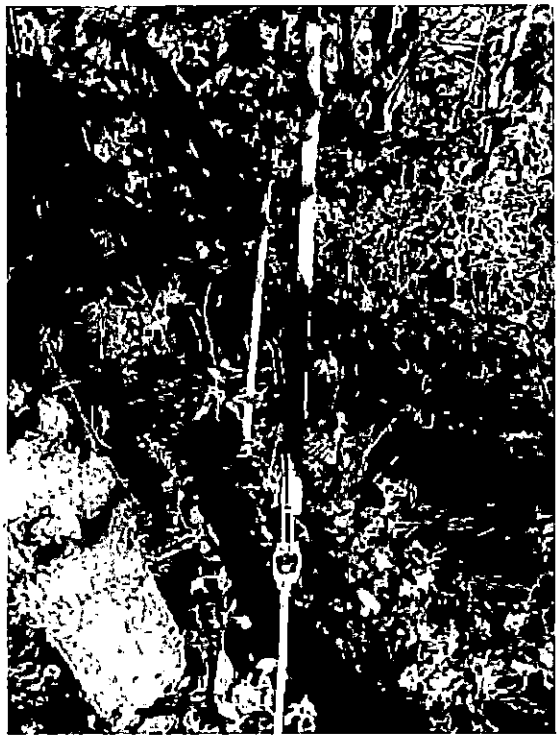
A. *Exhibit No. LL16-A.* Contrary to Mr. Layton's assertion, Charter did not "sling" its cable over Blue Ridge's secondary conductor in the first photo. It actually shows an old drop, likely here for decades, in a windy area at the top of a ridge that over time had some slack in it and became wrapped in the secondary conductor. Charter can easily remediate this by removing its drop. The second photo has no location specified and it is impossible to tell from this limited information what led to this situation.

Exhibit LL-16B. The first photo shows a telephone attachment underneath Charter's attachment, so both of these issues would need to be addressed to resolve this clearance issue. It is unclear how this situation developed, including when the driveway was constructed. The second photo shows a Charter wire along a remote gravel road that was chained closed the first time I tried to visit this location. The man in the photo is standing on a steep slope where no vehicles could pass. Not pictured is a large tree limb that appears to have fallen across Charter's line, causing it to sag, but not causing a service disruption.

Exhibit LL-16C. The first photo has no location specified, so I could not visit it or collect additional information about it. There appears to be 40 inches between the neutral and Charter's wire. So the question is when did each party install its respective facilities? I understand from the Blue Ridge deposition that Mr. Layton does not know when Charter installed its wire, or when Blue Ridge installed its transformer, so we cannot draw any conclusions about this without more information. MM Ex. 16 at 206-09. Note, however, that this is an example where Blue Ridge has installed a streetlight in what would be the safety space, if

there were the full complement of safety space on this pole. The second photo shows Charter's facilities within 13 inches of the top of Blue Ridge's riser. Here, again, Blue Ridge has not provided any information about when each party placed its facilities. If Blue Ridge placed its transformer and riser after Charter, then it should have installed a longer riser to avoid creating this issue in the first place. *Exhibit LL-16D.* Mr. Layton says that Charter's attachment is not guyed in the first photo. This is not accurate. In fact, Charter's guy follows Blue Ridge's guy. Photo 6, below, shows Charter's guy in the background and Blue Ridge's guy in the foreground.

Photo 6

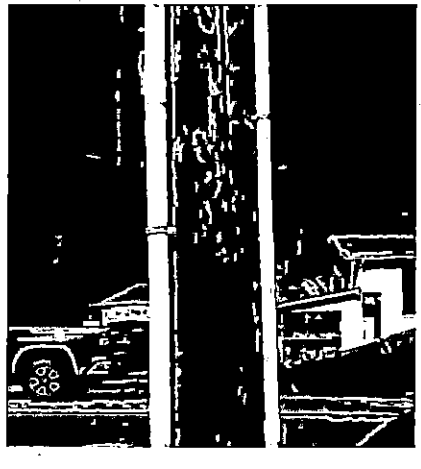


In fact, other attachments are not guyed, including what appears to be Blue Ridge's own fiber optic attachment. It is also possible that Blue Ridge's guy at

the top of the pole is on the wrong angle or is over-tensioned. I say that because Blue Ridge's guy remains taught, and I would expect it to have slack in it if the pole were bowed because of the attachments in the middle. The second photo shows a pole where Charter has had an attachment for decades. I know this because Charter's attachment is 500 cable, which we have not used for at least 20 years. We do not have information about when the transformer was placed. But we know that it was either placed after Charter made its attachment, or this condition has existed for decades without complaint by Blue Ridge. Charter is guyed on this pole, but it could be tightened. Charter has guys on other poles along this road, so any issues with guys likely exist because of the age of this construction.

Exhibit LL-16E. The photo here simply says "terrible mess on pole from Charter," without additional detail. Blue Ridge asserts there is no climbing space on this pole because of Charter. But to the extent there is no climbing space, or a "terrible mess," it is because of Blue Ridge. Photo 7 shows multiple Blue Ridge risers that obstruct the climbing space, even without any Charter facilities.

Photo 7



Q. What about the locations identified by Mr. Booth?

A. These are similar to the issues identified by Mr. Layton. For many, it is impossible to tell how these asserted noncompliance issues came about. Some appear to be the product of natural events, like storms, corrosion, damage from fallen tree limbs, and other issues. Others appear to be the result of Blue Ridge adding a transformer to the pole after our facilities were already in place, but more information would be needed in order to verify. Virtually all would require an investigation into when each facility was placed on the pole to determine who "caused" the violation and whether it is the result of workmanship or natural events.

Q. **Do you know if Blue Ridge has a statutory duty to attempt to work out any concerns about safety violations cooperatively before bringing any issues to this Commission?**

A. While I am not aware of any interpretative guidance, I have been told that Section 62-350 of the North Carolina statutes provides a formal process for notification by the pole owners of violations and a time period for cure. Also, the Act provides that "[a]ll attaching parties shall work cooperatively to determine the causation of, and to effectuate any remedy for, non-compliant lines, equipment, and attachments." *Id.* While Blue Ridge has provided notice of these issues, the process of working together cooperatively to identify causation and effectuate remedies has barely begun.

Q. **Did Blue Ridge and Mr. Booth identify additional issues that you investigated?**

A. Yes. On October 17, 2017, Blue Ridge's counsel sent a list to Charter's counsel identifying 22 issues it deemed "immediate hazards to public safety." MM Ex. 18. In his deposition a few days ago, Mr. Booth also identified the 30 photos in

his exhibit GLB-3 as immediate hazards. I have learned that the October 17, 2017 list also came from Mr. Booth, and that he collected the information in both the October 17 list and GLB-3 in August.

Q. If these are immediate hazards to public safety, do you know why Blue Ridge waited two months before notifying Charter, and why it did not notify you directly?

A. If these truly were immediate hazards, I would have expected Blue Ridge to notify me or someone on my team as soon as they were discovered. In terms of why Blue Ridge delayed, I can think of only two explanations. One possible explanation is that, if these are really immediate hazards, Blue Ridge decided to wait until the timing was right for purposes of this litigation to tell us about them—i.e., after it had submitted its direct testimony. By waiting, it could highlight issues like this in its testimony while denying Charter the opportunity to do anything about them, despite the risks this tactic would pose to the public. Another explanation is that these are not immediate hazards to public safety, but Blue Ridge decided to characterize them that way solely for purposes of this litigation.

Q. Which do you think is the most likely explanation?

A. Probably both. Blue Ridge inspected all of these locations in its 2015/2016 audit, and did not even identify a Charter violation for most of these locations in that audit, let alone an "immediate hazard." For the others, the auditor noted a violation, but did not mark it "high priority" or include any notes indicating that it was sufficiently dangerous to warrant immediate action. And Blue Ridge did not notify Charter of these situations until a year or more had passed since it discovered them. Even then, the notice it provided was through a non-prioritized

list of 3,500 NJUNS tickets. And then Mr. Booth inspected them in August and apparently did not deem any of them sufficiently hazardous or imminent to warrant notice (or even NJUNS tickets) at the time he discovered them. Finally, after investigating many of these situations, I am at a loss as to why Blue Ridge would deem most of them "immediate hazards" to the public safety, why Blue Ridge blames these conditions on Charter, or what Blue Ridge expects Charter to do about it.

Q. Why do you say that?

A. I will not go through the entire list of 52 poles, but will provide a few illustrative examples. A number of the issues identified by Mr. Booth as "immediate hazards" appear to be situations where Charter's predecessors framed its attachment decades ago 40 inches below the neutral, and then Blue Ridge later hung its transformer in violation of the NESC and without even bothering to notify Charter about it. It is not clear what makes these "immediate hazards" where Blue Ridge has created other conditions like this, and where Charter does not have any equipment (such as a node or amplifier) that is likely to bring Charter's workers into close proximity to the electrical conductors. The following photos depict examples of this situation.

[[Remainder of page intentionally left blank]]

Photo 8
(Pole No. 10-09-085)

Photo 8 shows a situation where Charter framed its attachment decades ago with plenty of space below the neutral. It is likely that Blue Ridge installed the transformer and riser after Charter. The home this transformer serves appears to be of recent construction, and the transformer drip loops are so close to Charter's bracket—indeed even appearing to touch it—that Charter's contractors simply could not have safely installed its attachment like this. It appears Blue Ridge could have maintained 30 inches below the transformer had it placed the transformer closer to the neutral and ran a longer riser. In any event, Charter cannot lower its attachment here until the phone company lowers first.

[[Remainder of page intentionally left blank]]

Photo 9
(Pole No. 16-08-038)

Photo 9 similarly shows a pole where Charter has been attached for decades and was initially framed with plenty of separation between the neutral and Charter's wire. It is clear that Blue Ridge installed its transformer after Charter because the drip loops coming from the transformer actually wrap in front of Charter's attachment and behind the phone attachment as they feed into a riser that is too short. Charter's contractors could not have installed their strand and then run the coax through the small space between the pole and the drip loops. The house served by this transformer also appears to be recent construction. In fact, the house next door is new construction, and Blue Ridge has hung a transformer with this same configuration on the next pole over. Charter cannot lower its facilities until the phone company lowers theirs.

Photo 10
(Pole No. 16-08-038)

Photo 10 shows an old pole where Charter has been attached for decades. I measured the facilities and Charter was initially framed 51 inches below the neutral, but it appears Blue Ridge placed a transformer here without notice to us. Again, Charter must wait for telephone (which may also be too close to the transformer) to lower before it can move its facilities.

Q. Are there other situations that strike you as more immediate hazards?

A. There are certainly situations that strike me as hazardous. But it appears that Blue Ridge, not Charter, created many of the violations, and that it did so long ago. The photos on the following pages depict examples of these situations.

[[Remainder of page intentionally left blank]]

Photo 11
(Pole No. 07-02-005)

Photo 11 shows a pole with a mess of transformers and triplex wires on a pole Charter has been attached to for decades. Charter is framed 40 inches below the neutral, and nearly has 30 inches below the transformers. The biggest problem here is the tangle of Blue Ridge's wires feeding into the risers, and it is entirely Blue Ridge's creation. We dead-end at this pole with a down guy on the side opposite of the one pictured in Photo 11, indicated by an arrow in Photo 12 on the following page.

[[Remainder of page intentionally left blank]]

Photo 12
(Pole No. 07-02-005)

Again, this problem is clearly Blue Ridge's doing. Photo 12 shows that Charter's down guy bolt is buried behind all of Blue Ridge's wires as they loop into the weather-heads at the top of its risers. It would be impossible for Charter to have installed its bolt here after-the-fact. You can actually see that Blue Ridge has spaced the risers unevenly to make room for our down guy to pass, another indication we were already there. While we could probably get off this pole, I would not ask any of Charter's contractors to attempt to remove the attachment and down guy now, as it would be far too dangerous.

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Photo 13
(Pole No. 05-07-263)

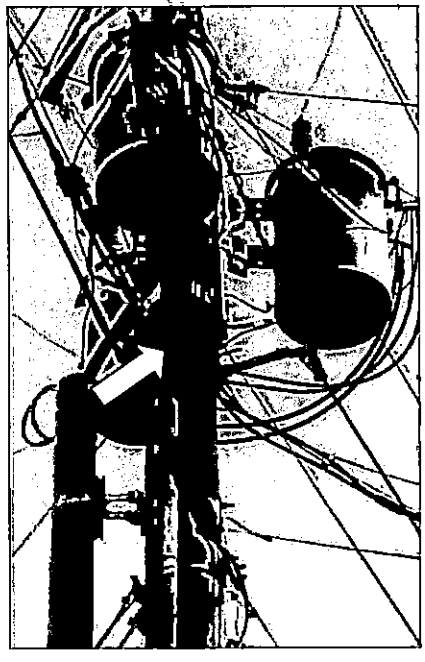

Photo 13 shows another one of the "immediate hazards" identified by Mr. Booth that is actually Blue Ridge's creation. Charter's attachment is marked with an arrow. Blue Ridge has its own fiber on a cross-arm that is bolted immediately above Charter's attachment. I can tell Blue Ridge created this condition because Charter's attachment is tucked behind the drip loop extending from the transformer in the foreground. There is simply no way Charter could have installed its bolts, strand, and wires in this configuration. Blue Ridge's risers are also too short. This appears to be a newer pole (serving a newer commercial building). It is possible Blue Ridge moved us into this spot when it replaced the pole. Again, there is nothing Charter can do on its own to safely fix this.

Photo 14
(Pole No. 05-11-228)

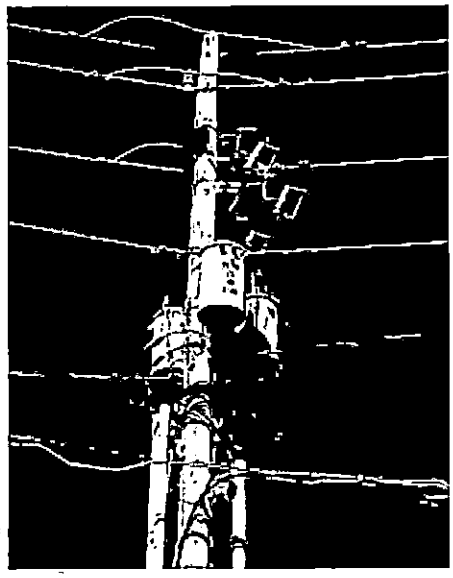

Photo 14 shows a pole in downtown Blowing Rock that Booth identified in his October 17 list. Charter's plant has been here more than 30 years. Our attachment here is more than 72 inches from the neutral, well more than 40 inches from the transformers, and more than 8.5 feet from the top of the pole. The imminent hazard appears to be Blue Ridge's risers, which are far too short. The risers have a 2004 date stamp, and were likely installed long after Charter made its attachment. The solution here is for Blue Ridge to extend its risers. Indeed, Blue Ridge's inspector did not even mark this as a third-party violation in his audit results, likely because the violations so clearly belong to Blue Ridge.

Q. Are these examples representative of the other "immediate hazards" identified by Booth?

A. Yes. There are a few that Charter may have created, and a few that we can remediate (and we will). But many were not created by Charter and cannot be

fixed by Charter without Blue Ridge or the telephone company performing their work first.

Q. Did you observe any other hazardous conditions while inspecting the locations identified by Mr. Booth?

A. Yes. Perhaps the most dangerous condition I observed was not one on Mr. Booth's list. It was a Blue Ridge wire hanging very low across Seven Devils Road. This is a winding two lane road that runs down the side of a mountain, with no shoulder to speak of, a steep drop on one side and the mountain face on the other. The wire was a feeder for a streetlight placed on a pole on the opposite side of the road. Blue Ridge's wire only had 14 feet and 3 inches of clearance over the road. The wire is depicted in Photo 15 below.

Photo 15

After observing this condition, I contacted Blue Ridge to let them know about it. I also observed a broken Blue Ridge fiber lying on the ground along the highway, including across a driveway, and contacted Blue Ridge about that condition as well.

Q. What do you take from this?

A. It all seems to me to be a litigation tactic, not an actual concern with safety. Blue Ridge has created many of these conditions. Many have existed for years. And many were not flagged in the 2015/2016 audit, or in prior inspections. These tactics disappoint me because we have always had a good working relationship with Blue Ridge. And I do not believe that a dispute about pole attachment rates should change that or interfere with our normal practice of coordinating and communicating when serious issues arise. Open lines of communication are important for both parties to ensure our respective networks remain safe and reliable. As with any relationship, issues inevitably arise, and when they do, we work to resolve them. I do not believe the approach taken by Blue Ridge here is an effective or efficient way to resolve these issues.

VII. CONCLUSION

Q. Does this conclude your responsive testimony?

A. Yes

(Whereupon, Exhibits MM 1-18 were identified as premarked.)

BY MR. GEORGE:

Q Mr. Mullins, do you have a summary of your testimony?

A Yes, I do.

Q Would you please go ahead and give it.

A Good afternoon. I have been working in the communications industry for Charter exclusively for 29 years. I started as an installer, worked my way up into supervisory roles. I have served in my current position as Construction Supervisor for 11 years. My role is to oversee all new construction and maintenance activities handled by Charter's construction group in the Western North Carolina market area, which includes Blue Ridge's service area. Before summarizing my testimony, I want to thank all of you for your time and attention during this proceeding.

Pole attachments are incredibly important for the construction of Charter Communications' networks. From the earliest days of the industries, cable companies have attached to poles owned by electric and telephone utilities. This arrangement has worked for both cable operators and pole owners. Cable operators are not

allowed to build their own poles, and building entirely underground is prohibitively expensive, and pole owners are able to get extra revenue from space on their poles that would otherwise be unused. Pole owners also can require cable operators like Charter to pay more for their attachments or build a taller or stronger pole if the pole owner needs the space used by the cable company.

My testimony describes the type of attachments Charter makes on Blue Ridge's poles and how those attachments compare to attachments made by Blue Ridge and other users of the poles. I also summarize the very different rates, terms, and conditions Blue Ridge applies to Charter as compared to other communications companies on its poles. Charter pays the highest rate of any communications company. Charter's rate is nearly $10 per pole higher than its direct competitor, SkyBest. With the exception of Morris Broadband, Charter is the only company required to submit a professional engineer certification related to its new attachments. Charter is the only company required to apply for and obtain a permit prior to overlashing an attachment, and Charter is the only company required to place its new attachments 72 inches below the Blue Ridge neutral instead of 40 inches.

My responsive testimony also addresses Mr.

Layton's and Mr. Booth's assertions that Charter is a bad actor with no concern with safety. That simply is not true. Charter cares about the safety of its workers and the public and takes measures to protect them. And Charter's customers demand reliable services which cannot be delivered without a safe network that is not prone to failure. But our network, like the -- just like the network built by Blue Ridge and the other communications companies, exist in the natural environment and is subject to weather, erosion, the actions of third parties, and other forces. This means compliance issues will inevitably arise, as they have for all attachers to Blue Ridge's poles, including Blue Ridge. Blue Ridge's inspection, in fact, found that most attachers have about the same rate of compliance issues as Charter, roughly 11 to 15 percent. Some have higher rates of compliance issues. The existence of a compliance issue does not mean Charter is a bad actor, employs bad workmanship, or even caused the issue. I have inspected a number of poles identified by Blue Ridge and have found situations where the evidence points to Blue Ridge as the one responsible for the compliance issue, as well as evidence that Charter or a third party created the problem.

This is why I believe all parties on a pole

should work cooperatively together and in good faith to identify the cause of the problem and the most efficient resolution. I believe the parties have a good working relationship and can resolve these issues without protracted disputes, but Blue Ridge has sent repair tickets only to Charter, which means Charter often will not be able to make a repair because the phone company or Blue Ridge must first do work on the pole. This is not an efficient or productive approach for resolving these issues. Thank you for your time.

MR. GEORGE: The witness is available for cross examination.

CHAIRMAN FINLEY: Cross examination.

MS. HARDEN: Thank you.

CROSS EXAMINATION BY MS. HARDEN:

Q Mr. Mullin (sic), we met at your deposition in Charlotte and yesterday. I'm Debbie Harden. Your deposition was on October 4th, about five weeks ago, correct?

A Yes, ma'am.

Q Okay. And you were offered by Charter as one of two employees to speak on behalf of Charter to a whole list of topics, right?

A Yes, ma'am.

Q Okay. You mentioned in your summary that you are a Construction Supervisor; is that right?

A That is correct.

Q And you've been a Construction Supervisor with Charter in this area for 11 years.

A Yes, ma'am.

Q And you worked in the same area before that as a Construction Manager, right, and an Installer?

A That is correct.

Q And Installer was first when you first started your career?

A That is when I started, yes.

Q Okay. So this is the Hickory market; is that right?

A Yes, ma'am.

Q And the Hickory market includes Caldwell, Alexander, Catawba, which is Hickory, Burke, which is Morganton, Lincoln, Avery, Watauga, Wilkes, Ashe, and Johnson County, Tennessee, right?

A Yes.

Q And I think you have seven construction managers that report to you?

A That is not correct. I have seven construction coordinators that report to me.

Q You have seven construction coordinators. And of those, two work part time or work some part of their time in Blue Ridge's territory, right?

A That is correct.

Q Okay. Now, the Hickory market is part of what's referred to as the Carolinas Region since the merger between Time Warner and Charter in 2016, right?

A That is correct.

Q And Mr. Nestor Martin is the Senior Director of Construction of this entire Carolinas Region, right?

A That is correct.

Q And Mr. Martin is your -- I think you said you indirectly report to him, right?

A I do not indirectly report to him. Our department indirectly reports to him.

Q But it's correct that in your deposition on page 16, you said that you indirectly report. You meant your department?

A That would be our department, yes, ma'am.

Q Okay. But he is above you, right?

A Yes, ma'am.

Q Okay. And Mr. Martin came from the Time Warner side of the house, right?

A That is correct.

Q And he came sometime in 2016 to start working with the Charter side as well as the Time Warner, right?
A That is correct.
Q Okay. Now, in your summary, you mention that your job duties and responsibilities include overseeing construction projects, correct?
A Yes, ma'am.
Q And you supervise those seven construction coordinators, right?
A That is correct.
Q And in your deposition, you mentioned two other things that are your job duties and responsibilities. One is that you process production reports, right?
A Yes, ma'am.
Q And the production reports you process look at the number of services you've added and the number of miles of new service to Charter's territory on a weekly basis, right?
A That is correct.
Q So your focus is expansion on your number of services, right?
A That is not my primary focus or my only focus, but that is part of my responsibility, yes.
Q You do want to expand service, don't you, sir?

A That is part of our department's responsibility, yes, it is.

Q And you also oversee responding to some customer requests for service, right?

A Yes, ma'am.

Q Okay. So that's the areas of responsibility you described in your deposition, right?

A Yes.

Q Okay. Anything else that you have an area of responsibility that you forgot?

A Not that I recall at this time.

Q Okay. So now let's talk about what's not in your job responsibilities, okay? You have never been responsible for negotiating pole agreements for Charter, have you?

A That is correct.

Q Okay. And you have never been responsible for negotiating Charter's agreements with Blue Ridge in 2003, 2008, or even in this current negotiation, right?

A Not directly, no.

Q Well, what did you do indirectly?

A With the most recent negotiations, I was contacted by Mr. Shields with Blue Ridge to initiate the communication for the contract negotiations between Blue

Ridge and my manager.

Q And I believe in your deposition, you said you were the contact or the connection to your manager, right?

A Yes, ma'am.

Q And when these first started in 2014, that contact or connector was Ronnie McWhorter, a Charter employee, right?

A That is correct.

Q But by 2016, that responsibility had moved to Nestor Martin, right?

A That, I am not sure when that change took place.

Q And, in fact, in your deposition five weeks ago you didn't even know that Nestor Martin had taken over for negotiations and responsibility for negotiating that contract, did you?

A If that's what I stated at that time, no, I did not.

Q Okay. So in your testimony that you filed before this Commission, you testified that Charter was "stuck with whatever terms Blue Ridge decided to impose on it when it negotiated the 2003 agreement and the 2008 agreement." That's written on page 2, lines 14 to 20, of

your testimony, isn't it, sir? We'll put it up if it's easier for you.

A No. That's okay. What page?

Q Page 2, lines 14 to 20.

(Off-the-record discussion between Ms. Harden and Mr. Tilley.)

A I'm sorry. My page 2 starts out, "Please describe your professional experience on" --

Q You are correct. It's page 6, sir, and it's page 6. You said that Charter had to accept the rates that were imposed on it, right, and accept the terms and conditions?

A That was my understanding, yes.

Q Okay. Now, you just testified you didn't have any responsibility in 2003 for the negotiation of the Charter/Blue Ridge agreement, correct?

A That is correct.

Q And, in fact, you weren't even the Construction Supervisor at that point, were you?

A That is correct.

Q In 2003, you were a Construction Manager; is that right?

A Yes, ma'am.

Q Okay. And so tell me, what contract terms did

Charter propose to Blue Ridge in 2003 that it failed to include in that contract?

A That, I would not have information on. I just -- it's my understanding that there was nothing that -- Charter had no means to negotiate with the Blue Ridge on that agreement.

Q Okay, sir. You said Charter had no means. Did Charter not have a person like Ronnie McWhorter to negotiate on its behalf?

A Yes, ma'am.

Q Have you seen in your records any terms that Charter proposed to the 2003 agreement that Blue Ridge rejected?

A No, ma'am.

Q Have you seen any back and forth as to the negotiation of the rate?

A No, I have not.

Q So although you go on in your testimony about how Charter had no opportunity to push back or negotiate these, you don't have any personal knowledge of a single term that Charter even proposed to change, do you?

A No, I do not.

Q And you have no knowledge of any term or proposal that Blue Ridge rejected that Charter proposed?

A No, I do not.
Q Okay. And the same is true in 2008, correct?
A Yes, ma'am.
Q In your testimony, you say Charter imposed these terms -- I mean, Blue Ridge imposed them and Charter had no choice but to accept; is that right?
A Yes, ma'am.
Q And, again, that wasn't your responsibility, right?
A That is correct.
Q And sitting here today, do you have any information of a single proposed term that Charter asked Blue Ridge to change?
A No, I do not.
Q Okay. In your dep--- in -- you just said a moment ago that your contact in the negotiations currently between Blue Ridge and Charter that have failed, that you were the first person contacted by Brad Shields, right?
A To my knowledge, yes, that's correct.
Q And Brad Shields was the primary Blue Ridge negotiator, right?
A Yes, ma'am.
Q And Mr. Shields first reached out to you in

2014, right?

A I'm not exactly sure of that date, but that's probably about correct.

Q Okay. And shortly after that, Mr. Shields sent you a proposed redline agreement, right?

A Can you show me where that would be?

Q Okay.

CHAIRMAN FINLEY: All right. While we're looking for this piece of information, it's 12:30. It's time for the Commission to take its lunch break. How are we progressing here as far as finishing the case today, do we think?

MS. HARDEN: Chairman Finley, I will do the best I can to move through this as rapidly as possible, but I believe that Mr. Mullins has filed 50-some pages of testimony, and that Mr. Nestor Martin and Ms. Kravtin based their opinions in part upon what he says, so I will feel compelled to at least go through key portions of it to show this Commission what his knowledge and information is.

CHAIRMAN FINLEY: Well, you're -- I don't want to try your case for you. I'm just trying to --

MS. HARDEN: I'll be as fast as I can. I think it will probably take me no more than an hour when we get

back if we can move fairly rapidly.

CHAIRMAN FINLEY: All right. Hour and a half? All right.

MS. HARDEN: I'll try to do it fast.

CHAIRMAN FINLEY: 2:00. Come back at 2:00.

(The hearing was recessed, to be reconvened at 2:00 p.m.)

STATE OF NORTH CAROLINA

COUNTY OF WAKE

C E R T I F I C A T E

I, Linda S. Garrett, Notary Public/Court Reporter, do hereby certify that the foregoing hearing before the North Carolina Utilities Commission in Docket No. EC-23, Sub 50, was taken and transcribed under my supervision; and that the foregoing pages constitute a true and accurate transcript of said Hearing.

I do further certify that I am not of counsel for, or in the employment of either of the parties to this action, nor am I interested in the results of this action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 2nd day of December, 2017.

Linda S. Garrett

Linda S. Garrett
Notary Public No. 19971700150