

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**APPLICATION OF KENTUCKY UTILITIES )  
COMPANY FOR AN ADJUSTMENT OF ITS ) CASE NO.  
ELECTRIC RATES AND FOR CERTIFICATES ) 2016-00370  
OF PUBLIC CONVENIENCE AND NECESSITY )**

**and**

**In the Matter of:**

**APPLICATION OF LOUISVILLE GAS AND )  
ELECTRIC COMPANY FOR AN ADJUSTMENT ) CASE NO.  
OF ITS ELECTRIC RATES AND FOR ) 2016-00371  
CERTIFICATES OF PUBLIC CONVENIENCE )  
AND NECESSITY )**

**DIRECT TESTIMONY AND EXHIBITS OF KEVIN EARLY  
ON BEHALF OF AT&T**

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**TESTIMONY OF KEVIN EARLY  
ON BEHALF OF AT&T**

**I. WITNESS INTRODUCTION AND QUALIFICATIONS**

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

A. My name is Kevin Early. My business address is 1876 Data Drive, Hoover, AL 35244.

**Q. BY WHOM ARE YOU EMPLOYED, AND WHAT IS YOUR JOB TITLE?**

A. I am employed by AT&T Services, Inc. as Professional – Technical Project Management Construction and Engineering – Southeast Region. AT&T Services, Inc. is an entity that provides support services for various AT&T entities, including AT&T Kentucky (an ILEC) and AT&T Mobility (a wireless services provider).

**Q. WHAT ARE YOUR RESPONSIBILITIES IN THAT POSITION?**

A. I manage the construction and integration of all outdoor small cell deployments for the 9-state Southeast Region for AT&T, including Kentucky.

**Q. PLEASE BRIEFLY DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

A. I have been employed by AT&T for 18 years, working in Network Operations and Construction and Engineering. Over the past 12 years, I have managed Outside Plant Construction Crews (both landline and wireless) and Wireless Construction.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. I will address various aspects of AT&T's<sup>1</sup> small cell architecture, which AT&T is in the process of deploying throughout the country. Small cell architecture requires AT&T to install attachments to poles like the ones addressed in the tariffs proposed by Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LG&E). My

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<sup>1</sup> I am testifying on behalf of AT&T and its affiliated entities, including AT&T Mobility, formally known as New Cingular Wireless, PCS, LLC d/b/a AT&T Mobility, PCS.

1 testimony supports and complements the testimony of AT&T witness Daniel Rhinehart,  
2 who addresses costs and pricing issues regarding KU's and LG&E's proposed tariffs for  
3 pole attachments and structure access (PSA Tariff). I also address proposed tariff terms  
4 for service drops.

## 5 **II. DESCRIPTION OF SMALL CELL DEPLOYMENTS**

6 **Q. PLEASE GENERALLY DESCRIBE WHAT YOU MEAN BY "SMALL CELL**  
7 **ARCHITECTURE."**

8  
9 A. Small cell deployments, which as the name suggests are typically smaller than the  
10 wireless equipment on full, or "macro," cell towers, are used to fill gaps in wireless  
11 coverage, especially in areas with large amounts of wireless traffic and limited capacity  
12 to handle the traffic. They are complementary to cell towers and add needed wireless  
13 coverage for urban and suburban areas. As the Federal Communications Commission  
14 has noted, "[w]ireless service providers often use small cells to provide connectivity to  
15 their subscribers in areas that present capacity and coverage challenges for traditional  
16 wide-area macrocell networks, such as coverage gaps created by buildings, tower-siting  
17 difficulties, or challenging terrain."<sup>2</sup>

18 **Q. PLEASE GIVE THE COMMISSION AN IDEA OF THE EQUIPMENT THAT**  
19 **TYPICALLY IS DEPLOYED FOR A SMALL CELL.**

20  
21 A. At a general level, a small cell deployment consists of an antenna at the top or middle of  
22 a utility pole (or streetlight), a cabinet in the middle of the pole that holds equipment to  
23 process signals, and optical fiber that connects to other nodes and carries data to and from

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<sup>2</sup> Notice of Proposed Rulemaking, *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, WT Docket No. 13-238, 11-59, and 133-32, FCC 14-153, 2014 WL 5374631, at ¶ 30 (rel. Oct. 21, 2014).

1 communications hubs operated by wireless carriers. The attached diagram (Ex. KE-1)  
2 illustrates a typical small cell deployment.

3 **Q. WHERE ON A POLE DOES AT&T PROPOSE TO PLACE ITS SMALL CELL**  
4 **ANTENNA?**

5  
6 A. AT&T can place the antenna for a small cell deployment either on top of a pole or in the  
7 middle of a pole. AT&T's preference for placement in any given instance will depend on  
8 the specific circumstances and needs of the geographic area to be served. While AT&T  
9 generally prefers top-of-pole placements for small cells, there are instances where mid-  
10 pole placement would be better for purposes of coverage and reliability.

11 **III. USE OF CONDUIT IN SMALL CELL DEPLOYMENTS**

12 **Q. IS CONDUIT (RISER) INSTALLED ON A POLE AS PART OF A SMALL CELL**  
13 **DEPLOYMENT?**

14  
15 A. Yes. Conduit (riser) provides a protected pathway for the facilities required to  
16 interconnect the antenna and its supporting equipment. Conduit is necessary regardless  
17 of whether the supporting equipment cabinet is attached to the pole. The diagrams in  
18 Exhibit KE-1 illustrate the location of conduit (riser) on a pole in small cell deployment  
19 made either at the top of a pole or in the middle of a pole.

20 **Q. DOES THIS CONDUIT (RISER) BLOCK SPACE SO AS TO PREVENT OTHER**  
21 **ENTITIES FROM ATTACHING EQUIPMENT TO THE SECTION OF THE**  
22 **POLE WHERE THE CONDUIT (RISER) RUNS?**

23  
24 A. No. AT&T conforms to industry standards, notably the National Electrical Safety Code  
25 (NESC), for designing and constructing its pole attachments. The NESC clearly states in  
26 rule 236H that, "Vertical runs physically protected by suitable conduit or other protective  
27 covering and securely attached without spacers to the surface of the line structure are not  
28 considered to obstruct the climbing space." Additionally, when installing conduit,  
29 AT&T's workforce avoids the face of the pole where other facilities are attached. This

1 ensures that other parties can install attachments on the pole with no interference from the  
2 conduit (riser). As KU and LG&E stated in response to AT&T supplemental data request  
3 2(c), “Conduit attached in the usable space on a pole will not prevent the attachment of  
4 additional wireline cables (electric or communications).” Exhibit KE-2. I have provided  
5 a diagram including a conduit in a small cell deployment in Exhibit KE-1.

6 **IV. SAFETY SPACE IN SMALL CELL DEPLOYMENTS**

7 **Q. ARE THERE ANY UNIQUE CONSIDERATIONS WITH INSTALLING A POLE-  
8 TOP ANTENNA IN A SMALL CELL DEPLOYMENT?**

9  
10 A. Yes. An additional safety space is required, because the antenna is placed above the  
11 electric company’s wires. Typically, this safety space is 40-48 inches between the  
12 highest electric company wires and the small cell deployment. This is similar to the  
13 safety zone that separates wireline communications attachments and electric company  
14 wires. Per the NESC, the communications worker safety zone is 40 inches and is located  
15 above the space for communications attachments and below the lowest electric company  
16 wires.

17 **Q. IF AN ADDITIONAL 40-48 INCHES OF HEIGHT IS NOT AVAILABLE ABOVE  
18 AN EXISTING POLE, IS THERE ANY WAY TO MOUNT A POLE-TOP  
19 ANTENNA TO THAT POLE?**

20  
21 A. Yes, there are two alternatives. First, in some circumstances a pole extension may be  
22 attached to the top of the existing pole, assuming that pole loading and engineering  
23 analysis allow it. Second, a new taller pole may be installed to replace the existing  
24 shorter pole.

25 **V. SERVICE DROP PROVISIONS IN THE PROPOSED PSA TARIFF**

26 **Q. THE PROPOSED PSA TARIFF TREATS SERVICE DROPS AS  
27 “ATTACHMENTS” FOR BILLING AND PERMITTING PURPOSES IN SOME  
28 CIRCUMSTANCES. PSA TARIFF, SECTION 7(i). WHAT IS A SERVICE  
29 DROP?**

1  
2 A. Original Sheet 40.2 of the PSA Tariff defines a “Service Drop” as “a Cable, attached to a  
3 pole with a J-hook or other similar hardware that connects the trunks line to an  
4 Attachment Customer’s premises.”

5 **Q. IS THAT AN ACCURATE DEFINITION?**

6 A. Not entirely. A service drop runs to an end-user’s premises, not an “Attachment  
7 Customer’s premises.” This language should be corrected.

8 **Q. PLEASE DESCRIBE THE SIZE OF A TYPICAL SERVICE DROP.**

9 A. Exhibit KE-3 contains photographs of a typical service drop. A service drop is a wire  
10 attached to a hook on a pole, and the wire connect to an end-user’s premises. The wire is  
11 no thicker or heavier than a typical extension cord like you would use the power tools.

12 **Q. DOES AT&T KENTUCKY PROPOSE ANY OTHER CHANGES TO THE PSA  
13 TARIFF LANGUAGE ON SERVICE DROPS?**

14  
15 A. Yes. Section 7(i) states that “[a] Service Drop may be affixed and installed on a  
16 Distribution Pole without making *written application* if (1) it is affixed within six (6)  
17 inches of Attachment Customer’s existing Attachment, (2) it conforms to all Company  
18 standards and all federal, state and local government laws, rules, regulations, ordinances,  
19 or other lawful directives applicable to construction and installation of Attachments, and  
20 (3) *written notice* of each such Service Drop is provided to Company in the month  
21 following the month of its installation.” (Emphasis added). AT&T objects to any  
22 application or notice requirement for service drops.

23 **Q. HAS SUCH A REQUIREMENT BEEN INCLUDED IN THE KU AND LG&E  
24 CONTRACTS IN THE PAST?**  
25

1 A. No, and in my experience, AT&T has not been required to submit pre-installation  
2 applications for or provide after-the-fact notice of service drops in Kentucky or  
3 elsewhere.

4 **Q. WHY SHOULD THESE NOTICE PROVISIONS BE REJECTED?**

5 A. Any new requirement to submit applications for service drops would interfere with  
6 AT&T's ability to promptly serve its end-user customers. AT&T's end-user customers,  
7 particularly its residential customers, expect telephone and other communications  
8 services to be provisioned as quickly as possible – certainly long before the time it would  
9 take AT&T or other service providers to submit an application and wait for “permission”  
10 from KU or LG&E to attach a small service drop to a pole to serve a customer.

11 **Q. DO SERVICE DROPS APPRECIABLY IMPACT LOAD ON A POLE?**

12 A. No. As I explained above, service drops are lightweight wires that connect AT&T's  
13 distribution network to an individual end-user. The service drop does not appreciably  
14 impact pole loading and does not encumber other communications companies from being  
15 able to make attachments to the pole to which the service drop is affixed. There is simply  
16 no reason to alter the decades-long practice of attaching service drops without requiring  
17 an application.

18 **Q. DOES AT&T HAVE SYSTEMS IN PLACE TO ACCOMMODATE**  
19 **APPLICATIONS FOR SERVICE DROP ATTACHMENTS (OR POST-**  
20 **ATTACHMENT INVENTORY)?**

21 A. No. As noted above, AT&T has not previously been required to apply for or provide  
22 written notice of each service drop it attaches to a pole, and therefore has not developed a  
23 system for such reporting of the attachment of these service drops to any entity's poles.  
24 To change the longstanding status quo and require applications or notice would require  
25



1 AT&T to establish a new procedure, just for KU and LG&E. Providing such reports  
2 would be administratively burdensome and is unnecessary. As noted above, service  
3 drops do not affect the load on the pole, do not restrict others from attaching to the pole  
4 and do not affect the pole owner's network. Therefore, a new requirement to apply for or  
5 provide notice of the attachment of service drops to poles would not serve any legitimate  
6 purpose in terms of pole management. Accordingly, the Commission should not approve  
7 any such provisions in the PSA Tariff language proposed by KU and LG&E.

8 **Q. DOES THE FCC REQUIRE APPLICATIONS OR NOTICE FOR SERVICE**  
9 **DROP ATTACHMENTS?**

10  
11 A. Not to my knowledge.

12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

13  
14 A. Yes.

# **AT&T EXHIBIT**

**KE-1**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>APPLICATION OF LOUISVILLE GAS AND</b>	)	
<b>ELECTRIC COMPANY FOR AN ADJUSTMENT</b>	)	<b>CASE NO.</b>
<b>OF ITS ELECTRIC AND GAS RATES AND FOR</b>	)	<b>2016-00371</b>
<b>CERTIFICATES OF PUBLIC CONVENIENCE</b>	)	
<b>AND NECESSITY</b>	)	

**RESPONSE OF**  
**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**TO**  
**KENTUCKY CABLE TELECOMMUNICATIONS ASSOCIATION'S**  
**FIRST REQUESTS FOR INFORMATION**  
**DATED JANUARY 11, 2017**

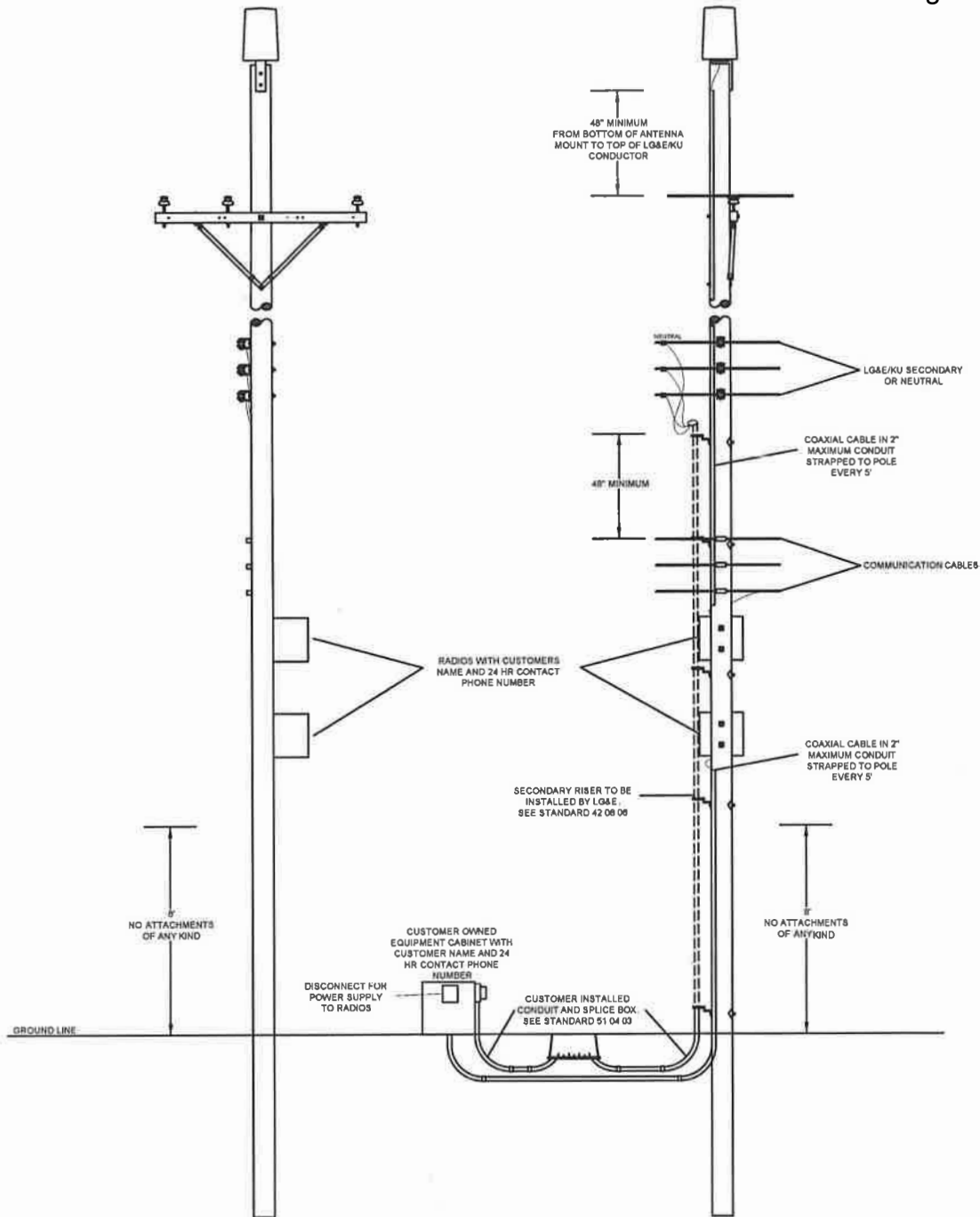
**FILED: JANUARY 25, 2017**

WIRELESS ANTENNA ATTACHMENTS ON WOOD POLES

3Ø POLE WITH ANTENNA ABOVE PRIMARY

AT&T Exhibit KE-1

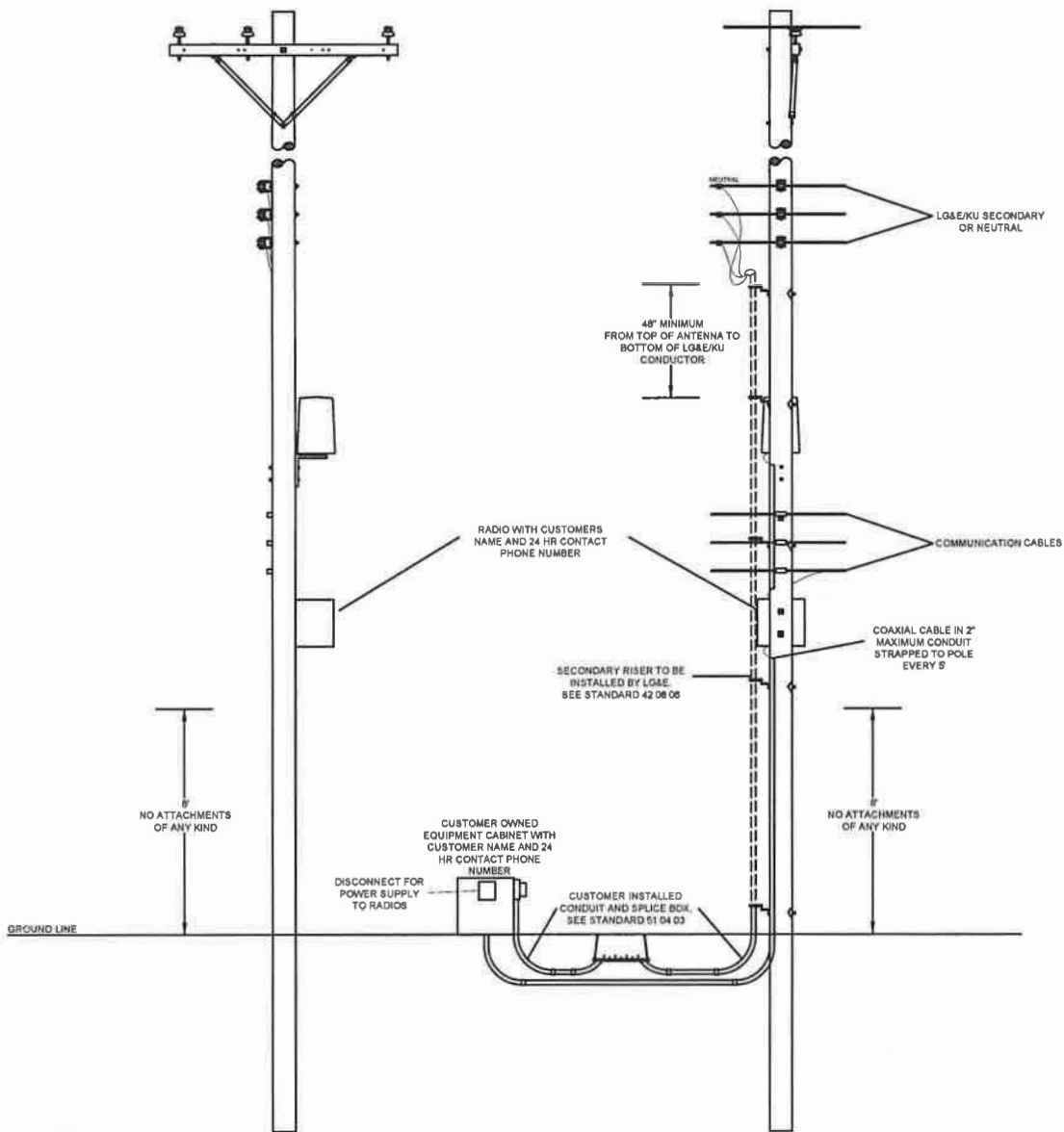
Page 2 of 3



3Ø POLE WITH ANTENNA BELOW SECONDARY

AT&T Exhibit KE-1

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# **AT&T EXHIBIT**

**KE-2**

## Response to Question No. 2

Page 1 of 2

Wolfe

## LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2016-00371

Response to Supplemental Request for Information of AT&T  
Dated February 7, 2017

## Question No. 2

Responding Witness: John K. Wolfe

- Q-2. Please refer to LG&E's Response to KTCA's Request for Information No. 1-10 (providing, in part, "The Wireless Facility owner will have conduit running through the initial presumed 13.17 feet of usable space on the pole, which it shares with LG&E.").
- a. Does LG&E charge for "conduit" in usable space in these situations?
  - b. Does LG&E charge for "conduit" in unusable space in these situations?
  - c. To the extent your answer to S2.a or S2.b is anything other than an unequivocal "no," please:
    - i. State whether the referenced conduit prevents other attachers from using that space.
    - ii. Describe in detail your rationale for charging for conduit.
    - iii. State the amount you propose to charge for conduit and identify all documents, including without limitation workpapers, photographs, and schematics, that support this amount.
- A-2.
- a. Yes.
  - b. No.
  - c. i. Conduit attached in the usable space on a pole will not prevent the attachment of additional wireline cables (electric or communications). However, the conduit may prevent LG&E from installing transformers, risers, vertical supply conductors to aerial services, switch handles, capacitor banks or similar fixtures. A Wireless Facility attachment also prevents additional Wireless Facility attachments as only one such attachment is permitted on a LG&E pole.
  - ii. The Wireless Facility owner will have conduit running through the initial presumed 13.17 feet of usable space on the pole, *which it may share with LG&E or other communications cable attachers*. In fact, on many poles, the Wireless Facility owner's conduit may be attached to sections of usable space not otherwise occupied by LG&E or another communications attachers.

**Response to Question No. 2****Page 2 of 2****Wolfe**

Conduit located in the usable space on the pole may prevent the installation of additional electrical equipment as described above. It is for this reason that, as shown by page 27 of LG&E's construction standards produced in response to KCTA 1-16, that LG&E does not permit Wireless Facility attachments to wooden poles supporting transformers, risers, vertical supply conductors to aerial services, switch handles, capacitor banks or similar fixtures. Wireless Facility attachments pose additional safety and reliability concerns to LG&E: antennas could fall into electric lines, qualified personnel must maintain antennas attached above electric facilities, and antennas emit radiofrequency radiation that pose additional risks to all utility workers. Additional conduit may also serve to slow LG&E's maintenance and restoration of its facilities. A Wireless Facility attachment has a far different composition than a simple wireline attachment. Wireless Facilities are not simply antennas. Conduit housing electric and communications lines are needed to serve the Wireless Facility and radio units accompany the antennas. LG&E does not propose to charge for the two conduits and two potential radio units attached in the unusable space of the pole.

- iii. LG&E proposes to charge one-half of 13.17 feet of usable space (13.17 feet of usable space as set forth by the KPSC's Order of September 17, 1982 in Administrative Case No. 251) multiplied by the proposed wireline pole attachment rate (which is based on the wireline attachment using a presumed one foot of pole space as set forth in the KPSC's Order of September 17, 1982 in Administrative Case No. 251).



Response to Question No. 2

Page 1 of 2

Wolfe

**KENTUCKY UTILITIES COMPANY**

CASE NO. 2016-00370

Response to Supplemental Request for Information of AT&amp;T

Dated February 7, 2017

**Question No. 2****Responding Witness: John K. Wolfe**

- Q-2. Please refer to KU's Response to KTCA's Request for Information No. 1-10 (providing, in part, "The Wireless Facility owner will have conduit running through the initial presumed 13.17 feet of usable space on the pole, which it shares with KU.").
- a. Does KU charge for "conduit" in usable space in these situations?
  - b. Does KU charge for "conduit" in unusable space in these situations?
  - c. To the extent your answer to S2.a or S2.b is anything other than an unequivocal "no," please:
    - i. State whether the referenced conduit prevents other attachers from using that space.
    - ii. Describe in detail your rationale for charging for conduit.
    - iii. State the amount you propose to charge for conduit and identify all documents, including without limitation workpapers, photographs, and schematics, that support this amount.
- A-2.
- a. Yes.
  - b. No.
  - c. i. Conduit attached in the usable space on a pole will not prevent the attachment of additional wireline cables (electric or communications). However, the conduit may prevent KU from installing transformers, risers, vertical supply conductors to aerial services, switch handles, capacitor banks or similar fixtures. A Wireless Facility attachment also prevents additional Wireless Facility attachments as only one such attachment is permitted on a KU pole.
  - ii. The Wireless Facility owner will have conduit running through the initial presumed 13.17 feet of usable space on the pole, *which it may share with KU or other communications cable attachers*. In fact, on many poles, the Wireless Facility owner's conduit may be attached to sections of usable space not otherwise occupied by KU or another communications attachers. Conduit

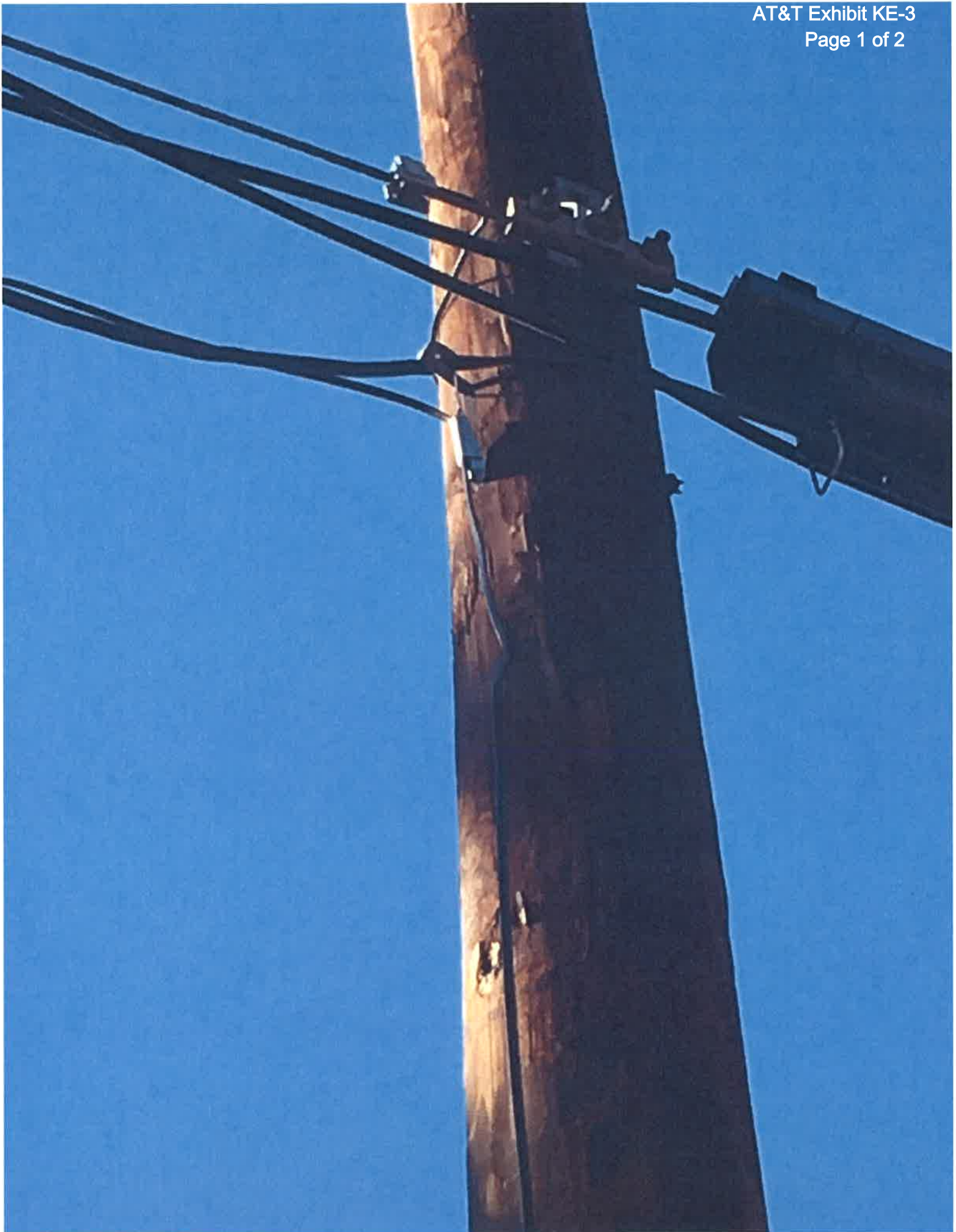
**Response to Question No. 2****Page 2 of 2****Wolfe**

located in the usable space on the pole may prevent the installation of additional electrical equipment as described above. It is for this reason that, as shown by page 27 of KU's construction standards produced in response to KCTA 1-16, that KU does not permit Wireless Facility attachments to wooden poles supporting transformers, risers, vertical supply conductors to aerial services, switch handles, capacitor banks or similar fixtures. Wireless Facility attachments pose additional safety and reliability concerns to KU: antennas could fall into electric lines, qualified personnel must maintain antennas attached above electric facilities, and antennas emit radiofrequency radiation that pose additional risks to all utility workers. Additional conduit may also serve to slow KU's maintenance and restoration of its facilities. A Wireless Facility attachment has a far different composition than a simple wireline attachment. Wireless Facilities are not simply antennas. Conduit housing electric and communications lines are needed to serve the Wireless Facility and radio units accompany the antennas. KU does not propose to charge for the two conduits and two potential radio units attached in the unusable space of the pole.

- iii. KU proposes to charge one-half of 13.17 feet of usable space (13.17 feet of usable space as set forth by the KPSC's Order of September 17, 1982 in Administrative Case No. 251) multiplied by the proposed wireline pole attachment rate (which is based on the wireline attachment using a presumed one foot of pole space as set forth in the KPSC's Order of September 17, 1982 in Administrative Case No. 251).

# **AT&T EXHIBIT**

**KE-3**





COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

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ELECTRIC RATES AND FOR CERTIFICATES ) 2016-00370  
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CERTIFICATES OF PUBLIC CONVENIENCE )  
AND NECESSITY )

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VERIFICATION OF KEVIN EARLY

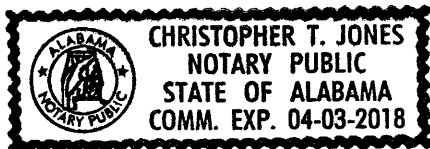
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STATE OF ALABAMA )  
 )  
COUNTY OF JEFFERSON )

Kevin Early, being duly sworn, states that he has read the foregoing prepared testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

*Kevin Early*  
Kevin Early  
ALDL 4530397  
EXP 7-15-19

The foregoing Verification was signed, acknowledged and sworn to before me this 02<sup>nd</sup> day of March, 2017, by Kevin Early.



*Christopher T. Jones*  
NOTARY PUBLIC, Notary #  
Commission expiration: 04-03-2018