PUBLIC DISCLOSURE DOCUMENT

BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION

STATE OF GEORGIA

In Re: Generic Proceeding to Implement House Bill 244	: :	Docket No. 43453

DIRECT TESTIMONY

AND EXHIBITS

OF

DILBON RENE SMITH,

HERSCHEL ARANT,

TITUS DIAMOND, and

KEITH BROWN

ON BEHALF OF GEMC
AND 38 OF ITS EMC MEMBERS

OCTOBER 23, 2020

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TABLE OF CONTENTS

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ON BEHALF OF
GEORGIA ELECTRIC MEMBERSHIP CORPORATION

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I. INTRODUCTION AND BACKGROUND

Q. Each of you please provide your name and title.

A. By Mr. Smith: My name is Dilbon Rene Smith. I am the President and Chief Executive Officer of Sumter Electric Membership Corporation ("Sumter EMC") and have served in this capacity since January 2020. Prior to becoming the Chief Executive Officer of Sumter EMC, I served as Sumter EMC's Senior Vice President of Operations. Sumter EMC serves 14,917 member-owners in Chattahoochee, Dougherty, Lee, Marion, Quitman, Randolph, Schley, Stewart, Sumer, Terrell, and Webster counties.

A. By Mr. Diamond: My name is Titus Diamond. I am the Chief Operating Officer of Flint Electric Membership Corporation ("Flint EMC") and have served in this capacity since January 2006. Flint EMC serves 74,043 members-owners in Bibb, Chattahoochee, Crawford, Dooly, Harris, Houston, Macon, Marion, Monroe, Muscogee, Peach, Schley, Sumter, Talbot, Taylor, Twiggs, and Upson counties.

A. By Mr. Brown: My name is Keith Brown. I am the Chief Operating Officer of Hart Electric Membership Corporation ("Hart EMC") and have served in this capacity since 2018. Hart

EMC serves 26,097 member-owners in Hart, Franklin, Stephens, Elbert, Madison, and Banks counties.

A. By Mr. Arant: My name is Herschel K. Arant, Jr. I am the Senior Vice President of Engineering & Energy Supply at Central Georgia Electric Membership Corporation ("Central Georgia EMC") and have served in this capacity since February 2017. Central Georgia EMC serves 48,093 member-owners in Bibb, Butts, Clayton, Fayette, Henry, Jasper, Jones, Lamar, Monroe, Morgan, Newton, Pike, Putnam, and Spalding counties.

Q. On whose behalf is this testimony being presented?

A. By the Panel: Our testimony is offered on behalf of Georgia Electric Membership Corporation ("GEMC") and its 38 not-for-profit cooperative members ("Georgia EMCs") that are subject to the Georgia Broadband Opportunity Act ("GBOA"), which, in order to promote the deployment of broadband services in this state, gives the Georgia Public Service Commission the authority to set rates, fees, terms, conditions, and specifications for pole attachment agreements entered into by a communications service provider and the cooperatives on and after July 1, 2021.

Q. Each of you please summarize your educational background.

A. By Mr. Smith: I was born and raised in Dooly County, Georgia and attended Fullington Academy in Pinehurst, where I earned my high school diploma. After graduating high school, I attended Southern Polytechnic State University in Marietta, Georgia where I earned a Bachelor of Science degree in Electrical Engineering Technology, Power Generation and Distribution Option in March 1988. I subsequently studied at Auburn University where I earned a Master's degree in Business Administration in May 2011.

A. By Mr. Diamond: I was born in Brewton, Alabama and was raised in Quincy, Florida. After graduating high school, I attended the University of Florida in Gainesville, Florida where I earned a Bachelor of Science degree in Electrical Engineering in May 1983. I later studied at Georgia College and State University where I earned a Master's degree in Business Administration in May 2003. I have also participated in the National Rural Electric Cooperative Association ("NRECA") Manager Leadership Laboratory, the NRECA Management Internship Program, the Institute of Electrical and Electronics Engineers National Electric Safety Code School, and the McGraw Overvoltage School.

A. By Mr. Brown: I was born and raised in Hart County, Georgia. After graduating high school, I attended Georgia Institute of Technology ("Georgia Tech") where I studied Electrical Engineering. I studied at Georgia Tech for two years before transferring to Southern Polytechnic State University in Marietta, Georgia. I graduated from Southern Polytechnic State University with a Bachelor of Science degree in Electrical Engineering Technology in 1988.

A. By Mr. Arant: I grew up in Pitts, Georgia and attended Wilcox County High School. After graduating from high school, I attended Georgia Tech where I earned a Bachelor's degree in Electrical Engineering in 1994. After earning my Bachelor's degree, I continued studying at Georgia Tech and, in 1995, earned a Master of Science degree in Electrical Engineering. I later studied at Georgia State University in Atlanta, Georgia and earned a Master's degree in Business Administration in 2003.

Q. Each of you please identify any professional certifications you have that are relevant to this proceeding.

A. By Mr. Smith: In June 2007, I became a Registered Professional Engineer in Georgia and I continue to maintain that certification.

A. By Mr. Diamond: In July 1990, I became a Registered Professional Engineer in Georgia and I continue to maintain that certification.

A. By Mr. Brown: In 1998, I became a Registered Professional Engineer in Georgia and I continue to maintain that certification.

A. By Mr. Arant: In 1999, I became a Registered Professional Engineer in Georgia. In 1999, I became a Registered Professional Engineer in North Carolina. I continue to maintain both certifications.

Q. Each of you please summarize your professional background.

A. By Mr. Smith:

My post-graduate employment includes over 32 years of experience with Sumter EMC. After graduating from Southern Polytechnic State University in March 1988, I started working at Sumter EMC. Between March 1988 and January 2020, when I became Sumter EMC's President and Chief Executive Officer, I held multiple positions with ever increasing responsibility at Sumter EMC, all of them involving pole attachment and joint use agreements and the resulting engineering issues created by cable and Incumbent Local Exchange Carrier ("ILEC") attachments. As President and Chief Executive Officer I am ultimately responsible for delivering safe and reliable electricity to Sumter EMC's 14,917 member-owners 24 hours a day, 365 days a year in eleven counties in South Georgia. To

meet this objective, we need a pole plant that is soundly engineered and free of code violations created by attaching entities.

My first role with Sumter EMC was as a Planning Engineer. In this position, my primary responsibility was developing project-specific engineering strategies. I was also responsible for conducting engineering studies to determine whether and where improvements to Sumter EMC's power distribution system needed to be made so that the system operated reliably and within the guidelines of the American National Standards Institute, the Institute of Electrical and Electronics Engineers, and the Rural Electric Association. I also provided engineering support for the design, construction, and maintenance of the cooperative's poles, wires and other electrical facilities, and served as an on-call supervisor over the line personnel who responded to system outages. I remained a Planning Engineer at Sumter EMC until January 1994 when I was promoted to Operations Engineer. As an Operations Engineer, I continued the duties of my previous position and also directed meter reading functions, assisted in the development of standard operating procedures and financial budgets, supervised five operations employees, and conducted various engineering studies. I remained an Operations Engineer until July 1997 when I was promoted to Vice President of Operations. In this position, I supervised 15 engineering department personnel, developed and implemented department budgets, coordinated department activities to achieve corporate financial and operational goals, and assessed and implemented software and hardware systems to improve corporate efficiency and power system reliability. As the Vice President of Operations, I also assisted in developing proposals for the delivery of electric services to large power loads. I remained

Vice President of Operations until January 2001 when I was promoted to Vice President of Engineering and Operations. As Sumter EMC's Vice President of Engineering and Operations, my primary responsibilities included supervising 42 engineering and construction department personnel, developing and implementing budgets, coordinating department activities, and designing and constructing Sumter EMC's utility distribution system. I also supervised the drafting, bidding, awarding, and implementation of maintenance and construction contracts for Sumter EMC's power distribution system. I remained the Vice President of Engineering and Operations until January 2004 when I was promoted to Senior Vice President of Operations. In this position, I reviewed and analyzed distribution line standards and was responsible for ensuring that these standards maximized reliability while minimizing costs. As the Senior Vice President of Operations, I was also involved in many aspects of Sumter EMC's distribution system, including engineering, planning, safety, and improvements as well as the construction and maintenance of the distribution system. I remained Sumter EMC's Senior Vice President of Operations until January 2020 when I was appointed Sumter EMC's President and Chief Executive Officer, which is the position I currently hold.

As Sumter EMC's President and Chief Executive Officer, I am responsible for all aspects of the cooperatives business and operations including engineering, reliability, and safe construction and maintenance of Sumter EMC's electrical transmission and distribution system. In my current position, and in my prior positions at Sumter EMC, I have seen, time and time again, communications attachments on EMC owned poles,

including Sumter EMC's poles, that violate national safety standards, violate EMC standards, damage or destroy the utility poles, and impact the systems reliability.

A. By Mr. Diamond:

My post-graduate employment includes over 37 years of experience with cooperatives, 33 of which are with Georgia EMCs. After graduating from the University of Florida, I moved to Lake Panasoffkee, Florida and joined Sumter Electric Cooperative ("SECO") in Florida. I worked at SECO from June 1983 until August 1987 and held two positions. My first position was as an Electrical Engineer. In this position, I designed the layout, foundations, relay schemes, and control wiring for two 69kV to 12.5/25kV substations. I was also responsible for designing overcurrent protection and coordination schemes for ten distribution substations and assisting in the development of distribution construction specifications. My second position at SECO was as the Director of Operations. In this position, I was responsible for directing SECO's engineering and operations departments. While serving as Director of Operations, I expanded SECO's Load Management and Supervisory Control and Data Acquisition ("SCADA") systems, which improved reliability and performance and reduced costs for the member-owners. As the Director of Operations, I also coordinated the design and construction of substations, completed RUS Long Range and Two-Year Work Plans, and supervised 55 employees. I remained the Director of Operations at SECO until August 1987 when I joined Flint EMC. Between August 1987 and January 2006, which is when I became Flint EMC's Chief Operating Officer, I held multiple positions with increasing responsibility at Flint EMC.

My first position at Flint EMC was as the Section Manager of Engineering. In this position, my primary responsibility was managing Flint EMC's Staking Department, Metering and Communications Department, Equipment Maintenance Department, and Drafting Department. While acting as the Section Manager of Engineering, I completed a Two-Year Work Plan, a Long Range Plan, and Sectionalizing Studies. I also designed and built three distribution substations low-side facilities and was responsible for the system expansion capital budget for the years 1987-1990. I remained the Section Manager of Engineering until October 1990 when I was promoted to Manager of Engineering. In this role, my primary responsibilities included directing the cooperatives engineering activities, supervising the activities of 45 employees in various operations and engineering departments, performing engineering studies, and designing and constructing substation low-side facilities. While I was the Manager of Engineering, I also negotiated relocation contracts with companies regulated by the Public Service Commission, such as AT&T and Sprint, after the Federal Communications Commission auctioned 2GHz frequencies. While negotiating these relocation contracts, I had the opportunity to install a new digital microwave system needed to improve Flint EMC's communication network.

I remained Flint EMC's Manager of Engineering until June 1999 when I was promoted to Vice President of Engineering and Operations. In this role, my primary responsibilities included directing and managing Flint EMC's engineering and operations departments and supervisng 102 employees in the Staking, Line Construction, Right-Of-Way, Equipment Maintenance, Metering and Communications, and Planning Departments. While serving as Vice President of Engineering and Operations, I improved system

efficiency by expanding the SCADA System and the Load Management Systems, installing the Utility Analytics Institute Mapping System, the Two-Way Automatic Communication System, the Outage Management System, and the Dispersed Generation System. I remained Vice President of Engineering and Operations until January 2006 when I was appointed Chief Operating Officer of Flint EMC, which is the position I currently hold.

As the Chief Operating Officer of Flint EMC, I am involved, either directly or indirectly, in most aspects of Flint EMC's day-to-day business and operations, including its engineering operations. It is also my responsibility to ensure that Flint EMC's electrical transmission and distribution system is safely constructed and maintained. In carrying out this duty, employees under my direction have had to respond to many situations where a cable and/or telephone attachment has been made to a Flint EMC pole in a manner that causes damage to the pole, thereby increasing maintenance costs, and/or jeopardizes safety and reliability. I have also seen these improper attachments on poles owned by other Georgia EMCs.

A. By Mr. Brown:

My post-graduate employment includes over 30 years of experience with Georgia EMCs. After graduating from Southern Polytechnic State University, I joined Douglas County EMC, which is now known as Greystone Power, as a Planning Engineer. In this role, my primary responsibilities included assisting in a multi-year work plan study, assisting in the design of a distribution system, and acting as a liaison between the accounting and engineering departments. In addition, I was responsible for, among other

things, designing the layout of installations for commercial and industrial member projects. I remained in this position until 1991 when I joined Hart EMC. Between 1991 and 2018, which is when I became Hart EMC's Chief Operating Officer, I held multiple positions with increasing responsibility at Hart EMC.

My first position at Hart EMC was as a Distribution Engineer. As a Distribution Engineer at Hart EMC, my primary responsibilities included: assisting the consulting engineer in work plan design, monitoring, implementing, and constructing system improvement projects, and staking and designing single and multi-phase lines for new member-owners. I also performed sectionalizing studies, reviewed equipment placement in order to minimize member-owner outages, and served as the safety coordinator until 2000. I remained a Distribution Engineer until November 1998 when I was promoted to Manager of Engineering Services. As Hart EMC's Manager of Engineering Services, I was directly involved in many aspects of pole attachments. In fact, one of my primary responsibilities was anticipating, coordinating, planning, and designing pole attachments by third-party attachers. I remained the Manager of Engineering Services until 2002 when I was promoted to Vice President of Engineering and Operations. As the Vice President of Engineering and Operations, my responsibilities included supervising line crews, right of way crews, the maintenance shop, and the district office. In addition, I was involved in certain aspects of joint-use agreements. In 2007, while acting as the Vice President of Engineering and Operations, I also became responsible for many aspects of Hart EMC's human resources and accounting departments. This responsibility included, among other things, handling RUS and CFC loan issues, budgeting, and other financial matters related

to the EMC. I remained the Vice President of Engineering and Operations until November 2018 when I was appointed Chief Operating Officer of Hart EMC, which is the position I currently hold.

As the Chief Operating Officer of Hart EMC, I am involved, either directly or indirectly, in almost all aspects of Hart EMC's day-to-day business and operations, including its engineering operations.

A. By Mr. Arant:

My post-graduate employment includes over 25 years in the energy distribution industry and over 15 years working directly with Central Georgia EMC. After earning my Master of Science degree in Electrical Engineering from Georgia Tech, I started working for Kimberly Clark Corporation in Roswell, Georgia as an Engineer. In this role, I performed comprehensive project engineering for industrial power and control systems and designed controls for utility areas, air systems, and waste reclamation systems. I worked as an Engineer at Kimberly Clark Corporation until February 1996 when I joined Duke Engineering & Services in Charlotte, North Carolina. I worked at Duke Engineering & Services from February 1996 to February 1999 as an Associate Engineer and as a Power System Engineer. While working at Duke Engineering & Services, I designed over-current and over-voltage protection systems for transmission, distribution, and industrial power system networks.

In February 1999, I joined Georgia Transmission Corporation ("GTC") in Tucker, Georgia as a Transmission Services Engineer. GTC is a cooperative that is responsible for planning, building, and maintaining high-voltage transmission lines and substations that

carry power from generation facilities to the 38 EMCs that are before this Commission. In this position, I served as the primary technical liaison between GTC and its member systems, which are Georgia's electric cooperatives. I was also responsible for planning, developing, and initiating power transmission construction projects. For these projects to be successful, I had to anticipate and detect system problems, identify and compare potential solutions, and provide a final justification for the selected system improvement method. I remained a Transmission Services Engineer until May 2000 when I was promoted to Project Manager at GTC. As a Project Manager at GTC, my primary responsibility was to manage all aspects of a power transmission facilities design and construction team. I remained a Project Manager at GTC until June 2003 when I joined Beckett & LaRue, Inc. ("B&L") as the Manager of Electrical Services. In this position, I conducted various engineering studies, including power system fault studies, over-current coordination studies, and over-voltage protection studies. I also designed protective relay system settings, coordinated overvoltage protection, designed substations, and managed the modeling and planning of power systems. I worked as the Manager of Electrical Services at B&L until July 2004 when I joined Central Georgia EMC. Between July 2004 and February 2017, which is when I became Central Georgia EMC's Senior Vice President of Engineering & Energy Supply, I held multiple positions with increasing responsibility at Central Georgia EMC.

My first role with Central Georgia EMC was as the Manager of Engineering. In this position, my primary responsibilities included distribution system planning and field engineering management. I remained in this position until January 2005 when I was

promoted to Vice President of Engineering Services. As the Vice President of Engineering Services, my primary responsibilities included those listed above with the addition of system operations and key account management. I remained the Vice President of Engineering Services until February 2017 when I was promoted to Senior Vice President of Engineering & Energy Supply, which is the position I currently hold.

As Central Georgia EMC's Senior Vice President of Engineering & Energy Supply, I am responsible for multiple departments and business processes, including coordinating Central Georgia EMC's business with Wholesale Power Supply Entities, managing Central Georgia EMC's engineering systems, overseeing rate design and cost of service studies, preparing capital budgets, and leading formal process mapping and improvement initiatives. In addition, I am involved in managing the contracts related to joint use and pole attachments.

Q. Please describe any committees you have served on and any professional organizations/associations you are affiliated with that are relevant to this proceeding.

A. By Mr. Smith: Between January 2001 and January 2004, I served on a committee that represented Georgia's electrical membership corporations in pole attachment contract negotiations with telephone companies. During this time, I was also a member of the Georgia EMC Engineer's Association and made presentations on the Association's behalf related to the economics and engineering of joint-use agreements and pole attachments and the impact such agreements and attachments have on system reliability, safety, and utility plant cost. Between January 2004 and January 2020, I served on various committees that represented the interests of Georgia's electric membership corporations in negotiating

joint-use and pole attachment operational contracts. Currently, I am a member of the Institute of Electrical and Electronic Engineers and the Power Engineering Society.

A. By Mr. Diamond: Several years ago I was the President of the Georgia Engineering Association. I have also served on the National Rural Electric Cooperative Association Transmission and Distribution Engineering Committee ("NRECA T&D Committee"). While on the NRECA T&D Committee, I assisted the Rural Utilities Service ("RUS") in developing, analyzing, and updating federal technical standards, guidelines and specifications. As a member of the NRECA T&D Committee, I was also responsible for monitoring and reviewing other engineering and operational standards, code changes, and design changes to ensure that EMCs remained competitive in today's changing environment. I also served on the Overhead Lines Subcommittee. As a member of the Overhead Lines Subcommittee, I reviewed RUS construction specifications and provided guidance on clearance standards between cable facilities and power distribution lines. Currently, I am a member of the Institute of Electrical and Electronic Engineers.

A. By Mr. Brown: In 2013, I was the President of the Georgia EMC Engineering Association. Currently, I am a member of the Institute of Electrical and Electronic Engineers, the Power Engineering Society, and the Georgia Engineering Association.

A. By Mr. Arant: In 2009, I was the President of the Georgia EMC Engineering Association. Currently, I am a member of the Institute of Electrical and Electronic Engineers and the Power Engineering Society.

Q. Are you sponsoring any exhibits in connection with your testimony?

A. By the Panel: Yes. The exhibits we are sponsoring are attached hereto and labeled as follows: **GEMC Ex. 55 (Panel-1) – GEMC Ex. 130 (Panel-76)**.

Q. Were the attached exhibits prepared by you or under your direct supervision?

A. By the Panel: Yes. With the exception of one exhibit, all the exhibits we are sponsoring contain photographs that one of us individually took and are a true and accurate representation of the scene depicted on the identified date. The one other exhibit that we will reference contains several photographs taken by employees of other Georgia EMCs. The photographs contained in this exhibit are accompanied by authenticating affidavits.

Q. Please summarize your testimony?

A. By the Panel: Our testimony will show how cable and telephone attachers frequently violate the National Electrical Safety Code, their pole attachment agreements (in the case of cable/non-ILEC attachers), their joint-use agreements (in the case of telephone/ILEC attachers), and other applicable design standards when attaching to poles owned by Georgia's 38 electric cooperatives subject to the Georgia Broadband Opportunity Act. We will introduce pictures taken across the state of Georgia that illustrate these violations and discuss the safety, reliability, and economic impact these violations have on the Georgia EMCs and its member-owners. It is our intent to highlight to the Commission that but for the presence of cable and telephone attachments on poles owned by the Georgia EMCs certain safety and reliability issues would not exist and the cooperative and its member-owners would not incur certain additional costs.

II. RULES GOVERNING POLE ATTACHMENTS

Q. What is the National Electrical Safety Code?

A. By the Panel: The National Electrical Safety Code ("NESC") establishes safety standards, design standards, and work rules for electric and communications companies. These standards include rules that specifically apply to pole attachments. Specifically, the NESC has requirements for the vertical clearance over the ground, horizontal clearance from buildings, separation between electric and other communications lines, strength requirements, grounding requirements, and other requirements for the safeguarding of persons and facilities (including safe work practices). These standards are all designed to ensure that third-party pole attachments do not interfere with the safe and reliable operation of a utility's distribution plant and to safeguard the public as well as employees and contractors of both electric and communications companies.

Q. How does the National Electrical Safety Code apply to pole attachments made on poles owned by the Georgia EMCs?

A. By the Panel: The NESC establishes safety and design standards for the electric and communications industry. This code is used in Georgia and across the country as a standard of care. The NESC is also almost always included in pole attachment agreements and the requirement to comply with the NESC is part of the CTAG agreement utilized by many of the Georgia EMCs and cable companies in Georgia. In addition, the Department of Agriculture, through the Rural Utilities Service ("RUS") requires all EMCs that are RUS borrowers, which includes the majority of the Georgia EMCs, to build and maintain their lines in accordance with the NESC.

Q. Please describe the National Electrical Safety Code rules that are most relevant to your testimony?

A. By the Panel: The following rules are most relevant to our testimony today:

NESC Rule 232: Rule 232 establishes the minimum vertical clearance to the ground for wires, conductors, and cables. The purpose of this rule is to accommodate safe passage of people, vehicles, and/or traffic beneath the lines.

NESC Rules 235 and 238: Rules 235 and 238 establish minimum separations that are required between different utility functions for wires, conductors, and cables on the same supporting structure, including separation requirements between communication facilities and power facilities on the same structure. The purpose of these rules is to prevent communications cables from contacting energized electrical lines and to ensure communication workers have a safe area to work in and can maintain the work rule clearances required by Part 4 of the NESC and OSHA.

NESC Rule 236: Rule 236 establishes the requirements associated with providing safe climbing space on structures that workers ascend, including poles or portions of poles that are sometimes expected to be climbed.

NESC Rules 264 and 279: Rules 264 and 279 establish the requirements for guys, anchors, and braces, all of which are used to support the pole, which is under tension from the attached cables. The application of these rules is dictated by Sections 25 and 26 of the NESC.

NESC Sections 25 and 26: Sections 25 and 26 specify general loading requirements that are specific to the location of the facilities and the appropriate strength factors that

must be applied. These sections of the NESC provide the speed of wind, amount of ice, and other safety factors that must be applied when analyzing the strength of a new or modified pole-line and when determining whether a new or modified structure and its component parts are adequate under NESC's standards for strength and safety.

Q. Are there other standards that govern pole attachments to Georgia EMC Poles?

A. By the Panel: Yes. It is expected that third-party attachers will adhere to the good workmanlike standards that are practiced in the electric and communications industry. Moreover, third-party attachers are expected to adhere to sound engineering principles when making attachments.

A. By Mr. Smith: In addition to the standards mentioned above, under the model CTAG agreement used by most Georgia EMCs, cable and telephone attachers are required to install their attachments at least 40 inches below the EMCs bottom conductor, even if the bottom conductor is an effectively grounded neutral. This is slightly different than what the NESC requires. The NESC requires that communications attachments be at least 40 inches below the power company's bottom conductor if that conductor is operating up to 8,700 volts and 43 inches if the conductor is operating at 14,000 volts. If, however, the conductor is an effectively grounded neutral, the NESC allows communications attachments to be as close as 30 inches to the bottom conductor.

The reason most Georgia EMCs use the modified rule and have included it in the model CTAG agreement is because history has shown that communications workers are not trained in power systems. Thus, there is no guarantee that a communications worker will be able to correctly determine whether the bottom conductor is grounded. Requiring

40 inches regardless of whether the bottom conductor is an effectively grounded neutral, reduces the potential for accidents caused by cable and telephone attachers misidentifying the bottom conductor.

Q. What evidence does GEMC have showing cable and telephone attachers are violating the rules governing pole attachments, including the rules contained in the NESC?

A. By Panel: This panel has a combined 114 years of experience in the field, observing and managing problem attachments for all those years. For this proceeding, each member of this Panel visited and walked the lines of their own EMC and at least three other Georgia EMCs to view the state of cable and telephone attachments on these systems. Each member took pictures and these pictures are a sampling of the cable and telephone attachment violations that currently exist. The pictures are representative of systemic practices by cable and telephone companies throughout Georgia EMCs' systems.

Mr. Smith, of Sumter EMC, visited Canoochee Electric Membership Corporation ("Canoochee EMC"), Colquitt Electric Membership Corporation ("Colquitt EMC"), Middle Georgia Electric Membership Corporation ("Middle Georgia EMC"), and Mitchell Electric Membership Corporation ("Mitchell EMC").

Mr. Diamond, of Flint EMC, visited Jackson Electric Membership Corporation ("Jackson EMC"), Tri-County Electric Membership Corporation ("Tri-County EMC"), and Walton Electric Membership Corporation ("Walton EMC").

Mr. Brown, of Hart EMC, visited Habersham Electric Membership Corporation ("Habersham EMC"), Jefferson Electric Membership Corporation ("Jefferson EMC"),

Planters Electric Membership Corporation ("Planters EMC"), and Rayle Electric Membership Corporation ("Rayle EMC").

Mr. Arant, of Central Georgia EMC, visited Carroll Electric Membership Corporation ("Carroll EMC"), Coweta-Fayette Electric Membership Corporation ("Coweta-Fayette EMC"), Greystone Power Corporation ("Greystone Power"), and Snapping Shoals Electric Membership Corporation ("Snapping Shoals EMC").

III. FAILURE TO COMPLY WITH VERTICAL CLEARANCE REQUIREMENTS

Q. What is a vertical clearance violation?

A. By the Panel: A vertical clearance violation occurs when the space between an attachment and the ground does not comply with the minimum vertical clearance requirements established in NESC Rule 232.

Q. What is the purpose of NESC's vertical clearance requirements?

A. By the Panel: The purpose of NESC's vertical clearance requirements is to protect the public, utility workers, and communications workers from serious injury or death as a result of making direct contact with a low-hanging cable. By adhering to NESC's vertical clearance standards, the risk of coming into contact with a low-hanging cable is greatly reduced.

Q. Please describe some of the photographs showing vertical clearance violations.

A. By Mr. Smith: I am going to describe **GEMC Ex. 55 (Panel-1)**, **GEMC Ex. 56 (Panel-2)**, **GEMC Ex. 57 (Panel-3)**, **GEMC Ex. 58 (Panel-4)**, **GEMC Ex. 59 (Panel-5)**, **GEMC Ex. 60 (Panel-6)**, **GEMC Ex. 61 (Panel-7)**, **GEMC Ex. 62 (Panel-8)**, and **GEMC Ex. 63 (Panel-9)**, which are photographs that I personally took and are true and accurate

representations of the scene depicted, and which all show vertical clearance violations created by cable and telephone company attachments to EMC owned poles.

GEMC Ex. 55 (Panel-1) contains four pictures of Sumter EMC's system that were taken on October 14, 2020. These pictures were taken on U.S. 19 at Eagle Pond Road. The attachments at issue, which were made without a permit request or permission from Sumter EMC, belong to AT&T. AT&T attached to multiple Sumter EMC poles that span across U.S. 19 and, as pictures "A" and "B" of **GEMC Ex. 55 (Panel-1)** show, AT&T's attachments run over not only a highway, but also over a major railroad track that has trains traveling in excess of 50 mph. Under the NESC, AT&T's attachment should have, at minimum, a vertical clearance of 23.5 feet. AT&T's attachment has a vertical clearance of 18 feet 7 inches, which is almost 5 feet below the minimum railroad clearance requirement. In this state, AT&T's low-hanging cable creates a major safety hazard for railroad workers, line technicians, and motorists traveling on the U.S. 19. Moreover, the Sumter EMC poles AT&T attached to without permission were not designed or constructed for joint-use with AT&T. Put differently, these Sumter EMC poles cannot provide AT&T's attachments with the strength and support the attachments need to comply with NESC's clearance requirements. The anchors AT&T installed also are not sufficient to support the tension AT&T's attachments create. As a result, and as shown in pictures "C" and "D" of **GEMC Ex. 55 (Panel-1)**, two Sumter EMC poles have already bowed at AT&T's attachment points. By compromising the strength of these poles, AT&T's attachments have also created the risk that these two Sumter EMC poles will fail or have to be replaced prematurely.

GEMC Ex. 56 (Panel-2) contains four pictures of Sumter EMC's system that were taken on October 14, 2020. These pictures were taken at 1551 Wadsworth Drive, Albany, Georgia 31721, which is located in a residential subdivision. The attachment at issue belongs to Windstream Telephone. Under the NESC, Windstream Telephone's cable should have a vertical clearance of at least 15.5 feet. Here, however, Windstream Telephone's cable has vertical clearance of only 3 feet and its support messenger has a vertical clearance of only 8 feet 3 inches. This is not only a violation of NESC's standards, but is also a safety hazard. In addition, and as shown in picture "B" of **GEMC Ex. 56 (Panel-2)**, Windstream Telephone's lashing wire, which was used to attach the communications cable to a steel support messenger, is unraveling and hanging down from the cable. This, too, creates a safety hazard and violates NESC's rules regarding adequate clearance of the lashing wire itself above ground. The unrestrained movement of the lashing could also result in an unintended contact between the lashing and nearby power conductors.

GEMC Ex. 57 (Panel-3) is a picture of Colquitt EMC's system and was taken on September 28, 2020. This picture was taken on Highway 82, east of Ty Ty Omega Road. The cable attachment at issue belongs to Mediacom Communications Corporation ("Mediacom") and is running over a peanut field. NESC Table 232-1, footnote 26, states the following: "When designing a line to accommodate oversized vehicles, [the vertical clearance values] shall be increased by the difference between the known height of the oversized vehicle and 14 ft." Typical equipment used for the harvesting of peanuts has a height of 16 feet 8 inches. As a result, a cable attachment spanning over a peanut field

should have a vertical clearance of at least 18 feet 2 inches, which is 2 feet 8 inches above the standard ground clearance of 15.5 feet. The Mediacom cable attachment shown in this picture does not comply with this requirement. In fact, the Mediacom cable attachment has a vertical clearance of only 16 feet 1 inch.

GEMC Ex. 58 (Panel-4) is a picture of Colquitt EMC's system and was taken on September 28, 2020. This picture was taken on Parrish Road, approximately 0.15 miles north of Highway 82. The cable attachment at issue belongs to Mediacom and is running over the entrance to a cotton field. NESC Table 232-1, footnote 26, states the following: "When designing a line to accommodate oversized vehicles, [the vertical clearance values] shall be increased by the difference between the known height of the oversized vehicle and 14 ft." The height of a common cotton picker is 17 feet 6 inches. As a result, a cable attachment spanning over a cotton field should have a minimum vertical clearance of at least 19 feet, which is 3 feet 6 inches above the standard ground clearance of 15.5 feet. Here, Mediacom's attachment has a vertical clearance of only 18 feet. This is improper under the NESC. In addition, Mediacom made this attachment without first submitting an application to attach to this Colquitt EMC pole. As a result, Colquitt EMC could not review the attachment plans before construction and inform Mediacom that its attachment needed to have a vertical clearance higher than the standard ground clearance.

GEMC Ex. 59 (Panel-5) is another picture of Colquitt EMC's system, which was taken on September 28, 2020. This picture was taken on Highway 82 at Spring Hill Drive. The cable attachment at issue, again, belongs to Mediacom. Mediacom's attachment is running along a highway. Pursuant to NESC Rule 232, Mediacom's attachment should

have a vertical clearance of at least 15.5 feet. Here, however, Mediacom's attachment has a vertical ground clearance of less than 6 feet. Mediacom's attachment is also almost completely covered in vegetation, which is weighing down the cable and creating excessive tension on Colquitt EMC's pole. The presence of this vegetation also violates NESC Rule 218, which states that vegetation management should be performed around communications lines. Moreover, the failure to remove vegetation may result in structural loading being applied to adjacent structures during storm loading from ice and/or wind on the trees and brush.

GEMC Ex. 60 (Panel-6) is a picture of Mitchell EMC's system and was taken on September 29, 2020. This picture was taken on South County Line Road, approximately 0.5 miles south of Hines Road. The cable attachments at issue belong to Mediacom and AT&T. The standard ground clearance required under NESC Rule 232 is 15.5 feet. Here, the Mediacom cable attachment has a ground clearance of only 10 feet 6 inches and the AT&T cable attachment has a ground clearance of only 9 feet 6 inches. Thus, both AT&T and Mediacom's attachments violate the NESC and are creating safety hazards.

GEMC Ex. 61 (Panel-7) is another picture of Mitchell EMC's system and was taken on September 29, 2020. This picture was taken at 2515 Tony Lynne Lane. The cable attachment at issue belongs to Mediacom. Mediacom's attachment is hanging over a paved roadway. Pursuant to NESC 232, the Mediacom attachment should have a vertical clearance of at least 15.5 feet. However, here, the Mediacom cable has a vertical clearance of only 8 feet 10 inches. Given the location of this cable attachment, the low vertical clearance creates a hazard for vehicles traveling along this road.

GEMC Ex. 62 (Panel-8) is a picture of Sumter EMC's system and was taken on September 28, 2020. This picture was taken on Northampton Road, just north of Forrester Parkway. The cable attachment at issue belongs to Mediacom and is hanging over a roadway. Accordingly, NESC 232 requires that this attachment have a vertical clearance of at least 15.5 feet. However, here, Mediacom's attachment has a vertical clearance of only 12 feet 5 inches. Given the location of this cable attachment, the low vertical clearance creates a hazard for vehicles, especially large trucks, traveling along this road.

GEMC Ex. 63 (Panel-9) is another picture of Sumter EMC's system. This picture was taken on September 28, 2020 on Leesburg Bypass, just north of Linden Road. The cable attachment at issue belongs to Mediacom. Here, Mediacom's attachment is hanging over a body of water. Pursuant to NESC Rule 232, cable attachments over water must have a vertical clearance of at least 14 feet. Here, however, Mediacom's attachment is less than 7 feet above the water.

A. By Mr. Diamond: I am going to describe **GEMC Ex. 64 (Panel-10)**, **GEMC Ex. 65 (Panel-11)**, **GEMC Ex. 66 (Panel-12)**, and **GEMC Ex. 67 (Panel-13)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which all show vertical clearance violations created by the attachments of telephone and cable companies.

GEMC Ex. 64 (Panel-10) is a picture of Flint EMC's system and was taken on September 29, 2020. This picture was taken at 202 Gilchrist Drive, Warner Robins, Georgia and involves Flint EMC Pole # 027201. The cable attachment shown in this picture belongs to Cox Communications ("Cox") and is located over a residential yard. Pursuant

to NESC Rule 232, the cable attachment shown in this picture should have a vertical clearance of 9.5 feet. The Cox cable attachment, however, violates this rule. In fact, the Cox cable attachment has a vertical clearance of only 4 feet 5 inches. The cable being this low means there is a cable-created safety hazard.

GEMC Ex. 65 (Panel-11) is a picture of Tri-County EMC's system and was taken on September 24, 2020. This picture was taken at 101 Pinewood Drive, Eatonton, Georgia and involves Tri-County EMC Pole # 5HA-59. The cable shown in this picture belongs to Charter Communications, Inc. ("Charter") and is located over a residential driveway. Pursuant to NESC Rule 232, the cable attachment shown in this picture should have a vertical clearance of 15.5 feet. Here, the Charter cable attachment does not meet the NESC vertical clearance requirement. In fact, the Charter attachment has a vertical clearance of only 5 feet 9 inches. The cable having such a low vertical clearance means a safety hazard has been created.

GEMC Ex. 66 (Panel-12) is a picture of Tri-County EMC's system and was taken on September 24, 2020. This picture was taken at 105 Bear Creek Road West, Eatonton, Georgia. The cable shown in this picture belongs to Charter and is located near a residential driveway. Pursuant to NESC Rule 232, the cable attachment shown in this picture should have a vertical clearance of 9.5 feet. Here, however, the Charter cable attachment violates this rule. In fact, the Charter attachment has a vertical clearance of only 6 feet 6 inches, which creates a safety hazard. Moreover, the Charter attachment spans through tree branches, which is also improper and shows a lack of maintenance.

GEMC Ex. 67 (Panel-13) is a picture of Jackson EMC's system and was taken on September 22, 2020. The picture was taken at 492 Russell Road, Lawrenceville, Georgia, 30043. The cable attachment shown in this picture belongs to AT&T and is hanging over a residential yard. Pursuant to NESC Rule 232, the cable attachment shown in this picture should have a vertical clearance of 9.5 feet. The AT&T attachment violates this rule and has a vertical clearance below what is required by the NESC.

A. By Mr. Brown: I am going to describe **GEMC Ex. 68 (Panel-14)**, **GEMC Ex. 69 (Panel-15)**, **GEMC Ex. 70 (Panel-16)**, and **GEMC Ex. 71 (Panel-17)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which all show vertical clearance violations created by telephone and cable company attachments on EMC owned poles.

GEMC Ex. 68 (Panel-14) is a picture of Habersham EMC's system and was taken on September 21, 2020. This picture was taken on State Route 197. The cable attachment at issue belongs to TruVista Communications ("TruVista"). Pursuant to NESC Rule 232, TruVista's attachment should have a vertical clearance of at least 15.5 feet. The TruVista cable attachment, however, violates this rule. In fact, the TruVista cable attachment has a vertical clearance of not more than 9 feet.

GEMC Ex. 69 (Panel-15) is a picture of Jefferson EMC's system and was taken on September 22, 2020 at 3911 Union Grove Circle. The attachment at issue belongs to Comcast. Pursuant to NESC Rule 232, Comcast's attachments should have a vertical clearance of at least 15.5 feet. However, as I am sure the Commission can see, the Comcast

attachment does not have the required vertical clearance. Rather, the Comcast attachment is almost on the ground.

GEMC Ex. 70 (Panel-16) is another picture of Jefferson EMC's system and was taken on September 22, 2020 at 7480 Lakeside Drive, which is a residential driveway. The cable attachment at issue belongs to AT&T. Pursuant to NESC Rule 232, the cable attachment shown in this picture should have a vertical clearance of at least 15.5 feet. The AT&T attachment, however, violates this rule. In fact, the AT&T attachment has a vertical clearance of not more than 9 feet.

GEMC Ex. 71 (Panel-17) is a picture of Planters EMC's system and was taken on September 23, 2020 at 105 Live Oak Road, which is a residential area. The cable attachment at issue belongs to Comcast. Pursuant to NESC Rule 232, the Comcast attachment, which is hanging over a residential driveway, should have a vertical clearance of at least 15.5 feet. The Comcast attachment, however, does not comply with this requirement. In fact, the Comcast attachment has a vertical clearance of only 10 feet 9.5 inches, which creates a safety hazard.

A. By Mr. Arant: I will be describing **GEMC Ex. 72 (Panel-18)**, which contains photographs that I personally took and are a true and accurate representations of the scene depicted, and which show a vertical clearance violation.

GEMC Ex. 72 (Panel-18) contains two pictures of Coweta-Fayette EMC's system that were taken on September 23, 2020. Both pictures were taken on Highway 74 at Thompson Road, Tyrone, Georgia. The attachments at issue belong to AT&T and Comcast. As the picture labeled "A" shows, the AT&T and Comcast attachments are running across

a highway. Pursuant to NESC Rule 232, the attachments shown in these pictures should have a vertical clearance of at least 15.5 feet. The purpose of this requirement is to ensure that vehicles traveling along this highway do not make contact with the communications attachments. Here, AT&T's cable did not comply with this requirement and, as a result, a vehicle made contact with AT&T's low-hanging cable, which caused Coweta-Fayette EMC's pole to break. Coweta-Fayette EMC's broken pole is shown next to the new pole in the picture labeled "B". What I am sure the Commission has already noticed, is that the old, broken pole still has attachments on it. Those attachments belong to AT&T and Comcast and should have already been transferred. Because the old pole is broken, AT&T and Comcast's refusal to transfer to the new pole creates a safety hazard for the public. The presence of a redundant pole also hinders the ability of persons working on the new pole.

Q. Are the photographs each of you just described the only vertical clearance violations you found on the EMC systems you visited?

A. By the Panel: No. Additional photographs showing, among other things, cable and telephone attachments that violate NESC's vertical clearance requirements on the systems of the Georgia EMCs visited by a member of this panel are attached to this testimony.

Additional photographs showing vertical clearance violations on the systems of the Georgia EMCs visited by Mr. Smith are contained in **GEMC Ex. 127 (Panel-73)**. The photographs contained in **GEMC Ex. 127 (Panel-73)** are photographs that Mr. Smith personally took and are true and accurate representations of the scene depicted. Additional photographs showing vertical clearance violations on the systems of the Georgia EMCs visited by Mr. Diamond are contained in **GEMC Ex. 128 (Panel-74)**. The photographs

contained in **GEMC Ex. 128 (Panel-74)** are photographs that Mr. Diamond personally took and are true and accurate representations of the scene depicted. Additional photographs showing vertical clearance violations on the systems of the Georgia EMCs visited by Mr. Brown are contained in **GEMC Ex. 129 (Panel-75)**. The photographs contained in **GEMC Ex. 129 (Panel-75)** are photographs that Mr. Brown personally took and are true and accurate representations of the scene depicted. Additional photographs showing vertical clearance violations on the systems of the Georgia EMCs visited by Mr. Arant are contained in **GEMC Ex. 130 (Panel-76)**. The photographs contained in **GEMC Ex. 130 (Panel-76)** are photographs that Mr. Arant personally took and are true and accurate representations of the scene depicted.

Each panel member has also provided the following information for each photograph contained in their exhibit: the image name, the name of the photographer, the date the picture was taken, the location where the picture was taken, the name of the attaching party, and the violation type. A brief description of the specific violation occurring in each photograph is also provided. The Panel created these table of contents for **GEMC Ex. 127 (Panel-73)**, **GEMC Ex. 128 (Panel-74)**, **GEMC Ex. 129 (Panel-75)**, and **GEMC Ex. 130 (Panel-76)** to aid the Commission's review of the photographs.

Q. Do attachments that violate the vertical clearance requirements impose burdens on Georgia EMCs that would not otherwise exist?

A. By the Panel: Yes.

Safety Issues: Low hanging communications conductors create numerous safety issues that would not otherwise exist. By way of example:

(1) When a low hanging communication cable is directly contacted by persons who are walking, running, biking, or riding on open modes of transportation, such as cycles, boats, tractors, or horses, personal injury can result.

(2) When a low hanging communication cable is contacted by trucks, trains, or other equipment, the contact can cause personal injury, damage or break the pole, and/or pull the power lines down. Downed power lines create a fire hazard and a risk of electrocution.

(3) When a communications cable does not meet the required minimum vertical clearance communications workers that are performing maintenance or other operational activities in the vicinity of these low-hanging cables are more likely to make direct contact with the communications cable. This can result in physical injury.

Reliability Issues: When communications attachments are not in compliance with NESC's vertical clearance requirements there is an increased chance of system outages. Often times, these outages are caused by a vehicle coming in contact with one of the low-hanging communications attachments.

Increased Costs: When attachments have vertical clearances that are less than the minimums specified in the NESC, Georgia EMCs incur a multitude of costs that would not otherwise exist. By way of example:

(1) When a low hanging cable is observed by the public, utility operations personnel must respond to the report, identify the owner of the low-hanging

cable, and assess any potential hazards. In most instances, the electric utility is who the public calls when a low-hanging cable is observed.

(2) Where a pole is broken because a truck or other vehicle makes contact with a low-hanging communications cable, the cost of replacing the pole is borne by the pole owner, not the communications company. The pole owner will also have to replace any damaged pole-top equipment, including cross-arms and braces.

(3) Where an outage results because a truck or other vehicle makes contact with a low-hanging communications cable, the EMC must respond. This requires more personnel and hours of effort. And the costs associated with such a response, is all borne by the EMC, not the communications company.

(4) When someone from the public or a worker contacts a low-hanging wire and such contact causes property damage or personal injury, this can lead to expensive and timely litigation brought against the utility.

IV. FAILURE TO COMPLY WITH SEPARATION REQUIREMENTS

Q. What is a separation violation?

A. By the Panel: A separation violation occurs when the space between certain facilities do not meet the separation requirements contained in NESC Rules 235 and 238.

By way of example, a separation violation arises when: (1) there is not at least 40 inches between the point of attachment of an electric utility's neutral line and the communications attachment (30 inches under an exception subject to certain grounding and bonding requirements) or in the case of a utility conductor energized at 14,400 volts,

43 inches; or, (2) there is not at least 12 inches between the point of attachment of the cable of one communication utility and the point of attachment of the cable of another communication (with a minimum of 4 inches of separation throughout the span).

Q. What is the purpose of NESC's separation requirements?

A. By the Panel: The separation requirements included in the NESC have evolved over many decades of practical experience and provide the minimally acceptable distance between facilities that are attached to pole (and in the spans between poles) to reduce the risk of accidental contact by workers, who are not power-system qualified, and the typical materials with which such workers use.

Q. Please describe some of the photographs showing separation violations.

A. By Mr. Smith: I am going to describe **GEMC Ex. 73 (Panel-19)**, **GEMC Ex. 74 (Panel-20)**, **GEMC Ex. 75 (Panel-21)**, **GEMC Ex. 76 (Panel-22)**, **GEMC Ex. 77 (Panel-23)**, **GEMC Ex. 78 (Panel-24)**, **GEMC Ex. 79 (Panel-25)**, **GEMC Ex. 80 (Panel-26)**, and **GEMC Ex. 81 (Panel-27)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which all show communications attachments by cable and telephone companies that violate NESC separation rules.

GEMC Ex. 73 (Panel-19) is a picture of Canoochee EMC's system and was taken on October 2, 2020. This picture was taken on U.S. 280, approximately two miles east of Pembroke. The cable attachment at issue belongs to Comcast. Pursuant to NESC Rule 235, the Comcast attachment should be separated from Canoochee EMC's neutral by at least 30 inches, and pursuant to the existing CTAG model agreement between Canoochee EMC and Comcast should be separated from Canoochee EMC's neutral by at least 40 inches.

However, here, the Comcast attachment is less than 24 inches from the Canoochee EMC's neutral. This is improper under both the NESC and the terms of the CTAG model agreement between Canoochee EMC and Comcast. Comcast's attachment being so close to Canoochee EMC's neutral also means that Comcast's attachment is encroaching into the Communication Worker Safety Zone ("CWSZ"), which creates a hazard of electrical shock for persons working on the poles and creates a hazard for energization of the cable company's equipment into homes and businesses.

GEMC Ex. 74 (Panel-20) is another picture of Canoochee EMC's system and was taken on October 2, 2020. This picture was taken on Elm Tree Trailer Park Road. The cable attachment at issue belongs to Comcast. While NESC requires that Comcast's cable attachments be separated from Canoochee EMC's secondary service conductor by at least 40 inches, the cable attachment shown in this picture is located at the same level as Canoochee EMC's secondary service conductor. Put differently, there is no vertical separation between the Comcast cable attachment and Canoochee EMC's secondary service conductor. As a result, the Comcast cable attachment is encroaching into the CWSZ, which creates safety hazards for persons working on the pole.

GEMC Ex. 75 (Panel-21) is another picture of Canoochee EMC's system and was taken on October 2, 2020. The Canoochee EMC pole shown in this picture is located on Barnard Road, approximately one span northwest of Elm Tree Trailer Park Road. The cable attachment at issue belongs to Comcast. Under the NESC, the Comcast attachment, which is running across a roadway, should be separated from Canoochee EMC's facilities by at least 30 inches (with an exception under the NESC that allows separation of 75% of that

value if the communications messenger is effectively bonded to the electrical system neutral). However, here, the Comcast cable is wrapped and zip tied around Canoochee EMC's guy wire. It is likely that the Comcast attacher wrapped and zip tied its cable around Canoochee EMC's guy wire to increase the vertical clearance between the roadway and Comcast's cable. Nevertheless, Comcast's attachment violates NESC's separation requirements. Moreover, in time, the plastic zip tie may degrade in the sunlight and fail. Were that to happen, the Comcast cable would fall from Canoochee EMC's guy wire, resulting in a cable-created safety hazard.

GEMC Ex. 76 (Panel-22) is a picture of Colquitt EMC's system and was taken on September 28, 2020. This picture was taken on Parrish Road, approximately 0.15 miles north of Highway 82. The cable attachment at issue belongs to Mediacom. NESC Rule 235 requires that, at the pole, cable attachments be separated from facilities owned by the utility by at least 40 inches. Here, however, the Mediacom attachment is separated from Colquitt EMC's 480 volt service cables by less than 20 inches. As I previously described, this creates a safety hazard for workers because the attachment is encroaching into the CWSZ.

GEMC Ex. 77 (Panel-23) is a picture of Middle Georgia EMC's system and was taken on September 30, 2020 at 6602 Highway 41. The cable attachment at issue belongs to Mediacom. Pursuant to NESC Rule 238B, cable attachments should be separated from the electric utility's transformer by at least 30 inches. Moreover, NESC requires that cable attachments be separated from the secondary service wire by at least 40 inches. Here, however, Mediacom's attachment is just 12 inches from both Middle Georgia EMC's

transformer and Middle Georgia EMC's secondary service wire. This is improper and creates a safety hazard.

GEMC Ex. 78 (Panel-24) is a picture of Mitchell EMC's system and was taken on September 29, 2020. This picture was taken at 2505 Morehouse Lane. The cable attachment at issue belongs to Mediacom. Pursuant to NESC Rule 238B, Mediacom's cable attachment should be located 40 inches below Mitchell EMC's 25kV riser cable. Here, however, Mediacom's cable attachment is located right next to Mitchell EMC's 25kV riser cable. Mediacom's attachment being so close to Mitchell EMC's 25kV riser cable means that Mediacom's attachment is encroaching into the CWSZ, the safety space designed to keep communications workers from reaching into the area where Mitchell EMC's energized cable lies and to keep Mediacom's equipment from being energized. This is improper under the NESC and creates a safety hazard.

GEMC Ex. 79 (Panel-25) is a picture of Sumter EMC's system and was taken on October 4, 2020. This picture was taken at the intersection of Upper River Road and Southland Drive. The cable attachment at issue belongs to Mediacom. Pursuant to NESC Rule 238B, Mediacom's cable attachment should be located 40 inches below Sumter EMC's 25kV cables. Here, however, Mediacom's cable is attached just 12 inches below Sumter EMC's 25kV cables. This is improper and is encroaching the CWSZ, which creates safety hazards for persons working on the pole and members of the public. In addition, it increases the risk that Mediacom's equipment, which is serving homes and businesses, will become energized.

GEMC Ex. 80 (Panel-26) is a picture of Sumter EMC's system and was taken on October 14, 2020. The Sumter EMC pole shown in this picture is located at 177 Westminster Street, Albany, Georgia 31721. The attachment at issue belongs to Windstream Telephone. Under the NESC, Windstream Telephone's attachment should not come in contact with Sumter EMC's facilities at the pole or anywhere in the span. The purpose of NESC's separation rules is to protect persons working on the poles from electrical shock and prevent hazards created when communications attachments become energized. Here, Windstream Telephone has clearly violated NESC's separation requirements. Windstream Telephone's attachment is actually wrapped around Sumter EMC's power line. This violates the NESC and exposes line technicians to safety hazards that do not need to exist.

GEMC Ex. 81 (Panel-27) consists of two pictures of Sumter EMC's system that were taken on October 14, 2020. The Sumter EMC poles shown in these pictures are located at 776 Highway 19 South, Leesburg, Georgia 31763. The attachments at issue belong to AT&T and Mediacom. As shown in picture "A" of **GEMC Ex. 81 (Panel-27)**, AT&T and Mediacom's attachments span across a highway. NESC Rule 235H requires that there be at least 4 inches between the cable of one communication utility and the cable of another communication utility, anywhere in the span. AT&T and Mediacom's attachments do not comply with this rule. In fact, AT&T's attachment crosses Mediacom's attachment at the mid-span. And, as shown in picture "B" of **GEMC Ex. 81 (Panel-27)**, AT&T's cable is actually rubbing against Mediacom's cable where they crossover. This

could ultimately lead to lash failure and AT&T and Mediacom's cables having a vertical clearance that does not meet NESC standards.

A. By Mr. Diamond: I am going to describe **GEMC Ex. 82 (Panel-28)**, **GEMC Ex. 83 (Panel-29)**, **GEMC Ex. 84 (Panel-30)**, and **GEMC Ex. 85 (Panel-31)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which all show cable and telephone attachments that do not comply with NESC's separation requirements.

GEMC Ex. 82 (Panel-28) is a picture of Flint EMC's system and was taken on September 29, 2020. The cable attachment depicted in this exhibit is on Flint EMC pole # 049195, which is located at the intersection of Northside Drive and Ravenwood Way, Warner Robins, Georgia. The cable attachment in this picture belongs to Cox. Pursuant to NESC Rule 235, the Cox cable attachment shown in this picture should be separated from Flint EMC's neutral by at least 30 inches. Moreover, NESC Rule 238D requires that a communications attachment be separated from a drip loop serving a street light by at least 12 inches. The Cox cable attachment violates both these requirements. There is only 22 inches between the Cox cable attachment and Flint EMC's neutral and only 7 inches between the Cox cable attachment and the drip loop serving the street light. Cox's attachment being so close to Flint EMC's neutral means that Cox's attachment is encroaching into the CWSZ, which creates a hazard of electrical shock for persons working on the pole and creates a hazard for energization of the cable company's equipment into homes and businesses.

GEMC Ex. 83 (Panel-29) is a picture of Walton EMC's system and was taken on September 21, 2020. The cable attachment shown in this picture is on Walton EMC pole # 111099p003, which is located at 2015 Pleasant Hill Road. The cable attachment belongs to Comcast. Pursuant to NESC Rule 235, the cable attachment should be separated from Walton EMC's service wire by at least 40 inches. The Comcast cable attachment shown in this picture violates this requirement. In fact, the Comcast cable attachment is located only 20 inches from Walton EMC's service wire. As I previously described, Comcast's attachment being so close to Walton EMC's service wire means that Comcast's attachment is encroaching on the CWSZ, which creates a safety hazard for workers.

GEMC Ex. 84 (Panel-30) is another picture of Walton EMC's system and was taken on September 21, 2020. The cable attachment shown in this picture is attached to Walton EMC pole # 087224p005, which is located at Karlee Boulevard and Highway 81. The cable attachment belongs to Comcast. Pursuant to NESC Rule 238B, the cable attachment should be separated from Walton EMC's transformer by at least 30 inches. Here, however, Comcast's attachment is separated from the transformer by only 8 inches. This is inadequate and means that Comcast's attachment is creating unnecessary hazards by encroaching into the CWSZ.

GEMC Ex. 85 (Panel-31) is a picture of Tri-County EMC's system and was taken on September 24, 2020. The cable in this picture is attached to Tri-County EMC pole #33-50, which is located at 242 Highway 212, Eatonton, Georgia. The cable attachment belongs to AT&T and spans across Highway 212. Pursuant to NESC Rule 235, AT&T's attachment should be separated from Tri-County EMC's facilities by at least 30 inches in the span.

AT&T's cable, however, does not comply with this requirement. In fact, AT&T's cable is zip-tied to Tri-County EMC's service wire. Put differently, there is no separation between AT&T's attachment and Tri-County EMC's facilities. Under the NESC, this is improper. Moreover, should the zip tie eventually fail, AT&T's cable would likely separate from Tri-County EMC's facilities, at which point, AT&T's cable will likely not meet NESC's vertical clearance requirements. When communications cables create issues like this with vertical clearances, risks to traveling vehicles and the public follow.

A. By Mr. Brown: I am going to describe **GEMC Ex. 86 (Panel-32)**, **GEMC Ex. 87 (Panel-33)**, **GEMC Ex. 88 (Panel-34)**, and **GEMC Ex. 89 (Panel-35)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which all show instances where communications attachments are violating the separation requirements.

GEMC Ex. 86 (Panel-32) is a picture of Hart EMC's system and was taken on September 16, 2020. The Hart EMC pole in this picture is located in Harbor Heights Circle. The cable attachments at issue belong to TruVista and Windstream. Pursuant to NESC Rule 238B, communications attachments should be separated from the transformer by at least 30 inches. Here, however, Windstream and TruVista's attachments are located just under Hart EMC's transformer, which means that the attachment is encroaching on the CWSZ and creating a safety hazard for persons working on the pole.

GEMC Ex. 87 (Panel-33) is a picture of Habersham EMC's system and was taken on September 21, 2020. The Habersham EMC pole in this picture is located on Parkwood Drive. The cable attachment at issue belongs to Windstream. Pursuant to NESC Rule 235,

Windstream's attachment should be separated from Habersham EMC's neutral by at least 40 inches. Windstream's attachment, however, does not comply with this requirement. In fact, Windstream's attachment is sitting above Habersham EMC's neutral. This is improper under NESC because Windstream has created a risk of electrical shock to those who have to come after them on the pole.

GEMC Ex. 88 (Panel-34) is a picture of Jefferson EMC's system and was taken on September 22, 2020 at 7383 Lakeside Drive. The cable attachments at issue belong to Comcast and AT&T. Pursuant to NESC Rule 235H, there should be at least 4 inches between the cable of one communication utility and the cable of another communication utility. Despite this requirement, here, there is almost no separation between the AT&T and Comcast attachments. In fact, the AT&T and Comcast attachments have been zip-tied together.

GEMC Ex. 89 (Panel-35) is a picture of Rayle EMC's system and was taken on September 22, 2020. This picture shows Rayle EMC pole # 15222048, which is located at 228 Forest Lane. The attachment at issue is a cable company attachment. Pursuant to NESC Rule 238B, the attachment should be separated from Rayle EMC's transformer by at least 30 inches. Despite this requirement, the cable attachment shown in this picture is located just below the transformer and, thus, does not comply with the 30 inch separation requirement. Moreover, the cable attachment in encroaching into the CWSZ and creating a safety hazard for persons working on the pole.

A. By Mr. Arant: I will describe **GEMC Ex. 90 (Panel-36)**, **GEMC Ex. 91 (Panel-37)**, **GEMC Ex. 92 (Panel-38)**, and **GEMC Ex. 93 (Panel-39)**, which are photographs that I

personally took and are true and accurate representations of the scene depicted, and which all show instances where cable attachments are violating the separation requirements.

GEMC Ex. 90 (Panel-36) is a picture of Central Georgia EMC's system and was taken on October 13, 2020. This picture was taken at 1938 Peeksville Road, Locust Grove, Georgia. The attachment at issue belongs to Charter. NESC Rule 235 requires that there be 40 inches between the lowest energized electric line and any communications attachment. The purpose of this rule is to protect communications workers, who often have limited training. At mid-span, NESC requires that there be 30 inches between any communications attachment and the lowest energized electric line. Here, Charter's attachment does not comply with this requirement. In fact, as I am sure the Commission has noticed, Charter's attachment is draped over Central Georgia EMC's service line. The attacher likely did this so that Charter's attachment would have a greater vertical clearance. Nevertheless, this is improper and creates a safety hazard for persons working on the pole as well as reliability issues.

GEMC Ex. 91 (Panel-37) is a picture of Coweta-Fayette EMC's system and was taken on September 23, 2020. The Coweta-Fayette EMC pole shown in this picture is located on State Route 34 at Fischer Road, Sharpsburg, Georgia. The many attachments at issue in this picture belong to Comcast and AT&T. The NESC requires that there be 40 inches between the facilities of an electric utility and a communications attachment and that there be at least 4 inches between the cable of one communication utility and the cable of another communication utility. The purpose of these rules is to prevent safety hazards for persons working on the pole and prevent the communications attachment from

becoming energized. NESC Rule 239A requires that cable attachments be secure and be made on the surface of the structure. The purpose of this rule is to prevent safety hazards that are created by unsecured wiring. Comcast and AT&T's attachments do not comply with these rules. Comcast and AT&T have their attachments coiled excessively around Coweta-Fayette EMC's pole and are not maintaining the required separation. This is not only improper under numerous NESC rules, including NESC Rule 236, which requires that a full quadrant of the pole be available for climbing, but also creates a safety hazard for persons working on the pole, as the loose wires could get caught in their climbing gear.

GEMC Ex. 92 (Panel-38) is a picture of Greystone Power's system and was taken on September 24, 2020. This picture was taken at 4382 Daniell Mill Road, Winston, Georgia, which is a residential area. The attachment at issue belongs to Comcast. NESC Rule 235H requires that there be at least 4 inches between the cable of one communication utility and the cable of another communication utility, anywhere in the span. Despite this requirement, Comcast's attachment is actually resting on another communications attachment. Put differently, there is no separation between these two attachments. This is improper and a violation of both the NESC and the good workmanlike standard practiced in the electric and communications industry.

GEMC Ex. 93 (Panel-39) is another picture of Greystone Power's system and was taken on September 24, 2020. The picture was taken at 4162 Post Road. The attachment at issue belongs to Comcast and is running in front of a single-family residence. Under the NESC, Comcast's cable should remain separated from the telephone cable by approximately 4 inches throughout the span. Here, Comcast's cable has not maintained the

required 4 inches of separation from the telephone cable. In fact, Comcast's cable is sagging below the telephone cable. Because Comcast's cable is not maintaining the minimum 4 inches of separation, the Comcast cable is likely to rub against the telephone facilities as the cables move during inclement weather or a breezy day. The friction created by the cables rubbing together could reasonably wear down the lashing material so much so that the co-axial cable will break away from the support strands it was lashed to.

Q. Are the photographs each of you just described the only separation violations you found on the EMC systems you visited?

A. By the Panel: No. Additional photographs showing, among other things, cable and telephone attachments that violate NESC's separation requirements on the systems of the Georgia EMCs visited by a member of this panel are attached to this testimony.

Additional photographs showing separation violations on the systems of the Georgia EMCs visited by Mr. Smith are contained in **GEMC Ex. 127 (Panel-73)**. The photographs contained in **GEMC Ex. 127 (Panel-73)** are photographs that Mr. Smith personally took and are true and accurate representations of the scene depicted. Additional photographs showing separation violations on the systems of the Georgia EMCs visited by Mr. Diamond are contained in **GEMC Ex. 128 (Panel-74)**. The photographs contained in **GEMC Ex. 128 (Panel-74)** are photographs that Mr. Diamond personally took and are true and accurate representations of the scene depicted. Additional photographs showing separation violations on the systems of the Georgia EMCs visited by Mr. Brown are contained in **GEMC Ex. 129 (Panel-75)**. The photographs contained in **GEMC Ex. 129 (Panel-75)** are photographs that Mr. Brown personally took and are true and accurate

representations of the scene depicted. Additional photographs showing separation violations on the systems of the Georgia EMCs visited by Mr. Arant are contained in **GEMC Ex. 130 (Panel-76)**. The photographs contained in **GEMC Ex. 130 (Panel-76)** are photographs that Mr. Arant personally took and are true and accurate representations of the scene depicted.

In an effort to aid the Commission, each panel member has provided the following information for each picture contained in their exhibit: the image name, the name of the photographer, the date the picture was taken, the location where the picture was taken, the name of the attaching party, and the violation type. A brief description of the specific violation occurring in each picture is also provided. This information is located in the first pages of each of the exhibits listed above.

Q. Do attachments that violate the separation requirements impose burdens on Georgia EMCs that would not otherwise exist?

A. By the Panel: Yes.

Safety Issues: When communications companies do not adhere to NESC's separation requirements, it effectively makes the Georgia EMC owned poles unsafe to work on through no fault of the Georgia EMCs. More specifically, failure to adhere to the minimum separation requirements can increase the likelihood that persons working on the pole will suffer injury from electrocution. Injuries from electrocution can be severe. This is especially true for communications employees and contractors installing and maintaining communications attachments because these individuals are rarely qualified to work in close proximity to power system conductors, cables and equipment, and do not receive the kind

of training that Georgia EMCs provide their employees in an effort to avoid these kinds of safety hazards. Moreover, these individuals do not have the training, tools, personal protective equipment, and/or aerial lifts to meet the OSHA requirements for working on electrical power systems. In addition, a lack of adequate separation creates a safety hazard for the public through the increased likelihood of a high voltage being imposed on communications facilities serving nearby homes and businesses.

Reliability Issues: When there is contact between two different communications cables, between communications cables and power facilities, between communications facilities and guy wires, and/or between a communications worker and the power facilities, the power facilities can become damaged and a power outage can occur.

Increased Costs: Georgia EMCs incur increased costs as they identify, report, and follow up to ensure communications companies correct separation violations that their attachments have created. In addition, where a separation violation leads to personal injury, Georgia EMCs incur significant administrative and legal expenses defending any subsequent legal action.

V. FAILURE TO PROPERLY SUPPORT THE POLE AND ADHERE TO LOADING AND STRENGTH REQUIREMENTS

Q. What is a pole compromise issue and how do pole compromise issues arise?

A. By the Panel: A pole compromise issue is when the pole bends, leans, cracks, or is otherwise damaged because it is not being supported properly.

Pole compromise issues arise when: (1) attachers do not comply with Rules 264 and 279, which require third-party communications attachers to install and maintain guys,

anchors, and/or other braces to support the additional tension created by the communications attachment; and/or, (2) communications attachments are made that increase the loading on the poles beyond the strength requirements, as described in NESC Sections 25 and 26.

Q. Please describe some of the photographs showing pole compromise issues.

A. By Mr. Smith: I am going to describe **GEMC Ex. 94 (Panel-40)**, **GEMC Ex. 95 (Panel-41)**, **GEMC Ex. 96 (Panel-42)**, **GEMC Ex. 97 (Panel-43)**, **GEMC Ex. 98 (Panel-44)**, **GEMC Ex. 99 (Panel-45)**, and **GEMC Ex. 100 (Panel-46)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which show pole compromise issues.

GEMC Ex. 94 (Panel-40) contains two pictures of Canoochee EMC's system that were taken on October 2, 2020. Both pictures show the same Canoochee EMC pole and were taken on Georgia Highway 196 at Marcus Nobles Road. The cable attachment at issue belongs to Comcast. NESC Rule 214 requires cable companies to inspect their facilities at installation and at intervals that experience has shown to be necessary. NESC Rules 264 and 379 require cable companies to install and maintain guys, anchors and other braces that support the pole. As shown in picture "A" of **GEMC Ex. 94 (Panel-40)**, Comcast's guy-wire is broken and laying across a fence. Moreover, Comcast has not installed a new guy-wire to support its attachment. This is improper under NESC, compromises the strength of Canoochee EMC's pole, and does not meet the good workmanlike standards that are practiced in the electric and communications industry.

GEMC Ex. 95 (Panel-41) is another picture of Canoochee EMC's system and was taken on October 2, 2020. This picture was taken at 845 Live Oak Church Road. The cable attachment at issue belongs to Comcast. To maintain the strength of utility poles, NESC requires cable attachers to install and maintain guys, anchors, and other braces. Here, Comcast's initial installation was not done in accordance with the NESC or sound engineering principles. Moreover, Comcast has not maintained its guy-wire. Specifically, Comcast installed the guy attachment hardware with insufficient surface area. And, as a result, the guy attachment hardware is digging into the wood where it is installed and is compromising the strength of the pole. And, as the photograph shows, the pole is starting to bend and deflect where Comcast installed the guy attachment. This means that the guy attachment has created a potential point of failure for this pole. Had Comcast used the appropriate attachment hardware and installed its guy attachment correctly the pole's wood fibers would not be crushing under the pressures and forces imposed on the hardware by the long span of communications cables. Ultimately, Canoochee EMC may have to replace this pole prematurely because Comcast's attachment is damaging the pole.

GEMC Ex. 96 (Panel-42) is a picture of Colquitt EMC's system and was taken on September 28, 2020. This picture was taken at the intersection of Springhill Church Road and Sandhammock Lake Road. The attachment at issue belongs to Mediacom. Here, despite having an obligation to install and maintain its guy-wire, the Mediacom guy-wire, which should be supporting several spans of communications cables, is loose. Thus, Colquitt EMC's guy-wire and anchor are supporting both the power lines and the additional

communications attachments. This is improper and, because Mediacom's guy-wire is inadequate, could result in pole failure.

GEMC Ex. 97 (Panel-43) is a picture of Middle Georgia EMC's system and was taken on September 30, 2020. This picture was taken at 7000 Highway 41. The attachment at issue belongs to Mediacom. NESC requires cable companies to install and maintain guy-wires, anchors, and other braces that are needed to support the pole. Here, while Mediacom did install a guy-wire, it did not install its own anchor. Instead, Mediacom attached its guy-wire to Middle Georgia EMC's anchor, which was not designed to support both the power lines and the communications attachments. Ultimately, this could cause the pole to bend or completely fail. In addition, one of Mediacom's cables is hanging down from the pole. This violates NESC Rule 239A, which requires cable attachments to be securely attached to the surface of the utility pole, and creates a safety hazard.

GEMC Ex. 98 (Panel-44) is a picture of Mitchell EMC's system and was taken on September 29, 2020 at 811 Notre Dame Avenue. The attachments at issue belong to Mediacom and AT&T. Pursuant to NESC Rule 264, both Mediacom and AT&T should have installed guy-wires and anchors to support the additional load created by their attachments. Despite this, Mediacom and AT&T are sharing a common anchor, which is putting excessive tension on Mitchell EMC's pole and causing it to become bowed. This could force Mitchell EMC to replace this pole sooner than would normally be necessary.

GEMC Ex. 99 (Panel-45) is a picture of Sumter EMC's system and was taken on September 29, 2020 at 107 Ashwood Court, which is in the Canterbury Subdivision. The attachment at issue belongs to Mediacom. Here, Mediacom has violated NESC Rule 264

by failing to maintain its guy-wire. In fact, Mediacom's guy-wire is broken and taped around the base of the pole. As a result, Mediacom's guy-wire is providing no support for the increased tension created by Mediacom's attachments. A pole burdened by an improperly guy-wired attachment could fail under storm conditions because of that attachment.

GEMC Ex. 100 (Panel-46) is another picture of Sumter EMC's system and was taken on October 4, 2020. This picture was taken on Murphy Mill Road, just west of Lake Jennifer Drive. The attachments at issue belong to Mediacom and AT&T. Here, while Mediacom and AT&T did install guy-wires to support the tension added by their attachments, neither Mediacom nor AT&T have maintained their guy-wires. In fact, both guy-wires are loose, which is not only improper under the NESC but is also causing Sumter EMC's double-circuit pole to lean left. Because the pole is leaning left, there is less than 13 feet of vertical clearance between the lowest communications cable and the surface of the adjacent public road. If additional strain is put on the cable steel messenger, as might occur from a tree limb falling across the communications cables or from contact by a large truck traveling on the roadway, the Sumter EMC pole may fail, leaving over 1,000 Sumter EMC member-owners without power and creating a risk of public contact with uninsulated power conductors energized at 25,000 volts.

A. By Mr. Diamond: I will describe **GEMC Ex. 101 (Panel-47)**, **GEMC Ex. 102 (Panel-48)**, **GEMC Ex. 103 (Panel-49)**, and **GEMC Ex. 104 (Panel-50)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which show pole compromise issues.

GEMC Ex. 101 (Panel-47) is a picture of Flint EMC's system and was taken on September 29, 2020. The cable attachments at issue are on Flint EMC pole # 085338, which is located at the intersection of Highway 96 and Highway 247 in Kathleen, Georgia. The attachments belong to Cox, Hargray Communications ("Hargray"), and AT&T. While I believe the picture speaks for itself, the attachments by Cox, Hargray, and AT&T are putting undue strain on the Flint EMC pole, causing it to bend. This is likely a result of Cox, Hargray, and AT&T failing to adhere to NESC Rules 264 and 279, which require the proper installation and maintenance of guy-wires and anchors that provide additional strength and support to the pole.

GEMC Ex. 102 (Panel-48) is a picture of Flint EMC's system and was taken on September 29, 2020. The pole shown in this picture is Flint EMC pole #033355, which is located at the intersection Parkwood Drive and Anne Drive in Warner Robins, Georgia. The cable attachment at issue belongs to Cox. NESC Rules 264 and 279 require cable companies to install and maintain adequate guys, anchors, and other braces needed to support the additional tension created by the attachment. Here, while Cox has installed a guy-wire, Cox did not install its own anchor. Instead, Cox attached its guy-wire to Flint EMC's anchor, which was not designed to support both the power lines and the cable attachments. Because Cox has attached to Flint EMC's pole without properly installing its own guy-wire and anchor, the Flint EMC pole is bowed and being pulled at Cox's attachment point.

GEMC Ex. 103 (Panel-49) is a picture of Walton EMC's system and was taken on September 21, 2020. The communications attachment at issue belongs to AT&T and is

attached to Walton EMC pole # 066113p002, which is located at the intersection of Athens Highway and Hill Street SW. AT&T's cable spans across Athens Highway. As I am sure the Commission can see, the Walton EMC pole is leaning right. This is the result of AT&T not complying with the guying and anchoring requirements contained in NESC Rules 264 and 279. Specifically, here, AT&T has not properly guyed its attachment, which has compromised the strength of the Walton EMC pole and caused the pole to lean to the right. The excess tension created by AT&T's attachment could ultimately damage the pole in a way that forces Walton EMC to replace the pole prematurely.

GEMC Ex. 104 (Panel-50) is a picture of Jackson EMC's system and was taken on September 22, 2020. The communications attachment at issue belongs to Comcast and is attached to Jackson EMC pole # 611161402, which is located at 793 Mountain Church Road, Pendergrass, Georgia. NESC Rules 264 and 279 require that communications attachers install and maintain guys, anchors, and braces in order to support the pole. Here, while Comcast has attached to the Jackson EMC pole, Comcast completely failed to install a guy-wire, anchor, and/or other brace. Such conduct creates safety and reliability issues, damages the pole, and is improper under the NESC.

A. By Mr. Brown: I am going to describe **GEMC Ex. 105 (Panel-51)**, **GEMC Ex. 106 (Panel-52)**, **GEMC Ex. 107 (Panel-53)**, **GEMC Ex. 108 (Panel-54)**, and **GEMC Ex. 109 (Panel-55)**, which are photographs that I personally took and are true and accurate representations of the scene depicted and which show pole compromise issues.

GEMC Ex. 105 (Panel-51) is a picture of Hart EMC's system and was taken on September 16, 2020. The Hart EMC pole in this picture is located on Old Beacon Light

Road. The cable attachment at issue belongs to Comcast. NESC Rule 264 requires the use of guys, braces, and anchors to provide additional strength to the pole when attachments are made. Here, Comcast's guy-wire is not properly installed. Specifically, Comcast's guy-wire is hanging loosely next to the pole instead of being pulled tight. When a guy-wire is not pulled tight, as is the case in this picture, the pole is not receiving the additional strength that is needed to support the communications attachment. Because Comcast did not properly install a guy-wire, Hart EMC's guy wire and anchor is supporting both the power lines and the communications attachments, which they were not designed to do.

GEMC Ex. 106 (Panel-52) is a picture of Habersham EMC's system and was taken on September 21, 2020. The Habersham EMC pole in this picture is located at 2210 Dicks Hill Parkway. The attachment at issue belongs to Windstream. Here, despite having an obligation under NESC to install and maintain guy-wires, anchors, and braces, Windstream's attachment was not accompanied by the installation of a proper guy-wire. As a result, the Windstream attachment is putting undue strain on Habersham EMC's pole, causing it to bend and become deformed. In the long run, this could cause pole failure or force Habersham EMC to replace its pole sooner than would normally be required.

GEMC Ex. 107 (Panel-53) is a picture of Jefferson EMC's system and was taken on September 22, 2020. The Jefferson EMC anchor shown in this picture is attached to the Jefferson EMC pole located at 4803 Forest Hills Drive. The cable attachment at issue belongs to Comcast. The NESC requires cable companies to install and maintain guy-wires, anchors, and other braces that are needed to support the additional tension created by communications attachments. Here, while Comcast installed a guy-wire, it did not

install its own anchor. Instead, Comcast attached its guy-wire to Jefferson EMC's anchor, which was not designed to support both the power lines and the communications attachments. Because Comcast did not install its own anchor, Comcast's attachment compromises the overall strength of the pole, which can cause the pole to lean, bend, and/or fail.

GEMC Ex. 108 (Panel-54) is a picture of Planters EMC's system and was taken on September 23, 2020 at 286 Twin Oak Drive. The cable attachment at issue belongs to Comcast. Pursuant to NESC Rule 264, when Comcast attached to Planters EMC's pole it should have also installed guy-wires and anchors to support the additional tension created by its attachment. Despite this obligation, Comcast has attached to the Planters EMC pole but has completely failed to install a guy-wire. As a result, this Planters EMC pole is only supported by the guy-wires and anchors installed and maintained by Planters EMC, which were not designed to support the additional tension created by Comcast's attachment.

GEMC Ex. 109 (Panel-55) is a picture of Rayle EMC's system and was taken on September 22, 2020. The pole shown in this picture is Rayle EMC Pole # 15222038, which is located at 308 Forest Lane. The attachment at issue was made by a cable company. The NESC requires cable companies to install and maintain guy-wires, anchors, and other braces that are needed to support the additional tension created by the attachment. Here, while the cable company did install a guy-wire, it did not install its own anchor. Rather, the cable company attached its guy-wire to Rayle EMC's anchor. This is improper under the NESC and has caused Rayle EMC's pole to bend and become deformed. A bent and deformed pole may fail or have to be prematurely replaced.

A. By Mr. Arant: I will be describing **GEMC Ex. 110 (Panel-56)**, **GEMC Ex. 111 (Panel-57)**, and **GEMC Ex. 112 (Panel-58)**, which are photographs that I personally took and are true and accurate representations of the scene depicted, and which show pole compromise issues.

GEMC Ex. 110 (Panel-56) is a picture of Carroll EMC's system and was taken on September 24, 2020. The Carroll EMC pole shown in this picture is located on Madison Sanders Road at US 27. The attachments at issue belong to Comcast and AT&T. Pursuant to NESC Rules 264 and 379, third-party attachers, including Comcast and AT&T, are required to install and maintain guys, anchors, and other braces to support the added tension created by communications attachments. Without the appropriate guy, anchor, and/or other brace, the third-party attachment compromises the strength of the pole, which can lead to the pole bending, leaning, and, in some cases, failing. Here, Comcast and AT&T both attached to Carroll EMC's pole without, contemporaneously, installing adequate guy-wires. As a result, Carroll EMC's pole has become bowed.

GEMC Ex. 111 (Panel-57) contains two pictures of Greystone Power's system that were taken on September 24, 2020. The Greystone Power pole shown in both pictures is located at 4337 Maroney Mill Road, Douglasville, Georgia 30134. The attachment at issue belongs to Comcast. As I previously mentioned, the NESC requires that third-party attachers, including Comcast, install and maintain guys, anchors, and other braces that support the additional tension created by communications attachments. Here, while Comcast did install a guy-wire, Comcast did not attach its guy-wire to Greystone Power's double eye anchor, which is designed to have a cable guy-wire attachment. Instead, and as

shown in the picture A of **GEMC Ex. 111 (Panel-57)**, Comcast left its guy-wire hanging at the base of Greystone Power's pole. As a result, and as shown in the picture B of **GEMC Ex. 111 (Panel-57)**, Greystone Power's pole is leaning right. If additional strain is put on this Greystone Power pole, then the pole may fail. Poles that fail create reliability issues and pose risks to people and property.

GEMC Ex. 112 (Panel-58) contains two pictures of Snapping Shoals EMC's system that were taken on September 29, 2020. The Snapping Shoals EMC poles shown in these pictures are located at 103 Temple Lane, Covington, Georgia. The communications attachment at issue belongs to Comcast. These pictures are an example of what can result when third-party attachers do not make timely transfers and maintain the proper guys, anchors, and/or braces, as required by the NESC. Here, the entire top of the old Snapping Shoals EMC pole failed because Comcast did not timely transfer to the new Snapping Shoals EMC pole and Comcast did not properly support its attachments that remained on the old pole. Comcast's failure to both properly support its attachments and timely transfer its attachments is improper under the NESC and violates the good workmanlike standards that are practiced in the electric and communications industry.

Q. Are the photographs each of you just described the only pole compromise issues you found on the EMC systems you visited?

A. By the Panel: No. Additional pictures showing, among other things, cable and telephone attachments that violate NESC's strength and loading requirements on the systems of the Georgia EMCs visited by a member of this panel are attached to this testimony.

Additional photographs showing strength and loading violations on the systems of the Georgia EMCs visited by Mr. Smith are contained in **GEMC Ex. 127 (Panel-73)**. The photographs contained in **GEMC Ex. 127 (Panel-73)** are photographs that Mr. Smith personally took and are true and accurate representations of the scene depicted. Additional photographs showing strength and loading violations on the systems of the Georgia EMCs visited by Mr. Diamond are contained in **GEMC Ex. 128 (Panel-74)**. The photographs in **GEMC Ex. 128 (Panel-74)** are photographs that Mr. Diamond personally took and are true and accurate representations of the scene depicted. Additional photographs showing strength and loading violations on the systems of the Georgia EMCs visited by Mr. Brown are contained in **GEMC Ex. 129 (Panel-75).** The photographs contained in **GEMC Ex. 129 (Panel-75)** are photographs that Mr. Brown personally took and are true and accurate representations of the scene depicted. Additional photographs showing strength and loading violations on the systems of the Georgia EMCs visited by Mr. Arant are contained in **GEMC Ex. 130 (Panel-76)**. The photographs contained in **GEMC Ex. 130 (Panel-76)** are photographs that Mr. Arant personally took and are true and accurate representations of the scene depicted.

In an effort to aid the Commission, each panel member has provided the following information for each photograph contained in their exhibit: the image name, the name of the photographer, the date the picture was taken, the location where the picture was taken, the name of the attaching party, and the violation type. A brief description of the specific violation occurring in each photograph is also provided. This information is located in the first pages of each of the exhibits listed above.

Q. Do communications attachments that cause pole compromise issues impose burdens on Georgia EMCs that would not otherwise exist?

A. By the Panel: Yes.

Safety Issues: The failure to properly guy and support communications attachments creates pole loading issues that can cause premature and unexpected pole failure. This creates a safety hazard for the public and EMC workers that may be climbing the poles.

Reliability Issues: When EMC owned poles are broken or damaged it will often lead to power interruptions. These interruptions occur more frequently when the system is under storm loading conditions. And, while it is true that EMC pole and equipment failures occur during storms even without communications attachments present, an EMC pole that has communications attachments that do not meet the strength provisions of the NESC is much more likely to catastrophically fail, which results in a power outage that takes far more time to restore.

Increased Costs: Pole compromise issues increase costs for Georgia EMCs through increased outage times, increased repair time, premature replacement of existing facilities, and the costs of labor and materials associated with these activities. In addition, Georgia EMCs invest a significant amount of time and money communicating loading and strength issues to communications attachers, evaluating potential solutions, and implementing corrective actions.

VI. FAILURE TO COMPLY WITH OTHER ATTACHMENT REQUIREMENTS

Q. Are there other rules and standards that communications attachers frequently violate?

A. By the Panel: Yes. In addition to the violations described above, cable and telephone companies frequently violate the following rules when attaching to poles owned by Georgia EMCs:

Abandon Attachments: NESC Rule 214-B, which governs inspections and testing of overhead supply and communications lines, requires that lines that have been permanently abandoned be removed or maintained in a safe condition. Despite this, communications attachers abandon their lines and fail to remove and/or maintain them after such abandonment.

Failure to Transfer Attachments: Under most pole attachment agreements, communications attachers have an obligation to transfer their attachments within a specified amount of time. Despite this and the good workmanlike standard practiced in the electric and communications industry, communications attachers often fail or refuse to timely transfer their attachments when a new pole is set. This can create a safety hazard for the public and persons trying to work on the new pole.

Skipping Poles: NESC Rule 234-B, requires that there by at least 3 feet of horizontal clearance (when displaced by wind) between a communications cable and any pole that the cable is not attached. In some instances, however, communications attachers do not attach to every pole. Instead, the communications cable runs right in front of the

pole. In addition to violating NESC Rule 234-B, this practice puts additional stress on the other poles that the communications cable is attached to.

Dangling Wires Not Securely Attached to the Pole: NESC Rule 239A requires that attachments be secure and be made on the surface of the utility pole. The purpose of this rule is prevent the safety hazards that are created by unsecured wiring. Despite this rule, third-party attachers often leave cables hanging, creating a safety hazard for both the general public and persons working on the pole.

Unpermitted and Excessive Overlashing: Most pole attachment agreements prohibit overlashing without prior permitting and review by the pole owner. Despite this, third-party communications attachers use overlashing to attach to EMC owned poles without seeking a permit or having a qualified engineer perform a pole loading analysis to determine if the increased diameter and weight of the attachments will create unbalanced tensions and/or other pole loading not in compliance with NESC Sections 24 and 25.

Creating Boxed-In-Poles: Good work practice requires that all communications cables be installed on the same side of the pole as the power system neutral conductor. Having cables on both sides of the pole encroaches on the climbing space and violates NESC Rule 236, which requires an open climbing space past any conductors or cables. In addition, when replacing a boxed-in pole, the new replacement pole cannot be placed directly in line but instead must be set on one side of the communications cables. Ultimately, this results in a slight angle on the new structure. Despite all of this, communications attachers create boxed-in poles by attaching to both the street side and the opposite side of the pole.

Failure to Participate in Vegetation Management: Under NESC Rule 218, third-party communications attachers are required to participate in vegetation management. Despite this, many communications attachers do not participate in vegetation management, even where the vegetation is solely affecting the communications attachments. Such conduct can result in vegetation weighing down cables and putting additional tension on the EMC pole.

Q. Please describe some of the photographs showing these other violations.

A. By Mr. Smith: I will describe **GEMC Ex. 113 (Panel-59)**, **GEMC Ex. 114 (Panel-60)**, **GEMC Ex. 115 (Panel-61)**, and **GEMC Ex. 116 (Panel-62)**, which are photographs that I personally took and are true and accurate representations of the scene depicted.

GEMC Ex. 113 (Panel-59) is a picture of Canoochee EMC's system and was taken on October 2, 2020 where Fort Argyle Road and Savannah-Ogeechee Canal Park intersect. The attachment at issue belongs to Comcast. Here, Comcast has attached additional cables to an original bundle of cables by overlashing. As a result, there are three communications cables that are bundled together on the left span and six communications cables that are bundled together on the right span. This is causing unbalanced tension across Canoochee EMC's pole, and Comcast has not installed proper guying to support the unbalanced tensions. In addition, the increased diameter of the overlashed cables will result in a significant increase in horizontal forces resulting from wind loading against the cables. In sum, these Comcast attachments violate the good workmanlike standards related to proper sag and tension practices and may be violating NESC Rule 250, which contains specific loading requirements.

GEMC Ex. 114 (Panel-60) is a picture of Colquitt EMC's system and was taken on September 28, 2020. The Colquitt EMC pole shown in this picture is located on Springhill Church Road. The attachment at issue belongs to Mediacom. NESC Rule 239A requires that attachments be secure and be made on the surface of the pole. The purpose of this rule is prevent the safety hazards that are created by unsecured wiring. As shown in the picture, Mediacom's riser cables are not securely attached to the surface of Colquitt EMC's pole. Thus, Mediacom's attachment does not comply with NESC Rule 239A and creates a safety hazard.

GEMC Ex. 115 (Panel-61) is a picture of Middle Georgia EMC's system and was taken on September 30, 2020 at 521 Folds Road. The attachment at issue belongs to a now-defunct cable system operator. Here, the cable operator has actually abandoned its attachment but has left the cable attached to Middle Georgia EMC's pole and laying on the ground. This conduct violates the NESC and good workmanlike standards.

GEMC Ex. 116 (Panel-62) is a picture of Sumter EMC's system and was taken on September 21, 2020. The Sumter EMC pole shown in this picture is located on Wadsworth Avenue, west of Winifred Road. The attachments at issue belong to Mediacom and Windstream. Good work practices require that communication attachments be installed on the same side of the pole as the power system neutral conductor. Here, however, Mediacom and Windstream have attached on both the street side of the pole and the opposite side of the pole. As a result, Mediacom and Windstream have created a boxed-in pole. Boxed-in poles obstruct safe pole access by climbing workers, which violates NESC Rule 236, and hinder Sumter EMC's ability to replace its pole either routinely or due to an emergency.

Moreover, if Sumter EMC needed to install a replacement pole, the boxed-in pole forces Sumter EMC to install the replacement pole out of line with the adjacent poles, thereby imposing a side force on the pole resulting from the angle of the transferred conductors and cables.

A. By Mr. Diamond: I am going to describe **GEMC Ex. 117 (Panel-63)**, **GEMC Ex. 118 (Panel-64)**, and **GEMC Ex. 119 (Panel-65)**, which are photographs that I personally took and are true and accurate representations of the scene depicted.

GEMC Ex. 117 (Panel-63) is a picture of Flint EMC's system and was taken on September 29, 2020. The cables shown in this picture belong to Hargray and Windstream and should be attached to Flint EMC pole # 050004, which is located at the intersection of Highway 247 and Highway 127 in Kathleen, Georgia. However, the Hargray and Windstream cables are not attached to the Flint EMC pole. Rather, they are running right beside the pole. This violates NESC Rule 234-B, does not adhere to the good workmanlike standard practiced in the electric and communications industry, and creates a safety hazard for persons working on the pole.

GEMC Ex. 118 (Panel-64) is a picture of Walton EMC's system and was taken on September 21, 2020. The cable attachment in this photograph is attached to Walton EMC pole # 111174p010, which is located at 1068 Pleasant Valley Road. The communications attachment at issue belongs to Windstream. Despite the fact that Walton EMC replaced its pole at this location, Windstream still has not transferred its attachment. As a result, there are redundant poles at this location.

GEMC Ex. 119 (Panel-65) is a picture of Tri-County EMC's system and was taken on September 24, 2020. The cable attachment in this photograph is attached to Tri-County EMC pole # 5L-6-2, which is located at 157 Crooked Creek Road, Eatonton Georgia. The communications attachment at issue belongs to Charter. Here, when Charter attached to Tri-County EMC's pole it drilled through the secondary riser shield. This is improper under the good workmanlike standards practiced in this industry. Moreover, it creates a risk of electrical shock to the communications worker, who could not have known where exactly Tri-County EMC's secondary conductors were under the riser shield.

A. By Mr. Brown: I will describe **GEMC Ex. 120 (Panel-66)**, **GEMC Ex. 121 (Panel-67)**, **GEMC Ex. 122 (Panel-68)**, and **GEMC Ex. 123 (Panel-69)**, which are photographs that I personally took and are true and accurate representations of the scene depicted.

GEMC Ex. 120 (Panel-66) is a picture of Hart EMC's system and was taken on September 16, 2020. The Hart EMC pole captured in this picture is located on Ernest Oliver Road. The cable attachment at issue belongs to Hart CATV. Here, Hart EMC has replaced one of its poles; however, Hart CATV has not transferred its attachments. As a result, there are redundant poles at this location.

GEMC Ex. 121 (Panel-67) is another picture of Hart EMC's system and was taken on September 16, 2020. The Hart EMC pole shown in this picture is located on Capri Drive. The cables at issue belong to Hart CATV, Hart Telephone, and Comcast and should be attached to the Hart EMC pole shown in the picture. However, the cables owned by Hart CATV, Hart Telephone, and Comcast are not attached to the Hart EMC pole; instead, they

are running right in front of the pole. This violates NESC Rule 234-B and creates a safety hazard for persons doing work on the pole.

GEMC Ex. 122 (Panel-68) is a picture of Habersham EMC's system and was taken on September 21, 2020. The Habersham EMC pole shown in this picture is located on Duncan Bridge Road. The attachment at issue belongs to Windstream. Here, Windstream attached by overlashing. However, Windstream's attachment was done poorly and, thus, has resulted in parts of the cable hanging down into the grounds of a church cemetery. This violates both the good workmanlike standards practiced in this industry and NESC Rule 239A, which requires cable attachments to be securely attached to the surface of the utility pole. This also creates numerous safety hazards that NESC Rule 239A is designed to prevent, including climbing hazards, entanglement hazards, and tripping hazards.

GEMC Ex. 123 (Panel-69) is a picture of Jefferson EMC's system and was taken on September 22, 2020 at 7421 Lakeside Drive. The communications attachment at issue belongs to Comcast. Comcast's cable, which is spanning between two Jefferson EMC poles, has been tacked to a tree. This violates the good workmanlike standards practiced in the electric and communications industry.

A. By Mr. Arant: I will be describing **GEMC Ex. 124 (Panel-70)** and **GEMC Ex. 125 (Panel-71)**, which are photographs that I personally took and are true and accurate representations of the scene depicted.

GEMC Ex. 124 (Panel-70) is a picture of Carroll EMC's system and was taken on September 24, 2020. The Carroll EMC pole shown in this picture is located on Jonesville Road, Bowdon, Georgia. The attachment at issue belongs to Comcast. Here, Comcast

attached to Carroll EMC's pole through unpermitted overlashing. Comcast's attachment continues for 35-40 spans. Comcast's conduct is improper and violates the good workmanlike standards practiced in this industry. Moreover, Comcast's unpermitted overlashing could overload the pole, resulting in complete pole failure or damage to the pole.

GEMC Ex. 125 (Panel-71) contains two pictures of Greystone Power's system that were taken on September 24, 2020. The Greystone Power poles shown in these pictures are located at the intersection of Post Road and the 1-20 West on ramp in Winston, Georgia. The attachment at issue belongs to Comcast. Here, Comcast has abandoned an inactive coax cable and left it hanging. Even though the cable is inactive, Comcast's conduct violates NESC 214-B and has created an entanglement hazard.

Q. Are the photographs each of you just described the only other violations you found on the EMC systems you visited?

A. By the Panel: No. Additional pictures showing, among other things, cable and telephone attachments that violate other attachment requirements on the systems of the Georgia EMCs visited by a member of this panel are attached to this testimony.

Additional photographs showing other communications attachment violations on the systems of the Georgia EMCs visited by Mr. Smith are contained in **GEMC Ex. 127 (Panel-73)**. The photographs contained in **GEMC Ex. 127 (Panel-73)** are photographs that Mr. Smith personally took and are true and accurate representations of the scene depicted. Additional photographs showing other communications attachment violations on the systems of the Georgia EMCs visited by Mr. Diamond are contained in **GEMC Ex.**

128 (Panel-74). The photographs contained in **GEMC Ex. 128 (Panel-74)** are photographs that Mr. Diamond personally took and are true and accurate representations of the scene depicted. Additional photographs showing other communications attachment violations on the systems of the Georgia EMCs visited by Mr. Brown are contained in **GEMC Ex. 129 (Panel-75)**. The photographs contained in **GEMC Ex. 129 (Panel-75)** are photographs that Mr. Brown personally took and are true and accurate representations of the scene depicted. Additional photographs showing other communications attachment violations on the systems of the Georgia EMCs visited by Mr. Arant are contained **in GEMC Ex. 130 (Panel-76)**. The photographs contained in **GEMC Ex. 130 (Panel-76)** are photographs that Mr. Arant personally took and are true and accurate representations of the scene depicted.

In an effort to aid the Commission, each panel member has provided the following information for each photograph contained in their exhibit: the image name, the name of the photographer, the date the picture was taken, the location where the picture was taken, the name of the attaching party, and the violation type. A brief description of the specific violation occurring in each photograph is also provided. This information is located in the first pages of each of the exhibits identified above.

Q. Do attachments that violate these other rules and standards impose burdens and costs on Georgia EMCs that would not otherwise exist?

A. By the Panel: Yes.

Safety Issues: Safety issues are created when communications attachers abandon their attachments, leave their wires dangling, create boxed-in poles, and fail to participate

in vegetation management. Specifically, abandoned communications attachments and dangling communications wires represent an ongoing hazard to EMC personnel, especially if the cables become energized. EMC workers, including lineman and EMC right-of-way crews, can also trip, fall, become entangled, or make unexpected contact with an abandoned or dangling communications wire. In addition, an EMC lineman cannot safely climb a pole that is boxed-in by communications attachments or has communications wires dangling from various places on the pole. These practices also create a safety hazard for the general public, who may slip, trip, fall, become entangled in, or make unintentional contact with a communications cable that is abandoned, dangling, or hidden under overgrown vegetation.

Reliability Issues: The frequency and duration of power outages increases when communications attachers abandon their attachments, fail to participate in vegetation management, fail to maintain their cables, create boxed-in poles, and leave their cables dangling from EMC poles. Abandoned attachments and dangling cables can also lead to outages through unintentional contact between the communications facilities and the power conductors. Boxed-in poles and dangling cables also hinder the ability of EMC line workers to safely climb EMC poles when an outage occurs.

Increased Costs: Reports from the public or law enforcement regarding downed lines and hanging cables must be investigated. When violations have gone uncorrected for a significant period of time, the electric utility may have to make multiple visits to the site to verify that the problem is not a power conductor. All the costs associated with such activities are borne by the EMC. Where communications attachments create a boxed-in pole, Georgia EMCs incur increased costs replacing the pole because it takes longer to set

and transfer power system attachments and, in addition, may require the EMC to straighten the replacement pole, which had to be installed leaning to one side to clear the boxed communications cables, after the transfers are complete.

VII. IMPACT TO GEORGIA EMCS

Q. As a panel you have presented evidence showing that cable and telephone attachers are violating various pole attachment rules, including rules established by the NESC, at the nineteen (19) Georgia EMCs visited by a member of this panel. Have you also reviewed photographs showing similar pole attachment violations at other Georgia EMCs?

A. By the Panel: Yes. The pictures described in this testimony are representative of systemic practices by cable and telephone companies throughout Georgia EMCs' systems. Put differently, telephone and cable attachers are violating these same pole attachment rules on the systems of the other Georgia EMCs that were not visited by any member of this panel.

GEMC Ex. 126 (Panel-73) contains pictures and authenticating affidavits that were submitted by other Georgia EMCs not visited by any member of this panel. Like the pictures described throughout this testimony, the pictures in **GEMC Ex. 126 (Panel-73)** show cable and telephone attachments that violate various pole attachment rules, including the rules established by the NESC.

Q. Please describe the effect that any of these bad pole attachment practices by cable and telephone attachers have had on your EMC.

A. By Mr. Smith: By way of example, in October 2007, Sumter EMC discovered that an existing cable system in Cusseta, Georgia had been sold by Charter to Georgia Broadband.

The cable system was found to be violating many NESC rules and presented potential hazards to electrical line workers, communications line workers, and the public. After purchasing the system, Georgia Broadband turned off service on the system. For several months Sumter EMC tried to contact Georgia Broadband to negotiate a new license agreement. However, after Sumter EMC's many attempts failed, Sumter EMC removed the facilities to protect the public safety and to protect the safety, integrity and reliability of Sumter EMC's electrical distribution system. It cost Sumter EMC $58,176.82 to have a qualified electrical contractor remove the abandoned attachments, including associated guy-wires and anchors, on approximately 855 Sumter EMC poles. In addition, Sumter EMC was owed $16,741.01 in unpaid pole attachment rentals for 2007 and $13,184.10 in unpaid pole attachment rentals for part of 2008. In total, Sumter EMC incurred costs totaling $88,124.93 for the period 2007-2009. Charter eventually paid Sumter EMC $45,000 as reimbursement for a portion of the costs Sumter EMC incurred. However, Sumter EMC never recovered the remaining $43,124.92 and this amount does not include additional legal and administrative expenses also incurred by Sumter EMC as a result of this incident.

In addition to the costs associated with the above-described abandoned cable system, Sumter EMC has experienced significant power outages during the more than three decades I have been employed by Sumter EMC. As an example, Sumter EMC has had extended power outages affecting the City of Cusseta because telephone company cables did not have sufficient height over a U.S. highway. In two instances, a pole carrying our three-phase 25kV power line was broken after a truck caught the telephone cable. The root

cause of these two failures was inadequate guying and anchoring by the telephone company.

From my early years as a beginning engineer working nights with lineman making repairs, through the next 30 years of my career as a manager and lead engineer, I have observed on Sumter EMC's system as well as the systems of other Georgia EMCs the increased maintenance and repair costs, the safety hazards and the reliability issues created by telephone and cable attachments on EMC owned poles.

A. By Mr. Diamond: Bad pole attachment practices by cable and telephone companies have had significant effects on Flint EMC's system. Flint EMC has experienced power outages that last several hours at a time. Flint EMC line workers have been in situations where they cannot safely climb a Flint EMC pole because communications attachments have not been placed properly. In addition, Flint EMC has incurred many costs associated with improper attachments made by cable and telephone companies on Flint EMC poles. The bottom line is that throughout my 37 years working with electric cooperatives, I continuously see cable and telephone companies violating the rules we described above. And these practices have and will continue to disrupt the reliability and integrity of Flint EMC's system.

A. By Mr. Brown: Several years ago, Hart EMC began placing new poles along an interstate in order to provide better reliability for its member-owners. However, the communications attachers, who had attachments on the old Hart EMC poles, refused to transfer their attachments. The communications attachers refused to transfer for so long that Hart EMC ended up having to cede ownership of its old poles to the communications attachers. After ceding ownership, a fire occurred under the communications cables of one of Hart EMC's

old poles. Despite this, the communications attachers still would not remove their attachments. In fact, following the fire, the communications attachers began attaching to Hart EMC's new poles without first removing their old attachments. This is just one of the many examples where cable and telephone company attachments have disrupted the reliability and integrity of Hart EMC's system and caused Hart EMC to incur additional costs.

A. By Mr. Arant: In 2016, a deactivated Charter cable that was attached to a Central Georgia EMC pole located along the side of Bill Gardner Parkway in Locust Grove, Georgia fell to the ground. Charter did not subsequently remove its attachment from the Central Georgia EMC pole. Rather, Charter knowingly left the deactivated line attached and laying on the side of Bill Gardner Parkway. Charter's cable facilities remained on the side of Bill Gardner Parkway for so long that the cables became completely covered by grass. When a right-of-way mowing crew later passed through the area, the Charter cable, which was still attached to the Central Georgia EMC pole, got entangled in the mower. The mower flung the cable into Central Georgia EMC's distribution conductor. This caused a large power outage that effected 546 of Central Georgia EMC's member-owners. It also put the individual that was operating the mowing equipment at risk of sustaining a serious injury. What is by far most concerning, however, is that when Charter was notified about what happened they admitted to knowing and not having removed the downed cable. It goes without saying, that such conduct is unacceptable and violates the many standards that govern the electric and communications industry.

Q. Why do you believe cable and telephone attachers commit so many violations when they install pole attachments on Georgia EMC poles?

A. By the Panel: It is our opinion that cable and telephone company employees and contractors are not trained on how to properly attach to electrical utility poles. In fact, in most instances telephone and cable attachers do not know the NESC requirements and thus do not know how to install attachments that comply with NESC's requirements. Telephone and cable companies are also not investing the time or the money to train their attachers. As a result, these companies are compromising the safety, reliability, and integrity of the electrical distribution systems owned by the Georgia EMCs.

VIII. CONCLUSION

Q. Does this conclude your testimony?

A. By the Panel: Yes.