



at&t

Wire Center Trial Operating Plan

February 27, 2014

Section 1: Introduction and Overview

In this document, AT&T has laid out a detailed plan for conducting TDM to all-IP trials in two wire centers. The plan identifies the geographic areas in which AT&T will conduct the trials, the specific TDM-based services that ultimately will be discontinued, the alternative wireless and wireline IP-based alternatives that AT&T will offer, the dates by which AT&T intends to seek Commission approval to grandfather and later sunset such services, and other competitive alternatives available to customers in the test-bed wire centers. It also details AT&T's plans for notifying customers about the transition and informing them of the available service alternatives, and identifies special considerations, such as how AT&T proposes to address public safety, access by persons with disabilities, and other important issues.

As set forth herein, AT&T initially will seek to encourage to the greatest extent possible a voluntary migration of its existing customers for wireline TDM services through customer outreach and education. Subsequently, AT&T plans to seek Commission approval to grandfather existing customers and offer only next generation wireless and wireline IP-based services for new orders. Ultimately, AT&T will seek approval to upgrade existing customers to such alternatives after the Commission has evaluated the results of the first phase of the trials. The dates on which AT&T plans to seek approval to grandfather existing customers, and later to sunset existing wireline TDM-based services, will vary depending on the services at issue and the availability of IP-based alternatives.

In addition to providing detailed information regarding AT&T's plan for conducting the proposed trials, this document explains how AT&T will preserve and protect the enduring principles and values articulated by the Commission in its order authorizing the trials.¹ Those values should continue to apply across all platforms and providers as we complete the transition to all-IP networks and services.

AT&T is eager to receive input on its proposed trial plan from the Commission and other interested parties. We look forward to working with all stakeholders to resolve any issues that may arise.

Section 2: Statement of Purpose & Scope

The trials proposed herein have several important objectives. First, the trials are designed to provide a process and forum for identifying and resolving the operational, technical, logistic, and other issues (both known and unforeseen) that could arise when existing TDM-based networks and services are discontinued and the customers remaining on those networks have to transition to next-generation wireless and wireline IP-based alternatives. Identifying and resolving these issues in the context of a limited trial while the TDM network still is in place is

¹ *Technology Transitions, et al.*, GN Docket No. 13-5, *et al.*, Order, Report and Order and Further Notice of Proposed Rulemaking, FCC 14-5 at ¶ 23 (rel. Jan. 31, 2014) (*Technology Transition Trials Order*).

critical to ensure that the transition is orderly. Second, the trials are intended to help AT&T (working with policymakers, consumers and other stakeholders) further develop and implement processes for migrating customers (including residential, small and large business, wholesale, and governmental customers) off of traditional TDM services and onto all IP platforms in an efficient manner, with as little disruption as possible. And third, the trials seek to ensure that customers, manufacturers, policymakers, and other stakeholders have sufficient notice regarding any issues raised by the impending transition so that they also have the opportunity to prepare for the time when TDM networks and services no longer are available.

Consistent with these objectives, the trials seek to replicate on a small scale the broader TDM sunset and migration to all-IP networks and services. Although many of the issues posed by the transition are common to all customers, each customer segment (residential, small and large business, government, wholesale) has its own, unique needs and challenges. Consequently, what works well for one segment may not be the best for another. The trials proposed herein thus seek a complete migration of all customers (or as many as possible) to IP-based services in two wire centers. Excluding particular customer segments and/or services (such as dedicated or wholesale services) from the trial will deprive the Commission, consumers, industry and others of important real-world experience needed to prepare for the IP transition.

This application proposes to conduct the trials in a rural wire center in Carbon Hill, AL, and in Kings Point, a suburban wire center in Palm Beach County, FL.² AT&T chose these wire centers with an eye towards gaining insights into some of the more difficult issues that likely will be presented by the TDM sunset. For example, Carbon Hill is a sparsely populated wire center located in rural Alabama with particularly challenging economic and geographic characteristics. There are approximately 4,388 living units in the Carbon Hill wire center. Living units include both business and residential locations (even if not currently occupied), as well as business or residential locations currently under construction, and are the units AT&T's network engineers use when designing and building communications networks because each living unit is a separate location that AT&T historically has been required to serve upon request. Of those 4,388 living units to which AT&T currently offers wireline service in Carbon Hill, roughly **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent actually subscribe to AT&T's retail wireline services (TDM and IP). This fact underscores that numerous customers already have made the choice to abandon traditional TDM telephone services, and the difficult economics of the existing wireline regulatory regime. Adding to the uncertainty is the fact that, while the Carbon Hill wire center may qualify for funding under the Commission's revised universal service rules, the amount of that funding has yet to be determined — we thus welcome the CAF Phase II trial proposed by the Commission to answer some of these questions.

² The Kings Point serving wire center is located in an unincorporated part of Palm Beach County, west of the City of Delray Beach, FL. For purposes of this plan, we will refer to that serving wire center as the "Kings Point" wire center.

Under AT&T's current plans, we will offer wireline and/or wireless broadband services to [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent of the living units in Carbon Hill. Providing broadband services to the [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent is going to be more difficult given the economics of deploying broadband services to those areas. AT&T recognizes that it is responsible for ensuring that these customers will have an alternative available to them prior to discontinuing TDM services, and is, in all events, committed to working with the Commission, policymakers, and other stakeholders to ensure that this happens. But, it is critically important that we, as a nation, engage in a dialog that addresses the geographic and economic challenges of deploying and offering broadband in sparsely populated areas like Carbon Hill. That is precisely why AT&T selected Carbon Hill as one of the trial wire centers so that we and other stakeholders can begin that dialog on how best to resolve this issue while the TDM network remains in place.

Kings Point likewise raises important issues. Although many seniors already have made the transition from traditional wireline telephone services to wireless and wireline IP-based services (often without even knowing they have done so), as a group they have been slower to migrate to these newer technologies. Kings Point has a sizable population of seniors, and thus will provide AT&T, the Commission and other stakeholders insights into any unique challenges the IP transition may pose for seniors, and how best to address them.

To evaluate whether AT&T's plan for transitioning customers (residential, business, wholesale, and government) from TDM to all-IP networks and services will preserve core network values, AT&T proposes to collect and report data about the progress of the trial, IP call quality and network performance, and customer satisfaction with the migration process and the new wireless/IP products.

Section 3: Description of Trial Serving Wire Centers

3.1 OVERVIEW

AT&T has selected two diverse serving wire centers for the trials: Carbon Hill, Alabama and Kings Point, Florida.³ The Carbon Hill wire center has a generally rural customer base with a population of 6,594 and 4,388 living units.⁴ Of the 4,388 living units to which AT&T offers wireline services in Carbon Hill, [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] currently subscribe to AT&T's retail wireline services (TDM and IP).

³ Kings Point, Florida is also sometimes referred to as Delray Beach, Florida.

⁴ See U.S. Census Bureau, *The 2006-2010 ACS 5-Year Summary File Technical Documentation*, available at https://assets.nhgis.org/original-data/acs/2010ACS_5.pdf (2006-2010 ACS Data). Census blocks have been mapped to the wire center boundaries to obtain relevant data for the wire centers. Living units include business, residential, vacant and under-construction locations. Living units are the units network engineers use when designing and building communications networks because each living unit is a separate location that AT&T historically has been required to serve upon request.

The Kings Point wire center serves parts of Palm Beach County west of Delray Beach with a population of 64,218 across 49,712 living units,⁵ of which [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent currently subscribe to an AT&T retail wireline service. These two wire centers afford ample opportunity to address industry-wide challenges using a customer-focused approach. See Exhibit A for maps of the wire centers.

3.2 WIRE CENTER SUMMARY

Serving Wire Center	Carbon Hill, AL	Kings Point, FL
Address	308 NW 4 th Street, Carbon Hill, Alabama 35549	6037 W Atlantic Ave, Delray Beach, Florida 33445
CLLI	CRHLALNM	DLBHFLKP
Switch Type	DMS-100 Remote	5ESS
Overview of Area (based on public information)	Primarily comprised of Western Walker County but includes SE corner of Marion and NE corner of Fayette Counties	Palm Beach County
	City total area is 5.6 sq. miles	City total area is 15.9 sq. miles
	Rural, former mining town	Coastal city, part of West Palm Beach metropolitan area
	6,594 people in the wire center	64,218 people in the wire center
Living Units (includes business, residential, vacant lots, and locations under construction)	4,388 Living Units	49,712 Living Units

⁵ See 2006-2010 ACS Data.

3.3 GEOGRAPHY

Walker County, Alabama, where most of the Carbon Hill wire center serving area is located, has an area of approximately 790 square miles in the Northwestern part of the state.⁶ The average annual rainfall in the city of Carbon Hill is 59.67 inches of rain.⁷ Palm Beach County, Florida, where Kings Point is located, has an area of 1,977 square miles on the Southeastern Coast of Florida, in the West Palm Beach metropolitan area.⁸ The average annual rainfall is 62.33 inches in the city of Delray Beach.⁹ Both areas can experience severe weather including hurricanes or tornados. See Exhibit B for topographical maps.

3.4 DEMOGRAPHICS

The population density in the Carbon Hill wire center is 38 per square mile. The population density in the Kings Point wire center is 1,961 per square mile.¹⁰

Population Density			
	Population	Area Sq Miles	Population per Sq Mile
Carbon Hill, AL	6,594	172	38
Kings Point, FL	64,218	32.75	1,961
Alabama	4,779,736	52,420	91
Florida	18,801,310	65,758	286
United States	308,745,538	3,796,742	81

Source: U.S. Census Bureau, United States Census 2010, available at <http://www.census.gov/2010census>

In the Carbon Hill wire center, 95 percent of the 6,594 residents are white, and four percent African-American. In the Kings Point wire center, 84 percent of the 64,218 residents are white, seven percent are African-American, and seven percent Hispanic.¹¹

⁶ United States Census Bureau, State and County Quick Facts (Walker County, Alabama), <http://quickfacts.census.gov/qfd/states/01/01127.html> (visited Feb. 11, 2014).

⁷ See *Weatherdb.com*, available at <http://average-rainfall.weatherdb.com/d/d/Alabama> (visited Feb. 9, 2014).

⁸ See *Palm Beach County Interesting Facts and Figures*, available at <http://www.pbcgov.com/publicaffairs/facts.htm#Geography> (visited Feb. 9, 2014).

⁹ See *Weatherdb.com*, available at <http://forecast.weatherdb.com/l/33445/Delray-Beach-FL> (visited Feb. 9, 2014).

¹⁰ See 2006-2010 ACS Data. To obtain wire center data, AT&T mapped census blocks to wire center boundaries.

¹¹ See 2006-2010 ACS Data.

	Total	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino
Carbon Hill, AL	6,594	6,250	275	2	6	0	0	55	6
		95%	4%	0%	0%	0%	0%	1%	0%
Kings Point, FL	64,218	53,715	4,330	59	1,089	0	259	455	4,311
		84%	7%	0%	2%	0%	0%	1%	7%

Source: U.S. Census Bureau, *The 2006-2010 ACS 5-Year Summary File Technical Documentation*, available at https://assets.nhgis.org/original-data/acs/2010ACS_5.pdf.

In the Carbon Hill wire center, approximately 99 percent of the population speaks English only. In the Kings Point wire center, approximately 81 percent speaks English only and six percent speak Spanish.¹²

	Total	English only	Spanish	Spanish - No one 14 and over speaks English only or speaks English very well	Spanish - At least one person 14 and over speaks English only or speaks English very well	Other Indo-European - No one 14 and over speaks English very well	Other Indo-European - At least one person 14 and over speaks English only or speaks English very well	Asian and Pacific Island languages	Asian and Pacific - No one 14 and over speaks English only or speaks English very well	Asian and Pacific - At least one person 14 and over speaks English only or speaks English very well	Other - No one 14 and over speaks English only or speaks English very well	Other - At least one person 14 and over speaks English only or speaks English very well
Carbon Hill, AL	6,594	6,556	27	-	27	9	-	9	2	-	2	-
		99.42%	0.41%			0.14%			0.04%		0.00%	
Kings Pt, FL	64,218	52,186	4,044	1,149	2,895	6,698	2,055	4,643	603	157	445	686
		81.26%	6.30%			10.43%			0.94%		1.07%	260
												426

Source: U.S. Census Bureau, *The 2006-2010 ACS 5-Year Summary File Technical Documentation*, available at https://assets.nhgis.org/original-data/acs/2010ACS_5.pdf.

In the Carbon Hill wire center, the single largest age group is 22 to 49 year olds, with 38 percent of the population 50 years old or older. In the Kings Point wire center, 70 percent of the population are 50 years of age or older, although the single largest age group (19%) is 22 to 49 year olds.¹³

¹² See 2006-2010 ACS Data. To obtain wire center data, AT&T mapped census blocks to wire center boundaries.

¹³ See 2006-2010 ACS Data. To obtain wire center data, AT&T mapped census blocks to wire center boundaries.

Age Number of People (Men and Women)													
	Under 18	18 to 21	22 to 49	50 to 54	55 to 59	60 and 61	62 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 and over	50 and over
Carbon Hill, AL	1,524	291	2,296	542	293	206	311	301	324	242	167	97	2,483
	23%	4%	35%	8%	4%	3%	5%	5%	5%	4%	3%	1%	38%
												6,594	
Kings Point, FL	6,277	964	12,066	3,024	4,130	1,776	3,265	5,164	6,297	7,886	7,398	5,970	44,911
	10%	2%	19%	5%	6%	3%	5%	8%	10%	12%	12%	9%	70%
												64,218	
Alabama	1,132,303	284,216	1,766,242	337,627	301,166	113,367	142,513	197,198	156,036	120,449	87,698	73,836	1,529,890
	24%	6%	37%	7%	6%	2%	3%	4%	3%	3%	2%	2%	32%
												4,712,651	
Florida	4,013,090	1,017,224	6,837,598	1,283,619	1,162,393	447,540	616,051	897,204	735,810	615,886	472,654	412,551	6,643,708
	22%	5%	37%	7%	6%	2%	3%	5%	4%	3%	3%	2%	36%
												18,511,620	
United States	74,033,117	17,940,909	117,432,247	21,532,191	18,817,728	6,776,873	8,682,794	11,518,053	8,975,414	7,358,170	5,721,633	5,176,143	94,558,999
	24%	6%	39%	7%	6%	2%	3%	4%	3%	2%	2%	2%	31%
												303,965,272	

Source: U.S. Census Bureau, *The 2006-2010 ACS 5-Year Summary File Technical Documentation*, available at https://assets.nhgis.org/original-data/acs/2010ACS_5.pdf

In the Carbon Hill wire center, 21 percent of households have income below the poverty line, compared to 9 percent in the Kings Point wire center.¹⁴

	Percent of HHs with Income Below Poverty Level	
	HHs (%)	HHs
Carbon Hill, AL	21%	579
Kings Point, FL	9%	2,955
Alabama	17%	308,181
Florida	13%	923,394
United States	13%	14,865,322

Source: U.S. Census Bureau, *The 2006-2010 ACS 5-Year Summary File Technical Documentation*, available at https://assets.nhgis.org/original-data/acs/2010ACS_5.pdf.

¹⁴ See *2006-2010 ACS Data*. Through the American Community Survey, the US Census Bureau estimates the number of households in poverty by Census Block Group (CBG). The standard for poverty varies as a function of household size. To obtain wire center data, AT&T mapped the Census Blocks to the wire center boundaries, based on the assumption that the Census Blocks that make up the wire center have the same poverty characteristics as the Census Block Group.

3.5 WIRE CENTER PROFILES

During the course of the trials, AT&T plans to use a combination of IP-based wireline and wireless service solutions as replacements for legacy TDM-based services in the Carbon Hill and Kings Point wire centers.¹⁵ The wireline service solutions will be provided by AT&T Southeast and the wireless service solutions will be provided by AT&T Mobility. As part of planning for the trials, AT&T has performed a careful analysis of the availability of wireline and wireless IP-based alternatives to living units in these wire centers. The results of that analysis are set forth in the table below.¹⁶

End of Year 2015							
Serving Wire Center	Total Wire Center LUs	IP Wireline Green		IP Wireline Red/IP Wireless Green		IP Wireline Red/IP Wireless Red	
		LUs	% Total LUs	LUs	% Total LUs	LUs	% Total LUs
Carbon Hill	4,388	██████	██████	██████	██████	██████	██████
Kings Point	49,712	██████	██████	██████	██████	██████	██████

3.5.1. *Carbon Hill.* As of December 2013, AT&T provides wireline retail services to [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]¹⁷ in the Carbon Hill wire center out of a total of 4,388 living units in the wire center to which it offers wireline services. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent of the Carbon Hill living units will have a wireline IP-based alternative to TDM-based services available from AT&T by the end of 2015. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent will have at least one IP-based alternative available—wireline, wireless or both. AT&T has not yet found a viable replacement service for the [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent of living units, and still is considering its options for those living units. AT&T recognizes that it is responsible for ensuring that these customers will have an alternative available to them prior to discontinuing TDM services, and is, in all events, committed to working with the Commission, policymakers, and other stakeholders to ensure that this happens.

¹⁵ See Section 4.

¹⁶ In the table, living units are listed as “green” for a particular service if that service will be available to those locations from AT&T by the end of 2015 and as “red” if the service will be unavailable. Living units included in the “IP Wireline Green” category will have available a wireline IP alternative to TDM-based services. Approximately [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent of the Carbon Hill living units and all of the Kings Point living units in the Wireline IP Green category will also have a wireless IP broadband service alternative. Living units in the “Wireline IP Red/Wireless IP Green” will have a wireless IP broadband alternative, but not a wireline IP broadband alternative. The living units in the “IP Wireline Red and IP Wireless Red” category will not have an IP-based alternative available from AT&T. AT&T continues to consider options for these living units.

¹⁷ Business customers include small business, enterprise, affiliates and unidentified business customers. This analysis does not include wholesale customers. See Section 6.3.

3.5.2. *Kings Point.* As of December 2013, AT&T provides wireline retail services to [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] in the Kings Point wire center out of a total of 49,712 living units in the wire center. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent of these living units will have a wireline IP-based alternative to TDM-based services available from AT&T by the end of 2015. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] percent will have at least one IP-based alternative available—wireline, wireless or both.

3.6. SCHOOLS AND LIBRARIES.¹⁸

Among AT&T’s customers is the Walker County, Alabama School System, which has one public school location in the Carbon Hill wire center. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]. In the Kings Point wire center, there is one public school and one private school. [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE].

In addition, AT&T has identified one library in Carbon Hill—the Carbon Hill City Library—and two libraries in Kings Point—the Hagen Ranch Road Branch of the Palm Beach County Library System and the Donald B. Gordon Memorial Library of the Morikami Museum and Japanese Gardens. All three libraries are [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE].

3.7. COMPETITORS.

Among others, AT&T has identified cable, wireless and satellite providers that compete aggressively and head-to-head with AT&T for both business and residential, voice and broadband customers in the Carbon Hill and Kings Point wire centers. In Carbon Hill, Charter Communications, Verizon LTE, Sprint 3G, T-Mobile 3G, HughesNet, Dish Network, and DirecTV provide alternatives to consumers and businesses for voice and broadband services. Among others, in Kings Point, Comcast Communications, Verizon LTE, Sprint 3G, T-Mobile 3G, HughesNet, Dish Network, and DirecTV provide alternatives to consumers and businesses for voice and broadband services. The maps in Exhibit C show the coverage of these competitors in each wire center.

3.8. STATE, TRIBAL, AND OTHER GOVERNMENT ENTITIES.

AT&T does not expect to need any authorization from other federal, State, Tribal or other governmental entities to conduct the trials in Kings Point, Florida or Carbon Hill, Alabama.¹⁹ There are no Tribal governments in the trial areas. Although no authorizations will be required,

¹⁸ Any transition of schools and libraries to IP-based services will be done a manner fully compliant with the E-Rate program and obligations.

¹⁹ To the extent that AT&T seeks to withdraw intrastate switched and/or special access services in Carbon Hill, it will have to obtain approval from the Alabama PSC. AT&T will comply with all requirements to do so. To the extent necessary AT&T will request ETC relief in both wire centers. See section 6.2.2.

AT&T has a comprehensive plan to inform, educate and coordinate with government entities in the trial areas.²⁰ AT&T requests no preemption by the FCC of any state or local law to conduct the trials at this time. In the course of the trials, AT&T will comply with all applicable State laws and regulations.²¹

²⁰ See section 5.

²¹ AT&T's VoIP and wireless services meet or exceed all current federal, state, and local requirements for 911 emergency services. See also section 6.1.

State & Local Government Contacts		
	Carbon Hill Wire Center	Kings Point Wire Center
State	Dr. Robert Bentley Governor – State of Alabama 600 Dexter Avenue N-104 Montgomery, Alabama 36130	Office of Governor Rick Scott State of Florida The Capitol 400 S. Monroe St. Tallahassee, FL 32399-0001
		Department of Agriculture and Consumer Affairs Adam Putnam, Commissioner The Capitol 400 S. Monroe St. Tallahassee, FL 32399-0800
Public Utility Commission	Alabama Public Service Commission Hon. Walter Thomas, Secretary Suite 850 100 North Union Street Montgomery, AL 36104	Florida Public Service Commission Office of Commission Clerk Carlotta S. Stauffer, Commission Clerk 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850
County	Fayette County Commission 103 1st Avenue NW, Suite 2 Fayette, AL 35555	Palm Beach County 301 N. Olive Avenue West Palm Beach, FL 33401
	Marion County Commission P. O. Box 460 Hamilton, AL 35570	
	Walker County Commission P. O. Box 1447 Jasper, AL 35502-1447	
City	Town of Carbon Hill P. O. Box 519 Carbon Hill, AL 35549	City of Delray Beach City Hall 100 NW 1st Avenue Delray Beach, Florida 33444
	Town of Eldridge P. O. Box 99 Eldridge, AL 35554	
	Town of Kansas P. O. Box 186 Kansas, AL 35573	
911 Authorities	Fayette County E-911 Attn: Treasa Blake, Director 118 1st Ave NE Fayette, AL 35555 Phone: 205 932-1911	Palm Beach County, FL Mr. Charles Spalding cspalding@pbcgov.org Department of Public Safety 20 S Military Trail West Palm Beach, FL 33415 Phone: 561 712-6339
	Marion County E 911 PO Box 1744 Linda Winters, Director Hamilton, AL 35570 Phone: 205.921-0911	
	Walker County E9-1-1 District 302 15th St NE Attn: Roger D. Wilson, Director Jasper, AL 35504 Phone: 205-221-7911	

Section 4: Technical Parameters and Timeline

AT&T's proposed trials contemplate replacing the vast majority of the TDM-based services in the trial wire centers over the next three years. AT&T identifies below each TDM-based service it currently offers in the trial wire centers and the wireless and wireline IP-based alternatives that AT&T will offer in the trial wire centers, along with a timeline setting forth the dates on which AT&T proposes to implement each stage of the trials to the extent it receives the necessary approvals to do so.²² Many of the TDM-based services listed herein are intrastate services. Nonetheless, AT&T has included all of the TDM services that AT&T proposes to include in the trials regardless of their regulatory jurisdiction to ensure the Commission and other interested parties have a comprehensive view of the implications of the IP transition.²³

4.1. CONSUMER SERVICES

AT&T proposes to include in the trial all of its consumer TDM-based voice and internet access transport services, and to offer the following services in place of those TDM services: AT&T's U-verse Voice service, AT&T's U-verse High Speed Internet services, and AT&T's Wireless Home Phone service and Wireless Home Phone and Internet service.

Customers within AT&T's wireline IP network footprint have access to AT&T's U-verse® Voice and High Speed Internet services, which provide next-generation voice calling features and high-speed broadband Internet access. More than half of AT&T's U-verse broadband base has downstream speeds of 12MB or higher and we can deliver speeds of up to 45MB to approximately two-thirds of our U-verse video customers. Consumers in AT&T's wireless footprint also will be able to purchase one of AT&T's CMRS services (including AT&T's Wireless Home Phone and Wireless Home Phone and Internet services) in place of traditional, TDM-based voice telephone services. AT&T's Wireless Home Phone and Wireless Home Phone and Internet services include nationwide calling with enhanced calling features. The wireless Internet component of Wireless Home Phone and Internet provides broadband Internet speeds capable of downstream speeds between 5-12 Mbps. AT&T's LTE network is consistently recognized as the fastest, most reliable LTE network in the nation.

AT&T has included in Exhibit E, Product Data sheets for each consumer service that AT&T proposes to grandfather, and ultimately sunset, in the trial wire centers. The Product Data

²² Exhibit D.

²³ When AT&T is ready to grandfather its TDM-based services, AT&T will file Section 214 Discontinuance Applications for the TDM-based services that it provides subject to the FCC's interstate jurisdiction. AT&T will follow applicable intrastate regulatory requirements to grandfather and/or discontinue the intrastate TDM-based services identified in this plan.

sheets provide the following information concerning each service: current customer counts for the service, proposed grandfather and sunset dates, proposed customer notification dates, AT&T's replacement products, and the competitive presence in the trial wire centers.

4.2. BUSINESS SERVICES

AT&T also proposes to transition its current retail business customers in the trial wire centers from TDM-based voice and data services to wireless and wireline IP-based services over the next three years. AT&T will offer business customers within its wireline IP network footprint a variety of IP-based business-class voice services that include next generation calling features, such as U-verse® Business Voice, AT&T Voice DNA® and IP Flexible Reach, in place of legacy TDM services, such as BellSouth Centrex and Business Access line services. AT&T also offers IP-based Internet access and data services in the Trial Wire Centers, including U-verse® High Speed Internet-Business Edition, and a variety of business-class Ethernet services that deliver extremely reliable service at ultra-fast speeds. In addition, AT&T is in the process of developing a wireless business phone product, which (like Wireless Home Phone) will enable business customers to use their existing CPE to communicate over AT&T's wireless network. AT&T's Wireless Business Phone service include nationwide calling with enhanced calling features designed for business and wireless Internet access using AT&T's 4G network.

AT&T has included in Exhibit E, Product Data sheets for each business service that AT&T proposes to grandfather, and ultimately sunset, in the trial wire centers. The Product Data sheets provide the following information concerning each service: current customer counts for the service, proposed grandfather and sunset dates, proposed customer notification dates, AT&T's replacement products, and the competitive presence in the trial wire centers.

4.3. DEVICE AND SERVICE APPLICATION COMPATIBILITY

As illustrated in the chart below, the wireless and wireline IP-based services that AT&T will offer in place of traditional TDM-based services will support the vast majority of the devices and applications enumerated in Appendix B of the *Transitions Trial Order*. However, AT&T does not currently plan to support certain applications with rapidly declining market demand or applications that are based on outdated technology such as DVR services, elevator phones, third party pay per call, dial around calls, and operator services functions (live operators and collect calling). The chart identifies whether particular applications or devices currently supported over TDM also are (or will be) supported over AT&T's wireless and wireline IP-based replacement services (we also identify the date by which AT&T expects to support applications and devices still under development).

Application/Devices	TDM Voice	U-verse Voice	Wireless Home/Business Phone	Wireless Home/Business Phone with Internet
E-911 with Address	Y	Y	Y ^a	Y ^b
Alarm Monitoring	Y	Y	Y ^c	Y ^d
Medical Alert	Y	Y	Y ^e	Y ^f
411	Y	Y	Y	Y
DVR Services ²⁴	Y	Y	N	N
Credit Card/Merchant Services	Y	Y	Y ^g	Y ^h
800 # Service ²⁵	Y	N	Y ⁱ	Y ^j
3 rd Party Pay per Call (500, 976, etc.)	Y	N	N	N
Calling Card calls using IVR (8xx platforms)	Y	Y	Y	Y
Dial-around calls	Y	N	N	N
Abbreviated Dialing Codes (N11) ²⁶	Y	Y	Y	Y
Live Operator via "0"	Y	N	N	N
Collect Calls	Y	N ^k	N ^l	N ^m
Correctional Facility Ankle Bracelets	Y	Y	N	N
TTY-Assistive Technology	Y	Y	Y ⁿ	Y ^o
Elevator Phone Service ²⁷	Y	N	N	N

²⁴ DVR compatibility should be a relatively minor concern as the DVRs provided by video content providers no longer require the use of TDM-voice service or a separate internet connection to operate. DVRs that are purchased without a video service may be unable to utilize the full functionality of the DVR without a TDM-voice connection; however, AT&T believes this to be a very small and rapidly declining user group.

²⁵ 800 number service permits 800 calls that originate from diverse geographic locations within the U.S. to terminate onto the subscribing customer's local exchange service lines.

²⁶ AT&T's services support the abbreviated dialing codes that are have been activated in the specific geographic area. For example, in Carbon Hill, the 311 and 511 codes are not active or operational on AT&T's services.

²⁷ Based on AT&T's initial research, there are no elevator phones in the trial wire centers.

Notes a-h: Currently, Wireless Home Phone and Wireless Home Phone and Internet, which are CMRS, comply with the Commission's existing 911 requirements for CMRS, and do not provide E-911 with street address. Nor does Wireless Home Phone and Wireless Home Phone and Internet currently support alarm monitoring, medical alert and credit card validation applications. However, AT&T currently is developing enhancements that will provide all of these applications (*i.e.*, E-911 with street address, as well as alarm monitoring, medical alert and credit card applications), which we plan to introduce in the [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]. AT&T knows that these applications are vitally important to its customers and is committed to supporting these applications before AT&T takes any action to grandfather or discontinue its TDM-based voice services. The E-911 enhancement for Wireless Home Phone and Wireless Home Phone and Internet will deliver an address when the device is stationary. When the device is in motion, it will deliver a location generated by GPS like any other CMRS device and service.

Notes i-j: 800 number service is not supported by Wireless Home Phone/Wireless Home Phone and Internet for consumer customers but will be included in AT&T's wireless business voice services.

Notes k-m: U-verse Voice, Wireless Home Phone and Wireless Home Phone and Internet do not support collect calling, but some 3rd party systems have applications that facilitate collect calls from correctional institutions. These 3rd party applications will function with AT&T's services.

Notes n-o: TTY compatibility and accessibility for Wireless Home Phone and Wireless Home Phone and Internet services is being carefully assessed. AT&T is committed to supporting this functionality and will not take any action to grandfather or discontinue service to a customer with assistive technology that is known to be incompatible with AT&T's replacement services.

4.4. SWITCHED ACCESS SERVICES

AT&T plans to discontinue its ILEC-provided TDM-based interstate and intrastate switched access services in the trial wire centers as well. These services are used to originate and terminate interexchange calls. As discussed above, AT&T intends to offer wireless and wireline IP-based services in place of traditional TDM voice services in the trial wire centers. Both are all-distance services with unlimited domestic local and long distance calling. As a consequence, customers that transition to those services will have no need to purchase a stand-alone interexchange service that would require originating access, and thus neither offers equal access functionalities. Currently, AT&T's affiliate, AT&T Corp., provides TDM interconnection for the exchange of traffic to or from AT&T's VoIP customers primarily through indirect interconnection arrangements. For customers that transition to AT&T VoIP services, AT&T will exchange traffic to or from end users on another provider's network through that provider's existing interconnection arrangement with AT&T's access tandem, which then routes

traffic to and from AT&T Corp. — just as AT&T does today for its existing VoIP customers. Likewise, for customers that transition to an AT&T wireless service, AT&T will exchange traffic to or from end users on another provider’s network through that provider’s existing interconnection arrangement with AT&T’s access tandem, which then routes traffic to and from AT&T Mobility. To the extent a provider has direct interconnection arrangements with AT&T Corp. or AT&T Mobility, the traffic will be exchanged with AT&T over the existing interconnection arrangements designated for each type of traffic. The dates on which AT&T will grandfather and sunset its ILEC-provided interstate and intrastate switched access services depend on when AT&T grandfathers and sunsets the underlying consumer and business voice services. Accordingly, AT&T will not take any steps to grandfather or sunset switched access services until the replacement voice services are available as discussed above.

AT&T has included in Exhibit E, Product Data sheets for each interstate and intrastate switched access service that AT&T proposes to grandfather, and ultimately sunset, in the trial wire centers. The Product Data sheets provide the following information concerning each service: current customer counts for the service, proposed grandfather and sunset dates, and proposed customer notification dates.

4.5. PRIVATE LINE AND SPECIAL ACCESS SERVICES

AT&T also intends to grandfather, and ultimately withdraw, intrastate private line and interstate and intrastate TDM-based special access services in the trial wire centers. AT&T currently provides the following categories of TDM-based special access and private line services in the trial wire centers: DS-0, DS-1, DS-3 and OC-N speeds, shared SONET service and Dedicated Ring service. AT&T Switched Ethernet (ASE) service and several new services that are in development, will replace those TDM-based private line and special access services in the trial wire centers.

AT&T has included in Exhibit E, Product Data sheets for each special access service that AT&T proposes to grandfather, and ultimately sunset, in the trial wire centers.²⁸

Section 5: Customer Notice and Outreach

AT&T shares the Commission’s view that “we can only achieve our goal of advancing technology transitions if customers are fully educated and informed.”²⁹ Thus, customer outreach and education are critical elements of our plan for the trials, and will be essential to their success. Consequently, we have developed detailed and extensive plans both to notify specific customers

²⁸ AT&T understands that special access services may have an end-point that is located outside of the trial wire center. AT&T will manage the transition of these services on a case by case basis with the applicable customers in the trial wire centers.

²⁹*Technology Transition Trials Orders* at ¶ 69.

about the transition and its impact on them, and to educate the customers, community leaders and other stakeholders about the transition and trial in the trial wire centers and more broadly. In the latter effort, we will tailor our outreach efforts to ensure that certain populations with unique needs (including seniors and persons with disabilities) have the information they need regarding the trials and transition, and what they mean for those particular groups.

5.1. CUSTOMER OUTREACH.

AT&T has developed detailed customer outreach campaigns in Carbon Hill and Kings Point, which will include, *inter alia*, briefing state and local leaders, briefing the press, posts to Twitter, direct mailings to customers, community meetings, and launching microsites on the web where customers can obtain information about the trials. Our specific plans for each wire center are set forth below. In addition to the plans outlined here, AT&T has developed targeted outreach efforts to inform disabled persons, seniors, and others with unique needs regarding the trials, which are described in section 6.2.1. below.

5.1.1. Carbon Hill.

AT&T will take the following steps to inform customers, community leaders and others in Carbon Hill of the trial:

- AT&T will send direct mail to all consumer and small business customers in the Carbon Hill wire center that currently purchase wireline TDM-based services notifying them that: (1) AT&T has selected their community as the location for a trial; (2) the trial will be overseen by the FCC; (3) AT&T will host meetings and town halls to provide more information about the trial, and (4) providing a 1-800 telephone number and website where they can obtain more information. These letters will be mailed so that they arrive on or shortly after February 27.³⁰
- AT&T will post a blog, post a Twitter communication, issue a press release, and host a press conference for national media on the day after AT&T files this plan with the Commission.
- AT&T's state external affairs team will begin briefing state and local leaders during the week we file the plan.
- AT&T will distribute internal and external e-newsletters to its employees and customers in Carbon Hill.
- AT&T will activate a microsite to provide information regarding the trial.

³⁰ See Exhibit F.

In the weeks following the filing of this detailed plan, AT&T will engage in the following additional outreach measures:

- AT&T will hold community events at different locations around Carbon Hill to provide customers information about the trial and transition. AT&T will send direct mail to its customers and run informational advertisements in local media to notify interested parties of these meetings. The following are the initial dates and locations of such events:
 - Thursday, March 6 – Carbon Hill Community Center
 - Saturday, March 8 – American Legion, Post 101
 - Tuesday, March 11 – Carbon Hill Community Center
 - Thursday, March 13 – Carbon Hill Community Center
- AT&T tentatively plans to hold the following additional meetings to inform interested parties of the trial and its implications:
 - April: Meeting with first responders (fire, police, EMS)
 - May: Open meeting for customers with questions or concerns.
 - June: Meeting with local religious leaders. Possible additional meetings in each of their churches.
 - July: Meeting with focus on seniors and senior tech training.
 - August: Meeting with local educators (teachers, principals, librarians)
 - September: Meeting with economic developers (local business owners/managers)
 - October: Meeting focused on introducing new technologies
 - November: Open meeting for customers with questions or concerns.
 - December: Meeting with health care providers

5.1.2. Kings Point.

AT&T will take the following steps to inform customers, community leaders and others in Kings Point of the trial:

- AT&T will send direct mail to all consumer and small business customers in the Kings Point wire center that currently purchase wireline TDM-based services notifying

them that: (1) AT&T has selected their community as the location for a trial; (2) the trial will be overseen by the FCC; (3) AT&T will host meetings and town halls to provide more information about the trial, and (4) providing a telephone number and website where they can obtain more information. These letters will be mailed so that they arrive on or shortly after February 27.³¹

- AT&T will post a blog, issue a press release to the South Florida Business Journal and the AT&T State President for Florida will provide an interview to the Fort Lauderdale Sun Sentinel on the day after AT&T files this plan with the Commission.
- During the week of the filing, AT&T will hold press briefings with local media, including the daily for the West Delray Beach area and the Ft. Lauderdale Sun Sentinel. We also will provide press releases to the South Florida Business Journal and the Palm Beach Post. AT&T also will post a communication on Twitter, and post a blog regarding the trial.
- AT&T's state external affairs team will begin briefing state and local leaders immediately after the filing.
- AT&T will distribute internal and external e-newsletters to its employees and customers in Kings Point.
- AT&T will activate a microsite to provide information regarding the trial.

In the weeks following the filing of this detailed plan, AT&T will engage in the following additional outreach measures:

- AT&T will hold community events at different locations around Kings Point to provide customers information about the trial and transition. AT&T will send direct mail to its customers and run informational advertisements in local media to notify interested parties of these meetings. These events will include meetings with local senior groups, local churches and synagogues, the local chamber of commerce and economic development agencies, first responders, educators and healthcare providers. These include:
 - Two to four Listening Tour Meetings with Key Stakeholders and AT&T's state president for Florida within the first 30 days after filing this plan.
 - Two to four Town Hall events within the first 45 days, depending on community participation and interest.

³¹ See Exhibit F.

- AT&T will hold several technology training events within the first 90 days to demonstrate how to use the IP-based replacement products AT&T will offer in Kings Point.

5.2. CUSTOMER NOTICE.

In addition to the customer outreach and education efforts described above, AT&T will send its residential customers multiple notices regarding AT&T's plans to grandfather and ultimately sunset existing TDM-based services. These notices will identify the specific TDM-based services that AT&T plans to grandfather (and later sunset), the date on which AT&T proposes to grandfather or sunset such services, the IP-based alternative service(s) available from AT&T, a description of any difference in features or functions between such TDM-based services and their IP-based replacements, information regarding the pricing of the IP-based alternative services, information about how to contact AT&T for more information or to provide AT&T feedback, a statement that the trials are being conducted under Commission oversight, and information about how to contact the Commission with any concerns. AT&T will provide these notices through direct mail, email, door hangers, and bill messages throughout the trial. In addition, when AT&T seeks approval to grandfather interstate TDM-based services, its customer notices for these services will include the information required by section 63.71 of the Commission's rules.

AT&T will notify business customers (both wholesale and retail) regarding the trials through its business customer account teams and sales agents, using the customers' preferred method of contact, which might include email, telephone calls, personal visits, or some combination thereof. AT&T will inform such customers regarding its plans to grandfather and/or sunset existing TDM-based services and the IP-based wireline and wireless alternatives (including those alternatives' features, capabilities and options) available to them, and assist them in developing a migration plan. AT&T will mail such customers section 214 customer notification letters before it proposes to grandfather any business services, and before it proposes to sunset any such services. In addition, AT&T customer account and sales teams will contact each business customer semiannually to provide them information regarding the trials and to consult with them regarding their migration plans.

Section 6: Protecting Enduring Values

6.1. PUBLIC SAFETY & NATIONAL SECURITY

AT&T shares the Commission's commitment to protecting public safety and national security. AT&T is dedicated to making sure that, during the trials proposed herein, as well as during the ultimate transition from TDM-based networks to all-IP networks and services, the existing level of public safety and national security services is maintained.

6.1.1. Preserving 911/E911 and Next Generation 911 Capabilities

As a condition to approving any Trial Proposal, the Commission has made it clear that services provided by trial participants must “in no way diminish consumer access to 911/E911 emergency services” and that Public Safety Answering Points (PSAPs) must “continue to receive all consumer, phone identifying, and automatically-provided street address location information associated with a 911/E911 call, consistent with existing Commission rules and regulation.”³² Moreover, the Commission has informed potential participants that PSAPs must be “provided with at least the same level of network access, resiliency, redundancy, and security that they enjoy under agreements and tariffs currently framing the legacy emergency network.”³³ As explained below, AT&T’s Trial Proposal will meet these conditions.

Today, AT&T uses its IP network to offer interconnected Voice over IP services (AT&T VoIP services) in its ILEC regions.³⁴ AT&T also already is providing CMRS service (including its Wireless Home Phone service) in its service territory and across the country. During the trial, AT&T intends to offer its existing VoIP and CMRS services as replacements for TDM-based voice services in the trial wire centers (in some areas, AT&T will offer only a wireless replacement service).³⁵ Hence, AT&T is not proposing to offer *experimental services* as legacy replacements, rather AT&T is proposing to expand the reach of its existing IP services, which include the ability to provide appropriate E911 access, and an appropriate wireless service, where available.

a. VoIP Services

AT&T’s U-verse Voice residential services currently are geographically fixed to the consumer’s service address. Likewise, business customers can buy fixed VoIP services, but customers may augment these services to include a nomadic feature.³⁶ This fixed aspect allows AT&T VoIP service to emulate the E911 experience enjoyed by users of traditional telephone service.³⁷ When an AT&T VoIP customer dials 9-1-1, his or her call is routed to the service’s network gateway where the call is converted from IP to TDM and delivered to the legacy telephone network. Once on the Public Switched Telephone Network (PSTN), the 9-1-1 call hits

³² *Technology Transition Trials Order*, ¶ 39.

³³ *Id.*, ¶ 39.

³⁴ Some of these VoIP services are sold as a bundled offering of U-verse High-Speed Internet access (HSIA), U-verse TV (IPTV), and U-verse Voice (VoIP) or, alternatively, just HSIA and VoIP. AT&T relies on different network architectures, such as its VDSL and its IP-DSLAM architectures, to provide these services. Residential or consumer service is referred to as “CVoIP,” while the business service is referred to as “BVoIP.”

³⁵ See discussion below on AT&T’s wireless service.

³⁶ AT&T offers non-fixed or nomadic VoIP applications that expand the reach of some business VoIP services. For those services, AT&T adheres to the Commission’s 911/E911 regulations and directives. By way of example, for nomadic interconnected VoIP services, the PSAP is provided with the caller’s Registered Location, which is initially obtained by the service provider and later, if the subscriber changes his or her physical location, must be updated by the subscriber. See 47 C.F.R. § 9.3.

³⁷ AT&T VoIP is presently only offered in or provisioned in areas in which the PSAP is Phase I or Phase II capable.

the selective router switch, which queries the Selective Router Database (SRDB) and the Master Street Address Guide (MSAG) using the caller's originating telephone number to match the call to the appropriate PSAP's Emergency Service Number (ESN). The 9-1-1 call is then routed to the PSAP using the ESN. As is the case with traditional TDM-based calls, AT&T VoIP services provide the PSAP with both the user's call-back number (automatic number identification or ANI) and the automatic location information (ALI) consistent with existing Commission rules and regulation. For AT&T VoIP services, ALI information also is verified with the MSAG database. Consequently, AT&T VoIP services already provide a reliable and accurate E911 service on par with TDM-based 9-1-1 calls.³⁸

Some PSAPs are starting the transition to Next Generation 911 service (NG911), which will provide PSAPs with enhanced features, like use of real time text, still images, and video. Due to state and municipal government budget constraints and other issues, the rollout of NG911 will take time, however. We anticipate that, before the sunset of the PSTN, it will be common for 911 Service Providers³⁹ to support both traditional E911 and NG911 services. For the Trial Wire Centers, however, no PSAPs have migrated off the legacy system and onto a NG911 system, and AT&T's Trial Proposal does not include any plans to migrate those PSAPs off of the legacy system *as part of the trial*. Consequently, for the foreseeable future, AT&T VoIP services will continue to provide routing for 9-1-1 calls to these legacy PSAPs in the manner described above and consistent with existing Commission rules.

For the Trial Wire Centers, AT&T acts as the 911 Service Provider for the area PSAPs. Because these PSAPs have not yet transitioned to NG911, AT&T does not foresee any reason that it would not be able to meet its obligations as a "Covered 911 Service Provider" under the Commission's recently released *911 Network Reliability R&O*.⁴⁰ Nonetheless, were these PSAPs to green light a plan to migrate to NG911 after the Commission approves AT&T's Trial Proposal, AT&T would be willing to provide the Commission with supplemental information that would reassure the Commission of AT&T's intention to abide by the requirements of the *911 Network Reliability R&O*, including bringing the Commission up to date on any "alternative measures" such a change might require.⁴¹

³⁸ See e.g., *IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking*, WC Docket Nos. 04-36 and 05-196, 20 FCC Rcd 10245, n.80 (2005) (*VoIP 911 Order*) ("In general, providers of solely 'fixed' VoIP services (i.e., those that are not portable) face fewer technical obstacles to providing their customers with E911 service. [References omitted.] It appears that most fixed VoIP service providers already have deployed, or are in the process of deploying, E911 services very much like those provided to wireline telephone customers.").

³⁹ Also known as System Service Providers.

⁴⁰ See *Improving 911 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75, 11-60, Report and Order, FCC 13-158 (rel. Dec. 12, 2013) (*911 Network Reliability R&O*)

⁴¹ See *Technology Transitions Trial Order*, ¶ 14.

b. Wireless Service

AT&T Mobility's *Wireless Home Phone* service is a Commercial Mobile Radio Service (CMRS). Wireless Home Phone uses a mobile base station device to facilitate the use of AT&T's CMRS voice service in the home by allowing a subscriber to connect traditional customer premises equipment (*i.e.*, touch-tone, corded or cordless home telephones) to the Wireless Home Phone base station and thereby allow connectivity to AT&T's licensed spectrum—just like any of AT&T's other CMRS voice network-compatible devices.⁴²

Because it is a CMRS service, Wireless Home Phone is mobile and can be used at different locations and, like AT&T's other CMRS service offerings, presently complies with the Commission's existing CMRS 911 service regulations (47 C.F.R. Part 20). This means that, depending on the subscriber's location, Wireless Home Phone will provide access to Basic 911 Service (Basic), Phase I Enhanced 911 Service (Phase I), or Phase II Enhanced 911 Service (Phase II). As the Commission knows, Phase II service includes providing the PSAP both the telephone number of the originator of the 911 call and the caller's longitude and latitude in conformance with the Commission's Phase II accuracy requirements.⁴³

Wireless Home Phone is a reliable CMRS product. It provides at least the same level of service and access to 911 as other CMRS services. Across the country, consumers have opted to replace wireline POTS service with interconnected VoIP (*e.g.*, AT&T's U-verse fixed voice offering or Vonage's nomadic VoIP service) or with wireless service (*e.g.*, by using a traditional handset or smartphone or by using a base-station device, like AT&T's Wireless Home Phone) regardless of the differences between the 911 access provided by POTS and these alternative services. For consumers opting to choose wireless service as an alternative to wireline POTS, Wireless Home Phone provides a convenient, economical, reliable, and practical choice. AT&T recognizes, however, that regulators and the public safety community have raised concerns regarding situations in which consumers are *required* to accept a different standard of 911 access. AT&T seeks to address these concerns ahead of proposing a wireless service as a substitute for wireline POTS.

AT&T is already working on upgrading the 911 capability of its Wireless Home Phone offering to address the concerns expressed by the public safety community, such as adding an ALI function to emulate the customer's experience with wireline TDM service.⁴⁴ Naturally, this effort to enhance the Wireless Home Phone offering is complicated by the *mobile* aspect of the service. To emulate the wireline 911 experience in a mobile offering, we are developing

⁴² The Wireless Home Phone base station doesn't have a key pad and relies on the corded or cordless home telephone to dial telephone numbers. Wireless Home Phone includes caller-ID, call forwarding, and voicemail features.

⁴³ 47 C.F.R. § 20.18(h).

⁴⁴ Today, with wireline telephony, calls to 9-1-1 provide both the call back telephone number (ANI) and the Master Street Address Guide (MSAG) location—*i.e.*, the dialing party's actual street address.

enhancements that will allow AT&T to send MSAG information to the appropriate PSAP while the device is at a registered service address. Under any such solution, the service would have to allow subscribers to update their MSAG address easily and accurately when the base station device has been moved to a new location.⁴⁵ To the extent a customer uses the device while in motion (such as in a mobile home or other vehicle), the device would provide the same 911 functionality as any other CMRS device. AT&T will not seek to grandfather its TDM-based voice services until these enhancements are available.

6.1.2. *Safeguards to Ensure Public Safety Functionality in Adverse Conditions*

In any trial of IP-based services, the Commission wants providers to demonstrate that they “will be able to immediately restore [their] legacy service, fix [their] IP-based service, or provide a comparable service.”⁴⁶ This condition has already been addressed for AT&T’s proposed trial because (1) AT&T is planning on replacing legacy services with tested AT&T VoIP services, which are highly reliable; and (2) AT&T has long-standing and well-tested maintenance and repair operations and procedures to address the occasional service disruption. Likewise, AT&T has the personnel, equipment, experience, and training to address service disruptions caused by natural or manmade disasters (*e.g.*, hurricanes, tornados, or derechos).

The AT&T VoIP services that AT&T plans to use during the Wire Center Trial are already in place in those wire centers, as well as in hundreds of other wire centers across AT&T’s in-region footprint. They have been tested over time and under various conditions. AT&T intends to offer these services in place of legacy services—first on a voluntary basis and ultimately as a replacement for discontinued services. These services are generally available in the marketplace, and have been for years—they are not in any way new or experimental. Consequently we already have practices and procedures in place to maintain and test facilities and to address service disruptions. During the Wire Center Trials, AT&T will exercise the same standard of maintenance, repair, and replacement for its IP-based services that it applies when maintaining, repairing, and replacing legacy services.

In addition to everyday efforts to maintain and repair AT&T VoIP services, AT&T stands ready, today, to respond to man-made and natural disasters that are capable of inflicting significant damage to communities at large, resulting in commercial power outages and destruction of facilities. As explained in prior filings with the Commission, AT&T has the personnel, equipment, and know-how to respond to such events.⁴⁷

⁴⁵ If the wireless device were not at the registered MSAG location, then the service could still provide the calling party’s ANI and ALI, *i.e.*, the latitude and longitude of the caller’s location, as appropriate for any other wireless device operating on AT&T’s licensed spectrum.

⁴⁶ *Technology Transition Trials Order*, Appendix B, ¶ 17.

⁴⁷ *See, e.g.*, Comments of AT&T, PS Dockets Nos. 11-60, 10-92, 06-119, pp. 3-12 (filed July 7, 2011) (*AT&T July 2011 Comments*).

The first line of defense is a hardened network. AT&T protects its facilities from physical damage by designing them to meet or exceed industry standards for continued operations during a wide range of natural and man-made disasters. This design focus includes reference to specific conditions inherent to the local environment (*e.g.*, frequency of earthquake activity, susceptibility to hurricanes, likelihood of wild fires, *etc.*). At a minimum, AT&T requires that critical equipment comply with Network Equipment-Building System (NEBS) guidelines developed originally by Bell Labs and then later maintained by Telcordia Technologies, Inc., now Ericsson. Moreover, AT&T is a leader in the measurement of network reliability by adapting the manufacturing model of defects per million (DPM) to the measurement of reliability in its own networks. Through the DPM measurement, AT&T is able to rapidly and accurately determine the root cause of a network outage and to hold the responsible party (*e.g.*, vendor, supplier, process, or business unit) to account with the aim of avoiding similar events in the future.

In addition to hardening the network, AT&T has invested in a Network Disaster Recovery (NDR) program whereby AT&T “strives to deliver the highest levels of service, quality, and reliability under all circumstances.”⁴⁸ Under the NDR program, AT&T stands ready to mobilize personnel and equipment by pre-staging and distributing mobile disaster response technologies across the country. For example, AT&T has specially-designed tractor-trailers, which act as virtual network offices and mobile command centers, called Emergency Communications Vehicles (ECVs), and self-contained mobile cell sites (*e.g.*, cells on wheels, COWs, and cells on light trucks, COLTs) and satellite COLTs, which employ a satellite link to provide voice and data service within 30 minutes of arriving on site.⁴⁹

Additionally, AT&T maintains other emergency equipment and logistical support ready for quick deployment, such as portable generators, industrial chillers, dewatering pumps, diesel, gasoline, compressed natural gas fuel tanker capability, and mobile local fuel storage cells. AT&T maintains a robust, best-in-class disaster recovery program, prepared to set up a “M.A.S.H.”-style tent city, with thousands of military-grade Meals Ready to Eat (MRE) and complete life, health, and safety support for AT&T’s army of restoration personnel. When a telecommunications disaster strikes, it does not necessarily leave any supporting infrastructure, so AT&T is prepared to operate a self-sufficient restoration camp, whenever necessary.⁵⁰

AT&T applies the same staff, equipment, and know-how to AT&T VoIP services. Therefore, the switch from reliance on TDM-based services to VoIP services will not diminish

⁴⁸ See *id.*, pp. 10-12. See also: <http://www.corp.att.com/ndr/>.

⁴⁹ An example of this can be seen in AT&T’s response to the EF-5 tornado that struck Moore, OK, on May 21, 2013. http://www.corp.att.com/ndr/deployment_2013_moore_tornado.html.

⁵⁰ AT&T was the first company in the country certified by Department of Homeland Security under the PS-Prep™ standards. See: <https://www.dhs.gov/news/2012/03/14/dhs-announces-att-ps-prep-certification> (“The Department of Homeland Security (DHS) announced today that AT&T Inc. has become the first private sector company to be certified to DHS-selected standards under the Voluntary Private Sector Preparedness Program. PS-Prep™”).

AT&T’s investment in disaster recovery preparedness, lessen AT&T’s commitment to respond quickly to disaster events, or otherwise undermine AT&T’s abilities to address the unique challenges presented by such events. So, whether through everyday maintenance and repair operations or through disaster recovery plans, AT&T has contingencies in place to address the Commission’s concerns about confronting events that might compromise public safety.

6.1.3. Protect Essential Communications Services for Safety of Life and National Security.

In the *Technology Trial Order*, the Commission emphasized that the proposed trials would not “be permitted to threaten our country’s essential national security and public safety communications systems.”⁵¹ As noted, certain departments and agencies of the United States Government “maintain communications systems that today rely heavily on legacy TDM-based networks and services.”⁵² In the Order, the Commission mentioned two by name—i.e., Department of Defense (DOD) and the Federal Aviation Administration (FAA)—but other executive branch agencies may be in the same situation. Therefore, the Commission directed applicants that any proposed trials “must . . . allow for the continuation of TDM-based networks and services for critical Federal systems *until it is proven that IP-based solutions can meet system requirements for the performance of safety of life and national security missions.*”⁵³

Our study indicates that there are no DOD facilities or facilities of any other Federal executive branch agency, including the FAA, served by any legacy TDM-based network facilities or services originating from the Trial Wire Centers. Nevertheless, to the extent such facilities exist, AT&T is committed to maintaining them until it is proven that AT&T IP-based solutions can meet system requirements for the performance of safety of life and national security missions.

6.1.4. Ensure Network Security

The Commission has requested detailed descriptions, including supporting data, regarding the security practices that applicants have undertaken to secure IP-based infrastructure and descriptions of the Supply Chain Risk Management (SCRM) practices applicants will follow in the course of conducting their experiments. Network and information security are a cornerstone of AT&T’s operations worldwide. AT&T has in place today a comprehensive risk management program to ensure the security and integrity of its network and services, including our IP-based infrastructure. In this section, AT&T provides an overview of that program, which will apply to the wireless and wireline IP-based services AT&T will offer in place of TDM both during and after the trials proposed here. Given the sensitivity of providing more detailed

⁵¹ *Technology Transition Trials Order*, ¶ 42.

⁵² *Id.*

⁵³ *Id.*, Appendix B, ¶ 18.

information on AT&T's security practices, additional information may be provided upon request in direct consultation with the Commission.

AT&T has a long history of collaborating with the Commission on emerging issues and security standards development through the Communications Security Reliability and Interoperability Council (CSRIC). We also participate in the communications sector coordination process for critical infrastructure, which is led by the Department of Homeland Security (DHS). AT&T also notes that on February 12, 2014, the National Institute of Standards and Technology (NIST) published its initial baseline Cybersecurity Framework to fulfill President Obama's Executive Order on cybersecurity, which proposes a set of baseline requirements for critical infrastructure.⁵⁴ NIST designed that framework based on industry standards and best practices, with input from the communications sector and other stakeholders. The implementation and continued evolution of the NIST framework should be a cooperative effort that includes industry and government agencies. In addition, any standards that the Commission develops in this area should broadly apply to all IP service providers, including providers of VoIP services.

a. AT&T's Security Practices

AT&T's corporate policy and practice is to protect its information resources from unauthorized or improper use, theft, accidental or unauthorized modification, disclosure, transfer, or destruction, and to implement protective measures commensurate with their sensitivity, value, and criticality. AT&T's information resources include any owned or managed systems, applications, and network elements, and the information stored, transmitted, or processed with these resources. AT&T develops and issues specific internal standards and other reference materials in support of this policy, collectively referred to as the "AT&T Security Policy and Requirements" (ASPR). ASPR includes policies addressing AT&T's workforce; its technology, vendor, contractor, and supplier contracts; and overall compliance, as well as related risk-assessment practices. Given the dynamic environment that AT&T supports, ASPR is continually re-evaluated and modified as industry standards evolve and as circumstances require.

AT&T's program is built upon industry standards such as ISO/IEC 27001:2005. AT&T has undertaken an audit of its enterprise security policies, program and practices, resulting in formal certification to the ISO27001:2005 Information Security Management Standard, including the latest certification, which covers hosting and cloud services. Consistent with such certification, AT&T: (1) systematically examines the organization's information security risks, taking account of the threats, vulnerabilities, and impacts; (2) designs and implements a coherent and comprehensive suite of information security controls and/or other forms of risk treatment (such as risk avoidance or risk transfer) to address those risks that are deemed unacceptable; and

⁵⁴ *Framework for Improving Critical Infrastructure Cybersecurity*, Version 1.0, National Institute of Standards and Technology, Feb. 12, 2014. Available at <http://www.nist.gov/cyberframework/>.

(3) has adopted an overarching management process to maintain information security controls that continue to meet the organization's information security needs on an ongoing basis. AT&T follows standards and certifications required for specific lines of business, including SSAE 16/ISAE 3402/SOC1 (formerly SAS 70), SOC 3 (formerly SysTrust), Payment Card Industry (PCI) Data Security Standard (DSS), HITRUST, or similar certifications or audits.

Further, AT&T actively participates in a wide range of standards bodies that include initiatives related to information security including the Internet Engineering Task Force (IETF), Alliance for Telecommunications Industry Solutions (ATIS), 3rd Generation Partnership Project (3GPP), GSMA, and the National Institute of Standards and Technology (NIST).

AT&T regularly conducts internal reviews of operations and applications functions to ensure adherence to established security procedures. AT&T reports the results of these reviews to its regional security managers and executive management. AT&T's internal review of business unit and operational compliance with security requirements consists of a comprehensive review of an organization's adherence to regulatory guidelines and internal policies, controls, and procedures, as applicable. AT&T security auditors and assessors evaluate the strength and thoroughness of compliance. Assessors review security policies, user access controls, and risk management procedures over the course of a compliance engagement and report the findings to all key stakeholders.

More specific to cybersecurity, AT&T maintains an extensive security program for the detection and mitigation of cyber threats. There are multiple components to the program including physical and logical access controls; network perimeter protection; intrusion detection; workstation security management; security status checking and vulnerability testing; risk management; security advisory program; security incident reporting; management and response; security compliance reviews; internal and external reviews and audits; real time traffic monitoring; change management; business continuity and disaster recovery; AT&T corporate management engagement; strategy for continuous improvement; personnel security; security awareness and education; and security training and certifications.

AT&T also has in place control frameworks that span various network assets including applications, databases, servers, end-user devices (*e.g.*, personal computers), modems, routers and switches, and firewalls. These control areas can include, but are not limited to, as appropriate, authentication, authorization, user and session management, data protection, data validation, error and exception handling, auditing and login, configuration management, account control, identification, system protection and integrity, patch management, anti-virus, disk encryption, host intrusion, and a variety of other security controls. With respect to company security practices that may be broadly applicable across sectors and throughout industry, AT&T employs processes and procedures in each of the following functional categories: separation of business from operational systems; separation of duties for administrators and users; use of encryption and key management; identification and authorization of users accessing systems;

asset identification and management; monitoring and incident detection tools and capabilities; incident handling policies and procedures; mission/system resiliency practices; and security engineering practices.

AT&T also maintains the security of its mobile network. AT&T's Radio Access Network (RAN) complies with 3GPP airlink security standards, as well as AT&T Security policies, which are in turn certified to the ISO/IEC 27001:2005 Information Security Management Standard. The RAN uses secure protocols in order to maintain and manage communication with the mobile station, as well as specific procedures that include power control and handover management. An important security mechanism that protects the radio link against eavesdropping is encryption, which protects both user data and network control information.

AT&T and its employees also interact with and participate in several U.S. and international security organizations, including, but not limited to the following:

- Communications Sector Coordinating Council (CSCC);
- National Security Telecommunications Advisory Council (NSTAC);
- Computer Emergency Response Team/Coordination Center (CERT/CC);
- Forum of International Response and Security Teams (FIRST) Team;
- U.S. Department of Homeland Security's National Security Telecommunications Advisory Committee (NSTAC) and its National Coordinating Center (NCC) for Telecommunication;
- U.K. Centre for the Protection of National Infrastructure (CPNI);
- National Security Information Exchange (NSIE);
- Various Information Sharing and Analysis Centers (ISACs), including Information Technology-ISAC and communications-ISAC;
- US InfraGard;
- Security activities within the Internet Engineering Task Force (IETF).

AT&T also participates in the following government cybersecurity initiatives:

- National Infrastructure Protection Center (NIPC);
- National Telecommunications and Information Administration (NTIA);
- Network Reliability Steering Committee (NRSC).

b. Supply Chain Security Requirements

AT&T deals with a carefully selected and limited number of well-established core network router and switch vendors, and has trusted relationships with these manufacturers and vendors that have developed over time. When conducting due diligence in the selection of network equipment, AT&T may, among other things, evaluate hardware and software to ensure it meets AT&T's security standards; test equipment to ensure data transfers cannot be intercepted or redirected; test software to ensure data transmission security; examine manufacturer's provenance and business history; and consult with the NIST or the Department of Commerce.

AT&T generally requires its vendors to comply with the specifications applicable to the network equipment, software, and devices that it procures. Compliance with these specifications is an important factor in the vendor selection process. In addition, vendors generally are required to comply with AT&T's Supplier Information Security Requirements (SISR), a detailed set of information and data security requirements incorporated into contracts. SISR, among other things, requires a vendor to document its security controls and procedures and requires that they be made available to AT&T for audit. These SISR requirements are an integral part of ASPR. All suppliers and contractors and agents of the AT&T companies are responsible for protecting AT&T information resources to preserve the confidentiality, integrity, and availability of computing, networking, and information assets. Suppliers and contractors are trained before being admitted into an AT&T workspace.

c. IP Telephony

The security challenges associated with IP services include the risk of toll fraud, concerns over data transmission and eavesdropping, voice phishing, denial of service attacks and spam.⁵⁵ Most, if not all, of these threats are not new; they existed on traditional TDM networks too. With proper precautions in place, security threats can be managed and minimized. Recently, a range of standards and best practices to address these concerns have emerged.

AT&T follows standard security practices for IP-based services as part of its security risk management program. During the trial, and throughout the transition, AT&T will continue its review of emerging cybersecurity threats and security standards to determine which are appropriate to protect its IP-based infrastructure. In 2010, the Commission, through CSRIC (working group #2A, which was co-chaired by AT&T), refreshed its cybersecurity best practices from its predecessor the Network Reliability and Interoperability Council (NRIC) and added several practices related to VoIP. These include the suggestions that: service providers and network operators should use dedicated VoIP servers; service providers and network operators should block protocols meant for internal VoIP call control use at the VoIP perimeter; service

⁵⁵ <http://eandt.theiet.org/magazine/2011/07/voicing-security-concerns.cfm>.

providers should proxy remote HTTP access to VoIP perimeter firewalls; network operators should ensure that network services are hardened and have authentication, integrity and authorization controls in place to avoid inappropriate use of services; and equipment suppliers should harden their equipment.

These recommended practices are based upon standards developed by the Defense Information Systems Agency (DISA), the National Security Agency's (NSA) Security Guidance for Deploying IP Telephony Systems and the PacketCable Security Specifications. In addition, the industry has developed a range of common practices for the protection of IP-based telephony services, including NIST 800-58 Security Considerations for Voice Over IP Systems. Most of these documents apply existing cybersecurity practices—such as hardening, encryption, access controls etc.—in a VoIP configuration.

6.1.5. *Ensure Adequate Backup Power*

In its *Technology Trials Order*, the Commission asks applicants to supply sufficient information to help the Commission “evaluate the measures that will be taken to maintain communications services in the event of a power outage.”⁵⁶ In particular, the Commission is focused on compliance with the Commission’s rules recently adopted in the *911 Network Reliability R&O*.

As to the *911 Network Reliability R&O*, the Commission has directed *Covered 911 Service Providers* to submit an annual reliability certification, which includes certifications with respect to backup power.⁵⁷ The rule adopted in 2013, and which is still subject to Office of Management and Budget approval under the Paperwork Reduction Act, requires certification with respect to the manner of backup power (fixed or portable generators, batteries, fuel cells, or combination), the duration of backup power (24 hours for Central Offices that directly serve a PSAP; 72 hours for such Central Offices if they also host a selective router), testing and maintenance of backup power equipment, and design of backup power equipment (e.g., fully automatic operation, stand-alone functioning).⁵⁸ If the Covered 911 Service Provider cannot certify to all these elements, the rule also allows it to certify to *alternative measures* employed by the provider to mitigate loss of service.

⁵⁶ *Technology Transition Trials Order*, ¶ 44.

⁵⁷ A “Covered 911 Service Provider” is defined as: “Any entity that: (A) Provides 911, E911, or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), or the functional equivalent of those capabilities, directly to a public safety answering point (PSAP), statewide default answering point, or appropriate local emergency authority as defined in sections 64.3000(b) and 20.3; and/or (B) Operates one or more central offices that directly serve a PSAP. For purposes of this section, a central office directly serves a PSAP if it hosts a selective router or ALI/ANI database, provides equivalent NG911 capabilities, or is the last service-provider facility through which a 911 trunk or administrative line passes before connecting to a PSAP.” *911 Network Reliability R&O*, Appendix B, Rule 12.4(a)(4).

⁵⁸ *911 Network Reliability R&O*, Appendix B, Rule 12.4(c)(2).

With respect to the Trial Wire Centers, AT&T is a Covered 911 Service Provider and, as such, it fully intends to comply with all applicable Commission rules regarding 911 network reliability and backup power. Today, on the network side, AT&T's IP networks rely on commercial power with a combination of fixed and portable generators and batteries to supply backup power in case of loss of commercial power.

The Test Wire Centers have fixed diesel-fueled, backup engines. As a general practice, AT&T strives to maintain a minimum of 72 hours' worth of fuel in the engine tanks at all times. For its disaster recovery efforts, AT&T has an emergency fueling plan, which is managed by its Emergency Response Center and Fleet. And AT&T has a strategic partnership with a national fueling vendor that is capable of drawing upon resources from around the country in support of emergency refueling efforts.

In addition to the backup engines, each Test Wire Center has backup battery arrays. The Carbon Hill Wire Center has a 7.7 Battery Hour Reserve (BHR) and Kings Point has a 3.6 BHR. The BHR is the estimated battery life in terms of hours. Besides these backup power battery arrays, AT&T has portable generators available to support the fixed engines in the event of a failure for any reason. Portable generators are not typically staged at the wire center, but they are close enough for AT&T to deploy them before exhaustion of the battery reserve life of the direct-current plant (*i.e.*, backup battery array) for each office. With the portable generators, run times vary by the size of tank and the engine and current office load.

A significant difference between the network architecture of the TDM network and the IP network is that the IP network is more distributed, meaning that not all of the critical network elements are found within the confines of a wire center. These distributed elements are also powered by commercial power with battery backup power. Typically, depending on the facility in question, the backup power for distributed network elements runs from approximately four to eight hours. Power to these distributed facilities, like a DLC remote terminal, is also backed up by portable generators that are designed to be easily and quickly deployed and operationalized. The only distributed network facility that relies solely on batteries for backup power is the fiber-to-the-premises optical network terminal (ONT), which normally operates on commercial power drawn from the subscriber's home or place of business. Depending on circumstances, the ONT backup power lasts approximately eight hours.

AT&T provides customers information regarding the battery backup for the terminal equipment used with AT&T's VoIP services online at its U-verse Voice Support web page.⁵⁹ There, and in other customer-facing documents, AT&T alerts subscribers to the differences between traditional telephone service and AT&T VoIP service, the different devices used to provide the service (*e.g.*, residential gateway and ONT), how such equipment is powered, their respective backup power options, and instructions on what to do in preparation for and during

⁵⁹ See: <http://www.att.com/esupport/article.jsp?sid=KB409162#fbid=Yn0OinKDISU>.

commercial power outages with the aim of improving the subscriber's backup power battery life. During the trial, the same information will be readily available to customers of the Trial Wire Centers.

On the customer side of the demarcation point, AT&T U-verse VoIP, HSIA and IPTV service rely on a residential gateway (RG) for customer access. Customers simply plug in traditional corded or cordless home telephones to access the VoIP service.⁶⁰ The RG runs on commercial power but has a self-contained, rechargeable backup battery device that attaches to the power wall socket on one side and the RG on the other.⁶¹ Should a subscriber lose commercial power, the battery device automatically provides backup power for approximately four hours.

Likewise, for Wireless Home Phone, the base-station device has a manufacturer-provided rechargeable battery pack that has an approximate 36 stand-by hours and three and a half (3.5) talk-time hours.⁶²

6.1.6. Report Network Outages

In the *Technology Trial Order*, the Commission stated that, during any "experiments," the trial applicants should "commit[] to filing outage reports and PSAP notifications consistent with the Part 4 rules."⁶³ The VoIP services that AT&T will use in the Trial Wire Centers to replace existing TDM-based services are not experiments but rather tested services (see discussion above). As such, with respect to these services today, AT&T is presently reporting outages as set forth in the Part 4 rules and is committed to continue doing so during the Trial and going forward.⁶⁴

Similarly, Wireless Home Phone is a tested CMRS product and CMRS outages affecting Wireless Home Phone customers are presently reported in conformance with 47 C.F.R. § 4.9(e). AT&T fully expects any enhanced, successor product to be handled in a similar fashion.

6.1.7. Continued Compliance with CALEA

The Commission seeks acknowledgement from applicants that services used by customers during any approved trial "will satisfy the Communications Assistance for Law Enforcement Act (CALEA), their obligations under Titles 18 and 50, and similar State

⁶⁰ While traditional corded phones do not rely on commercial power, cordless phones do. The backup power options for a subscriber's cordless phone would depend entirely on the make and model.

⁶¹ With future models of the RG, the backup power will be contained within the RG unit itself.

⁶² The rechargeable battery can be recharged by commercial power and by tapping into a motor vehicle electrical system using an inverter or the vehicle's power port or cigarette lighter.

⁶³ *Technology Transition Trials Order*, ¶ 45.

⁶⁴ 47 C.F.R. §§ 4.1 *et seq.*

requirements.”⁶⁵ With respect to AT&T VoIP services, AT&T presently complies with its CALEA and other law enforcement obligations. With respect to CALEA in particular, AT&T VoIP services are compliant with the ATIS-1000678.v2.2006 (also known as T1.678) standard.

Likewise, AT&T’s wireless services are CALEA compliant. Our Wireless Home Phone product today complies with the J-STD-025 for TDM-based wireless service. Moreover, with the rollout of AT&T’s Voice over LTE (VoLTE) service, Wireless Home Phone will comply with the appropriate IP-based standard (ATIS 0700005). Again, AT&T fully expects any enhanced, successor product to be handled in a similar fashion.

6.1.8. Maintain Network Reliability

As previously noted, the Commission is expecting trial applicants to show that they will maintain the “current levels of reliability, including the ability to function during commercial power failures and security from external attack, should be maintained in an experiment.”⁶⁶ To this end, the Commission is interested in considering “the extent to which applicants will follow the CSRIC best practices in the course of conducting their experiments,” both with regard to their new networks and their transitioned networks.⁶⁷

In its efforts to build and maintain a reliable and resilient network, AT&T strives to apply best practices wherever and whenever such practices are appropriate to the situation at hand. AT&T is an active participant in CSRIC, and has willingly adopted CSRIC best practices as appropriate to the field conditions and the nature of the service offering. During the trial, AT&T will continue to follow the CSRIC best practices, as applicable, with respect to its legacy network and in the provision of VoIP and Wireless Home Phone services.

Both AT&T VoIP services and AT&T’s wireless services are highly reliable. With respect to AT&T VoIP services, these services are at least as reliable as competitive fixed VoIP services offered in AT&T’s in-region territories.⁶⁸ Apart from the inherent reliability of the AT&T VoIP services, AT&T has committed to a program to address the occasional, temporary loss of commercial power (see discussion above on Backup Power), as well as the more serious challenges posed during and after man-made and nature disasters (see Safeguards to Ensure Public Safety above).

6.1.9. Provision of Public Alerts

The Commission correctly presumes that “applicants who support provision of Wireless Emergency Alerts (WEA) over some or all of their service areas’ legacy infrastructure will

⁶⁵ *Technology Transition Trials Order*, ¶ 46.

⁶⁶ *Id.*, Appendix B, ¶ 24.

⁶⁷ *Id.*

⁶⁸ Both Comcast in Kings Point and Charter Communications, Inc., in Carbon Hill offer competing VoIP services.

continue to provide WEA or provide equivalent alerting capability in such areas.”⁶⁹ With regard to AT&T, that presumption is correct. This trial will in no way alter or diminish AT&T’s provision of WEA.

Emergency Alert Systems (EAS) will not be affected by AT&T’s Transition Trial because EAS are not dependent on legacy TDM facilities. As for AT&T’s U-verse television service, in particular, we monitor, receive, and retransmit emergency alerts independently of TDM services.

Accordingly, during AT&T’s Transition Trial, there should be no issue with sustaining and providing current levels of public alerts.

6.1.10. Public Safety Priority Services

The Commission also presumes that during any trial, applicants “will accommodate priority access, routing, provisioning, and restoration for essential national security and emergency preparedness communications.”⁷⁰ In particular, the Commission highlighted the importance of Wireless Priority Service (WPS), Government Emergency Telecommunications Service (GETS), and Telecommunications Service Priority (TSP) as being “at the core of community planning” and “vital for tactical, emergency response.”⁷¹ None of these services will be adversely affected by the proposed trial.

GETS traffic prioritization has been engineered into AT&T’s business VoIP offering allowing call prioritization across the IP and TDM networks. GETS prioritization has not yet been engineered into the AT&T’s consumer VoIP offering (e.g., U-verse). GETS calls will still complete across the CVoIP platform, but call prioritization would only occur on a portion of the call that was engineered for NS/EP priority, (e.g., a TDM or BVoIP portion). WPS will not be adversely impacted by the Wire Center Trial. WPS access is currently available through AT&T’s Wireless Home Phone service.⁷²

During the Trial, AT&T will support and comply with all TSP rules and policies for applicable services—*i.e.*, those services that have a Layer 1 component to the circuit. Specifically, in the Trial Wire Centers, AT&T will be able to tag AT&T VoIP service circuits to provide priority service for our TSP subscribers.⁷³ As for any future enhanced version

⁶⁹ *Technology Transition Trials Order*, Appendix B, ¶ 25.

⁷⁰ *Id.*, Appendix B, ¶ 27.

⁷¹ *Id.*

⁷² AT&T Mobility subscribers seeking to use the Wireless Home Phone service for WPS access will need a SIM card provisioned for such access and will need to pay a subscription for the service. Access to GETS does not require a paid subscription, but subscribers are charged when GETS is accessed.

⁷³ While not anticipating any issues, AT&T is willing to take any unforeseen matters to the Commission’s TSP Oversight Committee.

of Wireless Home Phone, there would be no individualized Layer 1 element to prioritize.⁷⁴ Restoration of wireless network service is appropriately prioritized to address the needs of Wireless Home Phone subscribers.

6.2. UNIVERSAL ACCESS

6.2.1. *Access for Persons with Disabilities and Populations with Unique Needs.*

During the trial (and, indeed, the broader IP transition), AT&T will continue to meet its historic commitment to satisfying the communications needs of persons with disabilities and populations with unique needs (including seniors, persons with limited English proficiency, low-income populations, and residents of Tribal lands).⁷⁵ That commitment dates to AT&T's founding, and is unparalleled in the communications industry and a model for service providers in other industries.⁷⁶ That will not change during the trials. To meet that commitment, AT&T has developed an outreach plan for persons with disabilities and other populations with unique needs as an integral component of the trials. That plan has five elements: identifying customers with disabilities in the trial wire centers; customer outreach and education; customer care and support; identifying accessible technology solutions; and transitioning persons with disabilities from one service to another.

a. Customer Identification

An essential component of AT&T's outreach plan for persons with disabilities and other populations with unique needs is to identify these customers so that we can provide notice of the trials, accommodate their needs, and provide them a means to communicate with AT&T with any concerns or issues they may have. However, AT&T does not generally request customers to self-identify any disability or keep any records identifying customers with disabilities or who use assistive technology. As a consequence, AT&T is seeking the cooperation and assistance of national, state and local disability organizations with expertise regarding a range of disabilities to help AT&T identify customers with disabilities while simultaneously maintaining those customers' reasonable expectations of privacy. Already, AT&T has met with disability advocates and experts representing a dozen national organizations to share its plans for the trial

⁷⁴ The Wireless Home Phone base station device is like any hand-held wireless device; that is, it is owned by the subscriber. AT&T does not dispatch repair services for CPE.

⁷⁵ As discussed in section 6.2.2., one of the IP-based replacement services AT&T will offer in the trial wire centers is its Wireless Home Phone service. The price of Wireless Home Phone is lower than a typical customer pays today for traditional POTS service, providing low income consumers (including elderly customers on a fixed income) a low-cost option that meets their budgetary needs.

⁷⁶ Indeed, Alexander Graham Bell, the founder of AT&T, was a teacher of deaf people, and his invention of the telephone in 1876 was an outgrowth of his efforts to develop the first hearing aid. Global Initiative for Inclusive Information and Communication Technologies (G3ict), White Paper, *Accessibility, Innovation, and Sustainability at AT&T: How a culture of inclusion and the adoption of Universal Design at AT&T drive business processes to serve persons with disabilities*, at 13 (2013) (listing early accessibility milestones at AT&T) (available at: http://www.att.com/Common/merger/files/pdf/G3ict_White_Paper.pdf), attached hereto as Exhibit G. G3ict is an Advocacy Initiative of the United Nations Global Alliance for ICT and Development, which seeks to facilitate and support implementation of the Convention on the Rights of Persons with Disabilities.

and to discuss the limitations we face in identifying customers with disabilities. AT&T will work with these organizations to develop a plan for providing persons with disabilities detailed information regarding the trials, and the steps AT&T will make to ensure they continue to have access to accessible communications technologies and services. That plan will rely on those organizations to contact their constituents directly to provide them such information using communications media appropriate for individuals with different disabilities. AT&T is soliciting proposals from these disability groups regarding how they will identify and communicate with their constituents.

b. Outreach/Communications

As discussed in Section 5, AT&T has developed a detailed and extensive customer outreach and communications plan to ensure that all of our customers receive appropriate notice and information about the trials, and their potential impact on customers. AT&T will include in this initiative messages and communications media specifically tailored to meet the needs of persons with various disabilities, and populations with unique needs. In particular, AT&T will:

- Work with national disability organizations to identify and begin outreach to local disability organizations in the trial areas and brief those local organizations on the IP trials;
- Include in customer notices regarding the trial a telephone number that customers can call to speak with representatives at AT&T's Disability and Aging Center, who are specially trained to assist seniors and customers with disabilities and will be able to communicate using TTY;
- Launch an accessible website with information about the IP transition for customers with and without disabilities;
- Ensure that information it posts to the web about the trials will be accessible to customers who are blind, with low vision, or other disabilities;
- Provide customer service agents and retail employees with training materials about the impact of the IP Transition on customers with disabilities;
- Hold training sessions for local disability organizations, and for seniors;
- Provide informational materials to local disability organizations and seniors groups, and support their efforts to educate their constituents about the trials, how AT&T plans to address the needs of persons with disabilities and seniors, and how to provide feedback about their experiences to AT&T;
- Collaborate with other organizations in the development of outreach material; and
- Engage with local disability organizations and groups for seniors upon request , and participate with them in trial-related events.

c. Customer Care Process

AT&T's customer care and support plans also have been designed to accommodate persons with disabilities and populations with unique needs. Among other things, AT&T has designed its customer care webpages and online tools to be accessible by persons with disabilities and populations with unique needs (for example, the customer care webpages are available in English and Spanish). We also have provided customer care agents at AT&T's Disability and Aging Center training and other materials regarding the trials, and how the transition could impact assistive technology to ensure they provide appropriate care and support to persons with disabilities and seniors.

d. Technology

In section 4 and the detailed product sheets attached as Exhibit E, we have provided detailed information regarding the transition, including information about the TDM-based products and services offered in the trial wire centers, their IP-based wireline and wireless replacements, and any differences in features, functions and capabilities between them. As discussed above, AT&T still is developing some of these replacement services, and is in the process of upgrading others to meet its customers' needs and the fundamental network values discussed above. For example, AT&T is upgrading its Wireless Home Phone service to provide enhanced location accuracy, and to ensure that health monitoring and other devices will function properly.

In developing and upgrading its IP-based wireline and wireless services, AT&T has sought to ensure that they will meet the needs of persons with disabilities, seniors and other populations with unique needs. We recognize the concerns such persons may have regarding the impact of the TDM to IP transition, and plan to address accessibility issues head-on during the trial so that we can work cooperatively with disability organizations, seniors and others to develop appropriate technical solutions, consistent with our product/service design and development process outlined above.

e. Specific Customer Transitions

In the foregoing subsections, we have described AT&T's general plans for addressing the unique needs of persons with disabilities, seniors and other populations so they have access to IP-based communications products and services that meet their needs, and are providing them information needed to make the transition from TDM to IP during the trial. But we recognize that each of our customers is a unique individual, and may have needs or concerns that we may not have anticipated. As a consequence, we have implemented two precautions to ensure that all of our customers with disabilities continue to have access to accessible communications services. First, if a customer with a disability relies on assistive technology that does not function effectively over AT&T's IP-based alternative service and an IP-compatible device with comparable functionality is not available, AT&T will not seek to transition that customer to an IP alternative. Second, if customers with disabilities transition from TDM to IP and later find their assistive technology does not work, AT&T promptly will switch them back to their prior TDM service while we identify an appropriate solution.

6.2.2. *Maintaining Universal Service Status Quo.*

Consistent with the Commission’s presumption in the *Technology Transitions Order*, AT&T will maintain its existing eligible telecommunications carrier (ETC) status and comply with all obligations arising from that status, at the outset of the trials — that is, during the period AT&T offers IP-based services only on a voluntary basis in the wire centers.⁷⁷ But, at an appropriate time before AT&T seeks to grandfather existing customers of TDM-based services, AT&T plans to file a request for relief from the ETC obligations in the trial wire centers effective on the first day of Stage 1 of the trials.⁷⁸ In that request, AT&T will demonstrate how it will satisfy the universal access statutory objective in other ways, and elaborate on why such relief is appropriate. In this section, we provide a brief overview of the issue to preview why it will be unnecessary to require AT&T and AT&T to maintain their ETC status in the two trial wire centers, and how doing so would hinder these experiments.

Congress created the ETC designation in the Telecommunications Act of 1996 (1996 Act) and determined that only ETCs shall be eligible to receive specific universal service support,⁷⁹ except for Lifeline support, which Congress exempted from that requirement.⁸⁰ Notwithstanding this congressional exemption, the Commission has linked participation in its Lifeline program to the ETC designation through its rules so that, currently, every ETC must participate in the Commission’s Lifeline program.⁸¹ Additionally, the Commission has permitted providers to participate only in the Commission’s Lifeline program but it has required those providers to become Lifeline-only “ETCs,” which, is unnecessary pursuant to section 254(j) of the statute.

By statute, ETCs are common carriers that must “offer the services that are supported by Federal universal service support mechanisms” throughout their designated ETC service areas.⁸² Currently, “voice telephony service” is the sole supported service.⁸³ As a condition of receiving high-cost support in a state, the Commission requires an ETC to offer voice telephony service on a standalone basis throughout its designated service area in that state.⁸⁴ AT&T does not offer its

⁷⁷ *Technology Transition Trials Order*, App. B at ¶ 32.

⁷⁸ Of course, if the Commission modifies its ETC requirements before the first day of Stage 1 of the trials, which it should, there may be no need for AT&T to request such relief.

⁷⁹ See 47 U.S.C. §§ 214(e), 254(e).

⁸⁰ 47 U.S.C. § 254(j) (“Nothing in this section shall affect the collection, distribution, or administration of the Lifeline Assistance Program . . .”).

⁸¹ See 47 C.F.R. § 54.405(a).

⁸² See 47 U.S.C. § 214(e)(1).

⁸³ 47 C.F.R. § 54.101(a).

⁸⁴ See *Connect America Fund, et al.*, WC Docket No. 10-90 et al., 26 FCC Rcd 17663, ¶ 80 (2011) (*USF/ICC Transformation Order*).

VoIP services on a common carrier basis, nor does it offer its VoIP services on a standalone basis. Additionally, as noted above, ETCs must offer Lifeline-discounted service to eligible low-income customers and comply with the Commission's Lifeline program obligations.

ETCs also must comply with various reporting requirements and, potentially, state-imposed ETC obligations. State commissions are required to permit an ETC to relinquish its designation in any area served by another ETC.⁸⁵ But, there is no clear path for ETCs to relinquish their designations in those geographic areas where there is no other ETC even if there are numerous other providers offering voice telephony service in such areas.

Despite the Commission's directive in 1997 that states should not designate large carriers as ETCs throughout their entire study areas,⁸⁶ all of the state commissions where AT&T provides service as an incumbent local exchange carrier (ILEC) did just that. The ETC service areas of AT&T's ILECs mirror these carriers' study areas. Consequently, in those states where AT&T's ILECs receive some amount of high-cost support, however small or targeted to discrete geographic areas, these carriers are required to offer voice telephony service on a standalone basis throughout their vast study areas. AT&T receives so-called frozen high-cost support in Alabama and Florida. Although it is not required to spend any of that high-cost support in the trial wire centers under the Commission's current requirements, AT&T must offer a standalone voice service in these wire centers.

Later this year, the Commission will offer price cap carriers, such as AT&T, Connect America Fund (CAF) Phase II support.⁸⁷ This support will be targeted to Commission-identified high-cost areas. All other areas within a price cap carrier's study area will be ineligible for CAF Phase II support. If a price cap carrier declines the Commission's offer of model-calculated support (referred to as the state-level commitment), the Commission will commence a competitive process to award support to providers that will deploy broadband in these Commission-identified areas.⁸⁸ Unless the Commission modifies the ETC requirements applicable to price cap carriers, which it should, any AT&T ILEC that remains a legacy ETC will be saddled with service obligations (to provide Lifeline, to the extent it continues to receive frozen high cost support and stand-alone voice throughout its entire study area) that would not apply to their competitors receiving the same support. Those competitors likely will seek and obtain ETC designations covering only those areas where they actually receive CAF Phase II support. Even if AT&T's ILECs do not accept any CAF Phase II support, they will be subject to service obligations (to offer voice telephony service and Lifeline supported services throughout the area for which they have been designated as an ETC) that will not apply to such competitors.

⁸⁵ 47 U.S.C. § 214(e)(4).

⁸⁶ *First Universal Service Order* at ¶¶ 184, 185.

⁸⁷ *Technology Transitions Trial Order* at ¶ 98 ("We expect to implement the offer of model-based support to price cap carriers before the end of 2014.").

⁸⁸ *See, id.* at ¶ 100.

Moreover, insofar as large swaths of AT&T ILECs' service territories will be ineligible for CAF Phase II support, their obligation to provide voice and Lifeline service in much, if not most, of their territories will be unfunded.

Under the latest version of the Commission's Connect America Model (CAM), almost all of the Kings Point wire center is ineligible for CAF Phase II support, and many areas within the Carbon Hill wire center are similarly ineligible.⁸⁹ Unless the Wireline Competition Bureau drastically changes the CAM before the date it is scheduled to offer price cap carriers Phase II support later this year, the Commission soon will conclude (based on its own measure — the CAM) that the trial wire centers require little or no universal service support to preserve and advance universal access,⁹⁰ and neither AT&T nor any other provider will be eligible to receive support there. If the Commission determines that support is unnecessary to maintain universal access in these areas, it also should find that requiring a carrier to maintain its ETC status is unnecessary to protect the public interest. For those pockets of the two trial wire centers that are CAF Phase II eligible, if the Commission offers a sufficient amount of support, some provider — which may be AT&T or some unaffiliated provider — may accept the service obligations in exchange for the funding. And, that provider will be an ETC, in accordance with the Commission's requirements.

Requiring AT&T to provide voice on a standalone basis in areas where it does not receive — and, under CAF Phase II, where it cannot receive — high-cost support, would distort the market. In particular, such a requirement would preclude AT&T, but not its competitors, from offering voice only as part of a bundle with broadband Internet access and/or video services, or as an application provided over a broadband Internet access service.⁹¹ Particularly given the robust competition AT&T faces from wireless, cable MSOs and other wireline providers of broadband, there is no basis for limiting the way in which AT&T and other ETCs may structure their services if those limits do not apply to competitors as well — particularly in areas where the Commission has concluded that funding is unnecessary to support universal service. Any such requirement is wholly unnecessary because customers in the trial wire centers have a multitude

⁸⁹ See *Wireline Competition Bureau Releases Maps of Illustrative Results for Connect America Cost Model Version 4.0*, WC Docket No. 10-90, Public Notice, DA 14-153 (rel. Feb. 6, 2014). According to CAM v4.0, the amount of CAF Phase II support that would be available to serve the eligible areas in the Kings Point wire center is less than \$8,900/year and \$160,000/year in the Carbon Hill wire center.

⁹⁰ See 47 U.S.C. § 254(b)(5) (The Commission should establish “specific, predictable, and sufficient . . . mechanisms to preserve and advance universal service.”).

⁹¹ Given the very high capital costs necessary to expand broadband deployment, service providers must be able to recover their costs from subscribers. Often the most cost-effective way to do so is by offering bundled packages of services. The alternative is to significantly increase the cost of stand-alone voice services to levels that may be unacceptable to consumers.

of voice offerings available,⁹² including AT&T Mobility's Wireless Home Phone service, which provides unlimited local and long distance calling within the United States for \$19.99/month

Nor is there any reason to require AT&T to remain an ETC in the trial wire centers solely to provide Lifeline. Other than AT&T, there currently are 19 providers offering Lifeline in the Carbon Hill wire center and 7 providers offering Lifeline in the Kings Point wire center. Moreover, as discussed above, AT&T will offer in the trial wire centers unlimited local and domestic long-distance calling over its Wireless Home Phone service at rates that are typically less expensive than the amount AT&T's Lifeline customers currently pay for traditional voice telephone services.⁹³ Consequently, irrespective of whether AT&T provides Lifeline service, low income customers (and, indeed, other persons with unique needs, such as seniors on fixed incomes) will continue to have access to low cost voice telephone services in the trial wire centers.

In any event, one of the objectives of these trials is to evaluate the effect the IP transition will have on customers. As broadband is ubiquitously deployed and adoption rates increase, voice is apt to become just another application that will be offered to customers. Quite simply, as the IP transition progresses, there likely will be no business case for a wireline provider to offer voice on a standalone basis. Post-transition, to the extent that companies offer "standalone" voice, they are likely to do so only at prices that are approximately the same as the price for standalone broadband service, and there is no policy reason why the Commission should compel AT&T to do otherwise during the experiment. For the reasons mentioned above, which will be described in further detail in a subsequent pleading, AT&T will request relief from their ETC obligations in the two trial wire centers.

6.2.3. *Preserving and Enhancing Broadband Access.*

AT&T has long been committed to deploying next generation broadband facilities and services to as much of its service territory and customers as possible. Where it is economic to do so, AT&T is expanding its U-verse footprint and replacing its traditional DSL broadband technology (which is approaching the end of its life cycle) in order to provide higher-speed, IP-based wireline broadband to 57 million customer locations. In particular, AT&T is expanding U-verse—AT&T's integrated voice, data, and IPTV platform—by 8.5 million additional customer locations, for a total potential U-verse market of nearly 33 million customer locations. AT&T also plans to offer IPDSL-based service (U-verse High-Speed Internet) to nearly 24 million customer locations in its wireline service area. At the same time, AT&T is expanding its LTE deployment to reach 300 million people. As part of that initiative, AT&T will offer wireless

⁹² See *supra* section 3.7.

⁹³ Using billing data for a one month period, the average monthly bill for traditional voice telephone services (including local telephone service with features and long distance services) for Lifeline customers in Carbon Hill was [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE] and for Lifeline customers in Kings Point it was [CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]. These amounts include the Lifeline discount.

communications alternatives (including its Wireless Home Phone, Wireless Home Phone and Internet and Wireless Business Phone services) to customers living in particularly high-cost areas. Taken together, these deployments are projected to extend high-quality IP-based broadband services (wireline, wireless or both) to 99 percent of all customer locations within AT&T's 22-state wireline service area. Those broadband services are significantly better than AT&T's legacy ATM-based DSL services, enabling customers to access the Internet faster and with better quality service than ever before.

However, AT&T cannot economically extend its next generation wireline and wireless broadband footprint to reach every corner and customer across its 22-state wireline service area, which is the case in the trial wire centers as well. As discussed above, AT&T designed these trials to ensure that they will provide an opportunity to flesh out the most challenging issues raised by the IP transition. The Carbon Hill wire center, in particular, presents geographic, economic and technical challenges. It is a sparsely populated area located in rural Alabama. These factors make it uneconomic for AT&T to extend its next generation wireline broadband network and services to all existing customer locations in Carbon Hill. Consequently, AT&T currently plans to offer such wireline IP services to approximately **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent of living units in Carbon Hill. It will offer its wireless broadband voice and data services only to an additional **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent of living units. AT&T has not yet found a viable replacement service for the remaining four percent of locations, and still is considering its options for those living units. AT&T recognizes that it is responsible for ensuring that these customers will have an alternative available to them prior to discontinuing TDM services, and is, in all events, committed to working with the Commission, policymakers, and other stakeholders to ensure that this happens.

Some of AT&T's existing wireline broadband customers (those purchasing traditional DSL services) reside at locations that cannot be reached by AT&T's U-verse or IP DSLAM network and services given the distance limitations of those technologies. At the same time, AT&T economically cannot maintain its legacy network (including the facilities used to provide traditional DSL services) to continue serving the relatively small number of such locations that could be reached by legacy DSL but not AT&T's U-verse VDSL or IPDSL services. In all cases, AT&T will be able to offer those customers wireline or wireless broadband services. In Carbon Hill, **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent of existing consumer DSL customers will have only a wireless broadband service available from AT&T. The remaining **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent will have a wireline broadband replacement available from AT&T, and most of these also will have access to a wireless broadband service. In Kings Point, **[CONFIDENTIAL – NOT FOR PUBLIC DISCLOSURE]** percent of existing consumer DSL customers will have only a wireless broadband service available from AT&T. The remaining approximately **[CONFIDENTIAL –**

NOT FOR PUBLIC DISCLOSURE] percent will have wireline broadband replacement available from AT&T, and most of these also will have access to a wireless broadband service.

6.2.4. *Maintaining Quality of Service.*

As the Commission itself recognizes, converged IP networks are far more dynamic, versatile, resilient, and efficient than the single-purpose TDM networks they are replacing. IP networks (both wireline and wireless) thus enable a variety of new services, features and functions that will benefit customers and provide a platform for growth and innovation. It is important not to lose sight of this enormous potential amidst fears that not everything will be exactly the same or that certain functionalities will be lost as the transition proceeds. If customers experience significant net benefits from the transition — which they will — then the transition is in the public interest. But, if service providers end up designing their IP networks and services simply to replicate the features, functions and capabilities of legacy TDM networks and services, the IP Transition will be a failure insofar as customers will not realize the full benefits offered by the transition. As AT&T previously has explained,⁹⁴ the transition to all-IP services will entail trade-offs, and not every feature and function offered over TDM will be available or will work in the same manner during and after the transition.

In designing the wireline and wireless IP-based services that it will offer in place of legacy TDM services, AT&T has sought to carry over those features and functions that customers demand, and that are necessary to meet the foregoing fundamental principles and values. In some cases, the features and functions of those replacement services differ from those of existing services. For example, voice quality on CMRS networks and services currently differs from that of traditional, TDM voice services (which were designed solely to transmit voice communications). Nonetheless, over 40 percent of American households have cut the cord entirely and rely solely on CMRS service for their voice communications needs. And millions of these rely on CMRS to connect traditional telephone handsets to the PSTN (*e.g.*, through AT&T's Wireless Home Phone and other comparable services). The question then is whether the differences in features and functions between legacy TDM services and their wireless and wireline IP replacements are nonetheless acceptable, and thus whether those replacements are reasonable and adequate alternative to TDM,⁹⁵ which are some of the questions these trials are intended to address.

Of course, IP services are continuing to evolve, and they undoubtedly will provide even greater levels of functionality and higher quality to users than they do now. Today, wireline VoIP services offer sound quality as good as or better than the sound quality customers have come to expect from TDM voice services. That was not always the case. And even if some

⁹⁴ See Reply Comments of AT&T Services, Inc., GN Docket No. 13-5, at 9-12 (filed Aug. 7, 2013).

⁹⁵ As the tens of millions of customers that have cut the cord and rely solely on wireless for voice communications both in and outside their homes demonstrate, that would appear to be the case with wireless voice quality.

customers do not deem the sound quality of CMRS to be as good as traditional POTS, that quality will only get better as wireless providers expand their deployment of LTE, which will enable high-definition (“HD”) voice, which, in turn, is expected to provide audio quality superior to traditional POTS services. But these innovations will never get off the ground if the transition is bogged down by misguided calls to replicate every facet of the TDM network.

In this plan, AT&T has identified the features and functions of its wireless and wireline IP replacement products (including those already available and those that will be implemented in the course of the trial along with a timeline showing when they will be available). It also has identified whether and how they differ from TDM to ensure all interested parties understand the impact of, and can appropriately prepare for, the IP transition. AT&T believes its IP replacement services (most of which already are available in the market today) provide appropriate and, in many cases, superior substitutes for the legacy TDM services it will discontinue as the IP transition proceeds. We welcome a dialogue with consumers, policymakers and others regarding any potential gap in technology or services they may identify, and whether and by whom such gap should be filled.

6.3 COMPETITION

6.3.1. *Maintaining Wholesale Access.*

As is the case with AT&T’s end user retail customers, a complete test of the transition would entail the required participation of all actors in the test wire centers, including wholesale customers. AT&T nevertheless is prepared to move forward with trials in the test wire centers subject to the condition established in the *Transition Trials Order* limiting the involvement of wholesale customers at the initiation of the trial to those that participate voluntarily.⁹⁶ In this section, AT&T describes its plans for addressing the other conditions and presumptions established in the *Order* and its Appendix B that are pertinent to our wholesale customers.⁹⁷

Non-affiliated carriers currently are purchasing wholesale services in both proposed test wire centers.⁹⁸ As might be expected for a wire center of its size and rural location, the Carbon Hill wire center has less wholesale activity than Kings Point. The most recent data available shows that the bulk of the wholesale services that non-affiliated carriers purchase in Carbon Hill involves CLECs purchasing either AT&T’s Local Wholesale Complete™ (LWC) commercial product or retail services for resale, although other carriers also are purchasing DS1 special access circuits for what appears to be wireless backhaul.

⁹⁶ *Technology Transition Trials Order*, ¶ 59 and n.91. As the *Order* contemplates (*id.*, n.91), AT&T expects to pursue additional phases of these trials that would include, with the Commission’s authorization through the Section 214 process, the complete withdrawal of TDM-based wholesale services. To that end, AT&T has identified in the product data sheets in Exhibit E the interstate TDM wholesale services for which 214 applications will be filed, and anticipates submitting an application to grandfather those services in the trial wire centers on July 1, 2015, with the goal of sunseting TDM wholesale services there by March 31, 2017.

⁹⁷ *See id.*, ¶¶ 59-64 and App. B, ¶¶ 35-39.

⁹⁸ AT&T is continuing to research the specific extent of wholesale activity in each wire center, and will supplement this filing at an appropriate time to incorporate information regarding such activity.

In contrast, far more wholesale customers are active in the Kings Point wire center, and they purchase wholesale services in greater volumes than in Carbon Hill, which is not surprising, given the relatively larger and denser population and suburban location of that wire center. Those customers are a diverse group, including large national wireless carriers, some of the nation's largest CLECs, and smaller, regional carriers. The TDM-based products and services they purchase are just as diverse, and encompass not only the commercial LWC product, but also switched Ethernet services, legacy DSn-level special access services, unbundled network elements (including 2-wire voice grade loops, unbundled DSL capable loops, 2- and 4-wire digital loops, and DS-1 enhanced extended loops), and resold consumer and business retail services.

As we stated at the outset of this submission, AT&T values its relations with its wholesale customers, and intends to work aggressively to retain their business as the entire industry undergoes the transition to an all-IP ecosystem. Accordingly, AT&T has identified the replacement products that already are available as alternatives to current legacy TDM services – such as the AT&T Switched Ethernet (ASE) service that is available to replace DSn-level special access services and high capacity loop and transport UNEs – and will provide customers who choose to do so the opportunity to transition to those alternatives in this initial phase of the trial. AT&T also will continue to meet its wholesale obligations under Section 251(c) of the Act, including by making UNEs available through the current stage of the trial. At the same time, wholesale customers will have the opportunity to obtain bare copper loops and utilize their own electronics to provide high capacity services to their end user customers.⁹⁹ AT&T also is working diligently to develop IP replacement services, which it intends to make available for resale to wholesale customers on commercial terms. AT&T's objective is to complete those development efforts, as well as those aimed at developing an IP-based alternative to the LWC product, as soon as possible, although it is likely the final commercial products will not be available until the trials already are underway.

AT&T's wholesale marketing plan for the initial stage of the proposed trials is straightforward: we will proactively engage our wholesale customers in these wire centers to offer them the opportunity voluntarily to migrate from their existing TDM-based services and products to the available replacement products. This process will include normal methods for contacting wholesale customers on an industry-wide basis (such as through accessible letters),¹⁰⁰ and direct outreach by sales teams to the customers identified as active in these wire centers.

⁹⁹ The *Technology Transition Trials Order* stated that the Commission did not intend to resolve legal and policy questions resulting from the transition in the context of any trials. *Id.*, ¶ 8. Consistent with the Commission's intent, AT&T is not seeking to resolve any issues through this application, nor in this phase of the proposed trial, on such issues, including those concerning the extent to which wholesale obligations associated with an ILEC's provision of TDM-based services, such as the required unbundling of high capacity loops or the resale of telecommunications services, apply to IP-based services.

¹⁰⁰ These larger industry outreach efforts are important because the universe of potential customers in these wire centers is not limited to those that already are active there. For example, any CLEC authorized to provide service in the states of Alabama or Florida could elect to participate in the trial.

Finally, and as noted previously, the Commission established specific conditions and presumptions that are intended to ensure that parties seeking to engage in transitions-related trials secure and support the core value of Competition in the course of any proposed trials. AT&T embraces that core value, and shares the Commission's goal of preserving it in the proposed wire center trials. Accordingly, AT&T addresses each of those conditions and presumptions below:

a. Wholesale Access

As noted above, and as required in the *Order*,¹⁰¹ any participation by wholesale customers in this first phase of the proposed wire center trials will be entirely voluntary. No customer will be forced to migrate to alternative services or products, or to alter its current wholesale arrangements with AT&T during the initial phase of the trials. In particular, the same wholesale customers that currently use AT&T's network in these wire centers will continue to be able to do so during this phase of the proposed trials.¹⁰² There are no plans to change the types of wholesale access that customers who do not participate in the initial phase of the trial currently receive, or to alter the price or cost of that access.¹⁰³ As for those customers that do voluntarily elect to participate, that decision undoubtedly will be driven by their determination that the alternative service is at least functionally equivalent to the original – and more likely better -- and provides greater value for that level of functionality. For example, the ASE service provides significantly higher, and scalable, bandwidth than the legacy TDM DSn service it replaces. Again, participation at the initiation of the proposed trials is entirely voluntary on the part of our wholesale customers, and we fully anticipate that any customer considering doing so – especially these sophisticated wholesale customers – will drive a hard bargain in that process – and that the end results of those negotiations would likely encompass terms such as those identified by the Commission in Appendix B.¹⁰⁴

b. Interconnection

AT&T's proposed test satisfies the condition established in the *Order* “to maintain the status quo in providing interconnection arrangements to both existing and new customers.”¹⁰⁵ In particular, the proposed trial will not result “in the cessation or impairment of service” for either other providers or end user customers.¹⁰⁶ Obviously, the interconnection arrangements necessary to carry traffic to and from the embedded base of TDM customers in these wire centers will be unaffected during the first phase of the trials for one very obvious reason – those customers are not required to participate in the trial. But the same holds true for traffic destined to new retail

¹⁰¹ *Id.*, ¶ 59.

¹⁰² *See id.*, App. B, ¶ 35 (applicant must “ensure that the same types of wholesale customers can continue to use its network. . .”).

¹⁰³ *See id.*

¹⁰⁴ *See id.* (describing terms that would apply purchases of alternative services to discounts for purchases “outside of the experiment areas” and waiver of early termination fees “if early termination is caused by the experiment.”).

¹⁰⁵ *Id.*, ¶ 61.

¹⁰⁶ *See id.*, ¶ 62.

customers, who may be required in the trial to utilize either U-verse Voice or Wireless Home Phone as alternatives to legacy TDM wireline retail services, and those existing customers who voluntarily elect to make the transition in the trial. This again is true for one very simple reason - the interconnection arrangements necessary to terminate traffic to AT&T's VoIP voice customers or to its Wireless Home Phone customers, as opposed to TDM customers, already are present in the market and are being used to successfully carry that traffic.

To be clear, the exchange of traffic for customers subscribing to those IP replacement services will entail differences in call routing from that for customers subscribing to AT&T's legacy wireline TDM services. For example, a call from a CLEC end user customer to an AT&T consumer VoIP customer would be routed through AT&T's access tandem for delivery to AT&T's affiliate serving the customer. This might mean a change in routing for a provider that had established direct end office trunking at the AT&T ILEC central office in order to terminate calls to AT&T's legacy TDM customers. Similarly, a call from an IXC customer to an AT&T customer subscribing to the Wireless Home Phone product would also utilize trunking to the AT&T access tandem or a competitive transit provider.¹⁰⁷ But this is nothing new because customers already are utilizing these existing trunking arrangements outside of the trials, and thus these types of changes in trunking and routing arrangements exist in the marketplace today without raising any issues. And AT&T's proposed trials will not negatively affect that status quo.

By the same token, any changes in costs associated with changes in these routing protocols already are being captured in the market. And given the small size of the Carbon Hill wire center, and the overall limitations imposed in the *Order* on the customers in either wire center who can be required to subscribe to the IP-based services (that is, only *new* retail customers), there should be no material cost impact on interconnecting carriers attributable to this phase of the trials, since the arrangements carriers already have implemented to carry traffic to and from VoIP and Wireless Home Phone customers are plainly sufficient to meet existing demand. Moreover, as the transition proceeds, carriers also will likely experience cost savings as they eliminate existing direct end office trunking arrangements that no longer would be necessary to reach TDM customers.

Finally, the *Order* notes that the Commission wants to "be able to evaluate whether customers in experiment arenas will be able to select their own interexchange carrier (IXC) and how IXCs will terminate interstate interexchange or international calls to customers participating in the experiment."¹⁰⁸ Taking these issues in reverse order, AT&T's proposed wire center trials will have no effect on how IXCs terminate interstate interexchange or international calls to customers participating in the experiment. Any such calls will continue to be routed to U-verse Voice and Wireless Home Phone customers as they are today. As for the first issue, retail customers who voluntarily choose to participate in the trials -- and thus to subscribe to either U-verse Voice or Wireless Home Phone -- will not select a separate IXC to carry long distance

¹⁰⁷ To the extent a provider has direct interconnection arrangements with AT&T Corp. or AT&T Mobility, the traffic will be exchanged with AT&T over those existing interconnection arrangements.

¹⁰⁸ *Id.* Contrary to the suggestion in the *Technology Transition Trials Order*, no additional guidance on these issues is provided in Appendix B.

calls. Indeed, assuming it is even technically feasible, imposing such a requirement on these IP-based services would be prohibitively expensive and fundamentally at odds with the “any distance” nature of IP services themselves.¹⁰⁹ As the *Order*’s portrayal of the history of transformative technology transitions suggests, these trials are about testing effects of deploying network infrastructure “that can conquer space and time. . . .”¹¹⁰ Constraining those tests with anachronistic concepts rooted in discrete markets for local, intraLATA, interLATA and interstate traffic that no longer reflect customer preferences and marketplace conditions would be counterproductive.¹¹¹

6.3.2. *Intercarrier Compensation.*

During the trials, AT&T will maintain the intercarrier compensation *status quo ante* in accordance with the Commission’s *USF/ICC Transformation Order*,¹¹² including the transition to bill-and-keep in these wire centers. AT&T’s VoIP and Wireless Home Phone services are and will remain subject to the existing intercarrier compensation regimes for VoIP-PSTN or CMRS traffic, as appropriate.

Intercarrier compensation revenues and obligations would change only due to customers’ shifts between services subject to different intercarrier compensation regimes rather than any impact from the trial itself. For example, if an end user chooses Wireless Home Phone instead of POTS, compensation for terminating calls to that customer would be the compensation regime applicable to CMRS, rather than the wireline compensation regime. That is a function of the intercarrier compensation regime itself and is the case anytime a customer switches, even outside a trial. AT&T does not and will not as part of the trial charge subscriber line charges (“SLCs”) or access recovery charges (“ARCs”) on VoIP or Wireless Home Phone services. Accordingly, AT&T seeks no new authorization to tariff or otherwise charge SLCs or ARCs for the customers

¹⁰⁹ Cf. *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, WC Docket No. 03-211 (Nov. 12, 2004), at ¶ 14 (finding that the characteristics of Vonage’s VoIP service “preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state regulatory scheme. . . .”).

¹¹⁰ *Id.*, ¶ 11.

¹¹¹ It is clear that any equal access obligations that are now captured in the provisions of the 1996 Act will no longer apply in an all-IP environment. For example, the dialing parity requirement established in 47 U.S.C. §251(b)(3) is imposed on Local exchange carriers.” Thus, insofar as AT&T, as a VoIP provider, is not providing that service as a common carrier and no longer will provide telephone exchange service or exchange access, it no longer would be subject to that obligation. The provision also would be inapplicable to VoIP service, which is by its nature distance agnostic, because it is not properly classified as “telephone exchange service” or “telephone toll service.” See 47 U.S.C. §153(54), (55) (defining “telephone exchange service” and “telephone toll service”).

¹¹² See generally *Connect America Fund, et al.*, WC Docket No. 10-90, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *pets. for review pending sub nom. In re: FCC 11-161*, No. 11-9900 (10th Cir. filed Dec. 8, 2011) (subsequent history omitted).

in the trial. In addition, the trials as proposed should not have material impact on AT&T's Eligible Recovery.¹¹³

Finally, AT&T agrees that policy issues, including those related to compensation between providers in an all-IP environment, are appropriately addressed outside of the trials,¹¹⁴ and as the Commission notes, it “need not address these issues before proceeding with the experiments.”¹¹⁵ As noted above, these trials will not affect wholesale access or interconnection, and therefore, resolving policy and legal issues related to compensation for IP interconnection is not within the scope of this trial. In any event, AT&T does not intend to test IP-to-IP interconnection in the context of these wire center trials; indeed, as AT&T noted in prior comments on this issue, because interconnection arrangements in an all-IP world will not be based around LATA (or even state) boundaries, much less even more limited wire center boundaries, and also will not respect artificial distinctions between “local” and “long-distance” services, and are highly unlikely to be limited to “voice,” running geographically limited trials of IP-based interconnection makes little sense.¹¹⁶

6.4 CONSUMER PROTECTION

6.4.1. *Customer Privacy.*

AT&T will conduct all aspects of the trial consistent with the AT&T Privacy Policy, which applies to our legacy TDM services, as well as IP-based services. In addition, AT&T will continue to comply with applicable privacy laws and regulations, including those concerning customer proprietary network information (CPNI). AT&T has established comprehensive processes and procedures designed to ensure compliance with the Commission's CPNI regulations.¹¹⁷ Accordingly, pursuant to the Commission's 2007 order extending the CPNI regulations to interconnected VoIP providers, the AT&T business units that provide interconnected VoIP services – AT&T Business, AT&T Home Solutions and AT&T Mobility – apply these processes and procedures today to safeguard the CPNI of AT&T's interconnected VoIP customers.¹¹⁸ AT&T's CPNI processes and procedures are described in AT&T's annual CPNI compliance certifications filed with the Commission pursuant to 47 C.F.R. § 64.2009, and

¹¹³ 47 C.F.R. § 51.915(d).

¹¹⁴ See *USF/ICC Transformation Order* at paras. 1335-98 (seeking comment on IP-to-IP interconnection issues).

¹¹⁵ *Technology Transition Trials Order* at ¶ 64; see also *id.* at ¶ 8.

¹¹⁶ *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket 13-5, Comments of AT&T (July 8, 2013), at 20-27.

¹¹⁷ 47 C.F.R. § 64.2001 *et seq.*

¹¹⁸ See *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information*, 22 FCC Rcd. 6927, ¶¶ 54-59 (2007).

will apply to all CPNI generated in connection with the interconnected VoIP services used in the trial.¹¹⁹

6.4.2. *Truth-in-Billing.*

During the trial, AT&T will comply fully with the Commission's truth-in-billing, slamming and cramming requirements in its provision of next-generation wireless and IP-based services regardless of the regulatory classification of those services. As discussed above, AT&T will offer consumers its Wireless Home Phone service, VoIP, or both, in place of TDM-based voice services during the trial. AT&T's Wireless Home Phone service is a commercial mobile radio service that is subject to (and complies with) the truth-in-billing rules, and that will not change during and after the trials.¹²⁰

Although AT&T's VoIP services are properly classified as information services, and thus not subject to the Commission's truth-in-billing (or cramming) rules, AT&T's bills for those services would comply with the truth-in-billing requirements if they did apply. As the attached samples of the bills AT&T renders for VoIP services demonstrate,¹²¹ those bills are clearly organized, include a brief description of the services provided and the charges therefor, as well as contact information about how to make inquiries about or contest the charges on the bill. In addition, AT&T does not bill for other providers' services or products on its bills for VoIP service. Moreover, insofar as AT&T's VoIP services are all-distance voice services that allow unlimited domestic voice calls, AT&T's bills have no need to, and do not distinguish, between deniable and non-deniable charges. As a consequence, customers purchasing AT&T's VoIP services will continue to receive the protections of the truth-in-billing (and concomitantly the Commission's slamming and cramming) requirements throughout the trial.

AT&T also will comply fully with the Commission's prohibition against unauthorized service changes in its slamming rules in its provision of Wireless Home Phone or VoIP services. In order to utilize either service, customers will require additional CPE to which they can attach their existing telephone set. Specifically, Wireless Home Phone customers will need a Wireless Home Phone device, which provides the transmitter/receiver necessary to connect to AT&T's radio access network (RAN). Likewise, VoIP customers will need a residential gateway, which both receives and transmits voice packets in IP, and converts them to and from analog for transmission to and from a customer's voice handset. As a consequence, both services will require customer cooperation and approval to switch from TDM to next generation voice services, and thus unauthorized service changes simply are not possible.

¹¹⁹ See, e.g., AT&T Annual CPNI Compliance Certifications Calendar Year 2012, EB Docket No. 06-36, filed Mar. 1, 2013; AT&T Annual CPNI Compliance Certifications Calendar Year 2011, EB Docket No. 06-36, filed Mar. 1, 2012; AT&T Annual CPNI Compliance Certifications Calendar Year 2010, EB Docket No. 06-36, filed Mar. 1, 2011.

¹²⁰ Attached hereto is a sample bill for AT&T's Wireless Home Phone service. See Exhibit H.

¹²¹ See Exhibit H.

6.4.3. Number Portability.

The Commission has directed that, for any experiments, its “number portability rules and policies will continue to apply,”¹²² and asks whether “other providers’ customers could potentially be affected by a proposed experiment” and whether “the ability of other providers’ customers to keep and port their numbers will not be jeopardized.”¹²³ In the Trial Wire Centers, AT&T will replace legacy TDM services with interconnected VoIP and CMRS services that already are in the market. These services are subject to and fully comply with the Commission’s number portability rules and policies. As a consequence, both AT&T’s customers and the customers of competing providers will be able to port their numbers during the trial to the same extent that they are able to port their numbers today.

6.4.4. Routing.

AT&T strongly supports the Commission’s efforts to ensure the reliable and efficient operation of the nation’s telephone network and that will be no different under the trials.¹²⁴ AT&T’s VoIP and Wireless Home Phone services are already operational and available in the market. All call completion, routing and signaling will be handled under the trial as it is today for these services. AT&T holds itself and its vendors to high standards for handling all traffic. Our customers expect as much from AT&T. AT&T ensures proper, high-quality routing and signaling through internal procedures, including rigorous oversight of vendors,¹²⁵ and compliance with industry best practices.¹²⁶ Moreover, AT&T’s VoIP and Wireless Home Phone services are subject to the *Rural Call Completion Order*¹²⁷ and the signaling rules under the *USF/ICC Transformation Order*.¹²⁸ AT&T will continue to operate these services in the trial consistent with the terms of these orders and rules.¹²⁹ Together, the Commission’s rules,

¹²² *Technology Transition Trials Order*, ¶ 68.

¹²³ *Id.*, Appendix B, ¶ 42.

¹²⁴ See *Rural Call Completion*, WC Docket 13-39, Comments of AT&T (May 13, 2013) (AT&T RCC Comments); *Rural Call Completion*, WC Docket 13-39, Reply Comments of AT&T (June 11, 2013) (AT&T RCC Reply).

¹²⁵ See AT&T RCC Comments at 3 (citing Presentation of Penn Pfautz, AT&T, FCC Rural Call Completion Workshop (Oct. 18, 2011), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-310507A1.pdf; Statements of Kim Meola, AT&T & Penn Pfautz, AT&T, Rural Call Completion Workshop video, available at <http://www.fcc.gov/events/rural-callcompletion-workshop> (describing AT&T’s practice of limiting by contract the services provided by call termination suppliers to one additional intermediate provider)); AT&T RCC Reply at 2.

¹²⁶ AT&T complies with and has been actively involved in development of best practices through ATIS. See “Alliance for Telecommunications Industry Solutions, ATIS Standard on Intercarrier Call Completion/Call Termination Handbook,” ATIS-0300106, available at <<http://www.atis.org/docstore/product.aspx?id=26780>> (rel. Mar. 2013).

¹²⁷ See generally *Rural Call Completion*, WC Docket No 13-39, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154 (2013) (*RCC Order*).

¹²⁸ See *USF/ICC Transformation Order* at paras. 702-35.

¹²⁹ Both the *RCC Order* and the signaling portion of the *USF/ICC Transformation Order* provide for waivers of the rules under certain circumstances. See *RCC Order* at paras. 95-97; *USF/ICC Transformation Order* at 723. AT&T

AT&T's company procedures, and industry best practices ensure that no systemic routing problem exists, and when an isolated problem is identified, AT&T can quickly and effectively resolve the issue. AT&T expects the trial to raise no key technical issues that would affect routing or signaling but to the extent a routing or signaling concern surfaces, even if unrelated to the trial, AT&T will work promptly and cooperatively toward a resolution.

6.5 DATA COLLECTION AND REPORTING

As part of the trials, AT&T will collect and report to the Commission a variety of data, including data regarding the progress of the trial, customer complaints, network performance, call quality, and issues relating to access by persons with disabilities. This section describes these data below.

6.5.1. *Quarterly Transition Progress Report*

AT&T will track and report the number of customer migrations from TDM products to IP products by wire center. The report will classify migrations by the replacement product category (*i.e.*, wireline or wireless) and market segment (*i.e.*, consumer, business and wholesale).

6.5.2. *Quarterly §214 Customer Notification Report*

The Customer Notification Report provides a summary of Section 214 grandfather and sunset customer notifications by AT&T to TDM trial customers. The report will summarize by product the date of notification and the number of customers notified.

6.5.3. *Quarterly Customer Issues Report*

AT&T will provide a summary of trial-specific customer issues. Data will be collected from: direct customer input to trial-specific web sites, calls to AT&T customer care centers and issues identified by AT&T field representatives having customer contact. AT&T will classify issues in a way that is reflective of the type of issues customers are describing, such as: accessibility, product availability or product performance.

6.5.4. *Quarterly Defects Per Million (DPM) Report*

AT&T will track and report quarterly data concerning the performance of the wireline IP-based voice services, and the TDM voice services they replace. For each trial wire center, AT&T will select a nearby wire center to serve as a "control group" to ensure that both the trial and control wire centers are subject to similar weather conditions, traffic congestion, and other

has petitioned for a limited waiver of the signaling rules adopted in the *USF/ICC Transformation Order*. See *Connect America Fund, et al.*, WC Docket No. 10-90, *et al.*, Petition for Limited Waiver of AT&T (Dec. 29, 2011). In addition, AT&T expects to request a waiver of certain reporting requirements pursuant to the terms of the *RCC Order*. See Letter to Marlene H. Dortch, Secretary, FCC from Brian Benison, Director, Federal Regulatory, WC Docket No. 13-39 (filed Jan. 17, 2014) (providing notice of meeting with FCC staff to discuss a possible waiver proposal).

network-affecting events. AT&T will provide performance data for the two trial wire centers, and the same data for the two control wire centers. In each case, AT&T will provide a metric based on the number of blocked or dropped calls. A defect generally equates to a blocked or dropped call.¹³⁰ By treating each blocked and/or dropped call as a “defect,” this report will enable AT&T to provide a legitimate comparison of the performance of AT&T’s legacy TDM voice services and its wireless and wireline IP-based replacement services. Although the report format is still under development, the specific metrics AT&T plans to report are:

TDM DPM (Total blocked calls/total attempts) x 1M

- **Description:** For TDM, the DPM metric includes defects attributable to regional and long distance network events like equipment, engineering, transport, process or software. A defect is defined as a blocked call.

VOIP DPM (Total blocked/dropped calls/total attempts) x 1M

- **Description:** For VoIP (Both CVOIP and BVOIP), the DPM metric includes defects attributable to AT&T’s VoIP elements, along with those resulting from transport, process or software related defects within the AT&T network. A defect is defined as a blocked or dropped call.

Wireless Network Performance

- **Description:** Measurement of Accessibility and Retainability, which defines the customer’s ability to make and retain a call on the wireless network. Accessibility = percent of attempted calls that are successfully established and allow voice communication to begin while retainability = percent of voice calls that are successfully carried for the duration of the conversation.

6.5.5. Access by Persons with Disabilities

Due to the wide range of potential accessibility needs that AT&T may encounter in the trial wire centers, we believe that qualitative data concerning issues or problems involving persons with disabilities will be more instructive than quantitative data. Accordingly, AT&T will: (1) separately track and report on a quarterly basis complaints to AT&T’s Office of the President from the trial wire centers where a customer self-identifies him- or herself as having a disability, or the customer’s issue relates to assistive technology; and (2) ask disability organizations that are assisting AT&T with the trial to record and report to AT&T any feedback that they receive in connection with their outreach to persons with disabilities.

¹³⁰ Wireless performance measures utilizes a slightly different variation based on percent of attempted calls that are successfully established and allow voice communication to begin and percent of voice calls that are successfully carried for the duration of the conversation.

6.5.6. *Quarterly IP Network Outage Report*

AT&T also will submit in the record of this proceeding a quarterly report summarizing network outages that affected voice services in a trial wire center area that were reported to the FCC via NORS, pursuant 47CFR Part 4.

6.5.7. *Voice Quality Metric*

AT&T has compared the voice quality of its legacy TDM voice services with the quality of its VoIP and Wireless Home Phone services by conducting a Mean Opinion Score (MOS) test for each service. MOS provides a numerical measure of the quality of human speech at the destination end of a circuit. MOS has been used for decades in telephone networks to provide the human user's view of the quality of the service. MOS tests for voice are specified by ITU-T recommendation P.800. The U-verse Voice and Wireless Home Phone sections of the report represent the experimental result and the PSTN section of the report represents the control result.

Voice Quality MOS		
AT&T	AT&T	AT&T
PSTN	U-verse [®] Voice	WHP

Section 7: Exhibits