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VIA ELECTRONIC FILING

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: **REQUEST TO REFRESH RECORD AND TAKE EXPEDITED ACTION TO UPDATE COPPER RETIREMENT RULES TO PROMOTE AFFORDABLE BROADBAND OVER COPPER**
WC Docket Nos. 10-188, 12-353; GN Docket Nos. 09-51, 13-5; RM-11358

Dear Ms. Dortch:

Mpower Communications Corp., and U.S. TelePacific Corp. (together, “TelePacific”); ACN Communications Services, Inc.; Level 3 Communications, LLC; TDS Metrocom, LLC and Telecommunications for the Deaf and Hard of Hearing, Inc. (“TDI”) request that the Commission refresh the record and take expedited action to update its copper retirement rules to preserve and promote affordable broadband over copper. The uncertainty created by AT&T and Verizon statements that they intend to “kill the copper” hinders investment in technologies such as Ethernet over Copper, which many small and medium businesses rely on today for affordable, high-speed broadband access. The Commission should update its rules to ensure that in today’s challenging economic environment, no customer loses the affordable broadband it receives from its chosen provider, and more customers have the option of adopting high-speed broadband using affordable Ethernet over copper.

I. INTRODUCTION AND SUMMARY

The Commission has determined that “access to broadband has become essential”¹ and has shifted its policymaking towards the singular goal of making

¹ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act; A National Broadband Plan for Our Future*, GN Docket Nos. 11-121, FCC 12-90, Report (“2012 Broadband Report”) ¶ 120.

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broadband available to all Americans.² Under its authority pursuant to Section 706 of the Telecommunications Act of 1996 (“1996 Act”), the Commission has adopted rules to enhance competition and reduce barriers to investment.³ It also has recognized the extraordinary sums the industry has invested in deploying broadband capable networks.⁴ Despite these efforts, the Commission found a persistent, and “large deployment gap” for broadband, in part because of the “challenging economics posed by many unserved and underserved areas.”⁵ As a result of this gap, the Commission concluded in 2010, 2011 and 2012 that broadband is not being deployed to all Americans on a reasonable and timely basis.⁶

Because “broadband deployment is not reasonable and timely,” Section 706(b),⁷ commands the Commission to “take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁸ Although the policies of promoting competition and reducing regulation may sometimes conflict, it is the Commission’s duty to reconcile and promote both statutory directives to achieve lower prices, higher quality, and the rapid deployment of new technologies and services for all Americans.

The Commission should not accept the false choice between regulating

² See e.g. *2012 Broadband Report* ¶¶ 10-14; *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board, Report and Order and Further Notice of Proposed Rulemaking*, 26 FCC Rcd 17663 ¶ 1 (2011) (“*Connect America Fund Order*”).

³ See e.g. *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240 (2011).

⁴ *2012 Broadband Report* ¶ 136.

⁵ *2012 Broadband Report* ¶ 137.

⁶ See *2012 Broadband Report; Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, Seventh Broadband Progress Report, 26 FCC Rcd 8008 ¶ 1 (2011); See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act; A National Broadband Plan for Our Future*, 25 FCC Rcd 9556, 9558, ¶¶ 2-3 (2010) (“*2010 Sixth Broadband Progress Report*”).

⁷ 47 U.S.C. § 1302(b).

⁸ *Id.*

“legacy” TDM technology and deregulating “new” IP technology.⁹ The advantage of technology is that it can turn what was once considered “old” into something “new.” Copper loops are a fundamental building block in communications networks, including the IP-based networks that both industry and regulators aspire to deploy across America. As Overture Networks, a leading developer and manufacturer of Carrier Ethernet products noted, “***Ethernet over Copper is a means to deliver IP, and not a legacy TDM technology.***”¹⁰ Almost since the ink was dry on the *Triennial Review Order*¹¹ and the Commission’s copper loop retirement rules,¹² innovative companies have harnessed the innate capacity of embedded copper loop infrastructure. These companies, including equipment manufacturers and telecommunications carriers, have found ways to increase the capacity of copper loops and the broadband speeds that carriers can deliver over that loop infrastructure. In particular, the development of Ethernet over Copper (“EoC”) technology makes broadband available to a large base of customers that previously did not have access to affordable broadband capacity because they were not located close enough to fiber networks. Even AT&T’s latest announcement implicitly recognizes the value of copper because its U-verse network relies on a combination of fiber-to-the-node, *copper* subloops, and VDSL technology to bring broadband speeds to residential consumers and after AT&T’s fiber investment is completed, half of the multi-tenant business locations in AT&T’s territory will remain wholly reliant on copper infrastructure. Nationwide, the percentage of businesses relying on copper infrastructure is even higher, since approximately 68% of buildings with 20 or more employees are not connected to fiber networks.¹³ Indeed, Overture estimates that “each year more copper ports are

⁹ *AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*, (filed Nov. 7, 2012).

¹⁰ Overture Networks, *ex parte* notice in GN Docket Nos. 09-47, 09-51, 09-137, and RM-11358, 1 (filed Dec. 7, 2012) (emphasis in original) (“*Overture Ex Parte*”).

¹¹ *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, ¶ 7 (2003) (“*TRO*”), corrected by Errata, 18 FCC Rcd 19020 (2003), vacated and remanded in part, *aff’d in part*, *United States Telecom Ass’n v. FCC*, 359 F.3d 554 (DC Cir 2004) (*USTA II*), cert. denied, 543 U.S. 925 (2004), on remand, *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533 (2005) (“*TRRO*”), *aff’d*, *Covad Commc’ns Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006).

¹² 47 C.F.R. § 51.333.

¹³ *Overture Ex Parte*, at 2 (citing Vertical Systems figure).

deployed than fiber ports at a ratio of almost 2:1.”¹⁴

Where alternative fiber is not available, competitive carriers also rely on incumbents’ copper loops to deliver high-speed broadband to customers. For example, a TelePacific survey of nine CLECs in California shows that they have installed EoC capability in 343 California wire centers, giving the majority of small and medium sized businesses served by those wire centers the ability to purchase EoC based broadband service today.¹⁵ Texatel undertook a similar study that shows six CLECs provide EoC broadband options to more than 400,000 business customers in 130 wire centers in Texas.

Because AT&T and Verizon will continue to rely on copper loop infrastructure to deliver broadband services for the foreseeable future, it is disingenuous of them to claim that preserving CLEC access to copper thwarts or slows down the transition to all-IP networks. The Commission’s current copper retirement rules impede competitive carriers’ ability to use copper loops to provide broadband at affordable prices through Ethernet over Copper. Based on public statements from ILECs, the retirement of copper loops or feeder will accelerate in the near future. Given the large number of Americans and businesses that already have access to high-speed broadband over copper loops,¹⁶ and the 19 million Americans that do not have access to fixed broadband meeting the speed benchmark today,¹⁷ the Commission should modify its copper retirement rules to ensure that (1) customers currently receiving broadband over copper loops do not lose their affordable broadband service and (2) the rules promote the regulatory certainty necessary for further investments in development of new technologies for affordable broadband over copper.

Although fiber-to-the-home delivering 100 Mbps may be the ultimate

¹⁴ *Id.* 4.

¹⁵ Declaration of Nancy Lubamersky on behalf of Mpower Communications Corp. and U.S. TelePacific Corp. in Support of the Request to Refresh Record and Take Expedited Action to Update Cooper Retirement Rules to Promote Affordable Broadband Over Copper (“*Lubamersky Declaration*”) at ¶4.

¹⁶ *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act; A National Broadband Plan for Our Future*, GN Docket Nos. 11-121, FCC 12-90, Report, ¶60 & Chart 1 (“*2012 Broadband Report*”) (79% of households have access to fixed broadband speeds meeting the benchmark via DSL and approximately 30% have access via other copper technologies). *See Overture estimates, supra*, for business data.

¹⁷ *Id.* ¶ 135.

national goal, industry and consumers need options to bridge the divide between today's largely copper-based networks and the mainly-fiber networks of the future. Because broadband is not being reasonably and timely deployed to all Americans, pursuant to Section 706 and Section 251(c)(3) the Commission should modify its copper loop retirement rules so that customers who may not want, or cannot afford, 100 Mbps fiber connections can realize the value of and grow into higher broadband speeds. Specifically, the Commission should require ILECs to provide CLECs with access to unbundled copper loops even where ILECs have received Commission permission to "retire" such copper loops and prohibit ILECs from removing copper loops from their network without affirmative permission from the Commission. The current rules regarding retirement should be clarified to make clear that retirement only allows the ILEC to retire such loops for its own use and does not relieve the ILEC of its duty to provide unbundled access to copper loops that remain in place in the network.

II. THE COMMISSION SHOULD SEEK ALTERNATIVES FOR EXPANDING THE AVAILABILITY OF AFFORDABLE BROADBAND

In August, the Commission released its Eighth Report tracking the progress of broadband deployment in the United States. This report concluded that "broadband is not yet being deployed ""to all Americans" in a reasonable and timely fashion."¹⁸ The report found that not only do 19 million Americans live in areas where broadband is not physically deployed, forty percent of Americans that do have the ability to subscribe to fixed broadband decline to subscribe due to concerns including affordability.¹⁹ Some estimate that nearly 70% of business locations in the U.S. cannot access fiber.²⁰ In other cases the broadband deployed, such as to schools and libraries, does not fully meet the customer's needs.²¹

The industry has developed a partial solution to these deployment and affordability gaps, namely EoC, but Commission rules need to be changed to promote its deployment. In the business market for dedicated services, customers are flocking to EoC to gain higher speeds (3 to 50 Mbps) at rates that are more affordable than traditional TDM- or fiber-based services. As the attached declaration shows, in California, competitors have installed EoC capability in 343 California wire centers, giving more than 80% of the small and medium

¹⁸ 2012 Broadband Report ¶ 1.

¹⁹ *Id.* ¶ 5.

²⁰ Sean Buckley, "Finding New Gold in Copper," *FierceTelecom*, p. 8. (Sept. 2012).

²¹ 2012 Broadband Report ¶ 5 ("80 percent of E-rate funded schools and libraries say their broadband connections do not fully meet their needs.")

businesses served by those wire centers the ability to purchase broadband service ranging from 3 to 50 Mbps today.

The Commission acknowledged in its August 22, 2012 Special Access Order that competitive deployment of last mile access facilities has not expanded beyond areas with significant concentration of business demand.²² In markets such as Atlanta, 60 percent of the zip codes lacked competitively provided service.²³ While the data analyzed in the Special Access Order was not the result of mandatory data collection and was limited to certain markets, the Commission recognized that it would be unlikely to find different trends in other markets.²⁴ Although the Commission's analysis demonstrates that competitors tend to concentrate their deployment of competitive facilities in geographic areas where the demand for service is highest and most concentrated, the Commission found that "demand exists for ... services outside of these areas."²⁵ Similarly, the Commission concluded that this demand — in areas where the demand is less concentrated — cannot easily be served by extending competitive networks from those areas where demand is concentrated. TelePacific's survey confirms that alternative last-mile access to customer locations is available less than 15% of the time. Including available on net buildings/addresses from 27 alternative providers in 30 wire centers, TelePacific would be able to buy last mile access from a provider other than the ILEC at only 12.5% of its customer service addresses in those wire centers.

These areas — where demand for competitive service exists but competitors lack the ability to economically extend their own fiber networks — are ideally suited for competitive entry using access to unbundled loops. This is the regime the Commission envisioned when it promulgated its unbundling rules in the *TRRO*.²⁶ Importantly, competitive EoC in California is available not only in urban business districts, but also in areas of the state where there are fewer concentrations of potential customers, such as north of the San Francisco Bay area

²² See *Special Access for Price Cap Local Exchange Carriers*, WC Docket 05-25, *AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593, Report and Order, FCC 12-92 ¶ 49 (rel. Aug. 22, 2012) ("*Special Access Order*").

²³ *Id.*

²⁴ *Id.* ¶ 50.

²⁵ *Id.* ¶ 53.

²⁶ See *TRRO* ¶ 149 (the Commission is "more likely to find that competitive LECs are impaired without access to unbundled loops of the lowest capacity levels, for which revenue opportunities are the smallest, if no alternatives outside the incumbent's network are available.").

and in the Central Valley and Central Coast.²⁷ In short, the unbundling regime gives competitors the ability to enter less concentrated markets and prove the business case that eventually may lead to deploying their own last mile facilities.

The Commission's copper retirement rules, however, impede CLECs' ability to serve these locations using the robust and innovative network technology that the industry has developed to bring broadband service to customers where fiber deployment is not economically efficient. The Commission's current policy allowing copper loop retirement was premised on the belief that "[t]he phone companies are sitting on aging infrastructure," and that "[c]opper wire will end its life."²⁸ That premise is contradicted by current developments and deployment of technology that makes affordable broadband over copper a reality.

III. ETHERNET OVER COPPER PROVIDES AN INNOVATIVE SOLUTION TO DEPLOY ROBUST BROADBAND

It is widely understood that the costs of deploying fiber in the local loop to every home and business are daunting, especially in the midst of a global economic slowdown, and it appears that many ILECs (with the exception of Verizon's FiOS project) have elected to forego deploying fiber directly to residences and small and medium sized businesses. Thus, copper -- whether in the form of a hybrid fiber/copper deployment or in the continued use of copper from the central office to the end user premises (home run copper loops) -- will remain a prevalent and important part of the network for some time.

Indeed, some ILECs have made clear their intent to continue to rely at least in part upon the existing copper network (at least for themselves) to ensure a viable interim path toward a longer-term broadband deployment strategy. Before its acquisition by CenturyLink, Qwest stated that it did not see FTTH as "necessary for Qwest in the foreseeable future."²⁹ The Metro Ethernet Forum notes that using existing voice-grade copper infrastructure keeps deployment

²⁷ Lubamersky Declaration, Exh. C.

²⁸ *Copper Lines Regaining Luster*, quoting then FCC Chairman Michael K. Powell, Washington Post, February 7, 2003, <http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A38106-2003Feb6¬Found=true> (December 27, 2006).

²⁹ Yu-Tine Wang, *Qwest Continues Line Loss, Targets FTTH*, Communications Daily, at 9, Oct. 29, 2009.

costs down because “there is no need for new cabling inside or outside the residence or business and service providers enjoy new returns on their already amortized assets.”³⁰ FierceTelecom interviewed ILECs using EoC and reports that CenturyLink expanded EoC after purchasing Qwest into an additional 334 wire centers and Windstream “sees EoC as a quick time-to-market tool to drive higher speed connections to a business customer” where it cannot justify a fiber build.³¹

It is evident that providers that intend or desire to migrate to fiber will continue to make substantial use of copper for the foreseeable future. Indeed, the industry -- largely driven by innovative and enterprising companies, including CLECs -- continues to find innovative ways to expand the capabilities of existing copper plant. This phenomenon started in the 1990s, as the nascent competitive industry brought to market advanced xDSL technologies that had gathered dust on the ILECs’ shelves for years. As Chairman Kennard noted over a decade ago, “[a]lthough DSL technology has been available for years, it was not until the passage of the Act that competitive providers — called data LECs or DLECs — specializing in DSL deployment were born and began offering DSL service to consumers. ... Once the DLECs had access to the inputs necessary to offer their DSL products to consumers, the threat of such competition spurred the BOCs to develop their own DSL products.”³² Much the same is true now, as CLECs deploy Ethernet over Copper and other innovative technologies that leverage the legacy copper plant to deliver broadband services capable of speeds of 3 to 50 Mbps or greater.³³ Indeed, one consultant reports that after EoC becomes available in a building, the quote for fiber to that building “drop[s] in half,” spurring “fiber providers to provide competitive prices.”³⁴

³⁰ Ethernet in the First Mile over Copper (EFMC), A Tutorial, 1, available at: <http://metroethernetforum.org/PDFs/EFMA/efm%20copper%20tutorial%20v2.pdf>.

³¹ Stepping to the EoC plate: Incumbent Telcos Take a Swing, FierceTelecom (Feb. 7, 2012), available at: http://www.fiercetelecom.com/special-reports/stepping-eoc-plate-incumbent-telcos-take-swing?utm_medium=rss&utm_source=rss.

³² Statement William E. Kennard, Chairman Federal Communications Commission, Before the Committee on the Judiciary, United States House of Representatives on H.R. 1686 - the “Internet Freedom Act” and H.R. 1685 - the “Internet Growth and Development Act” (July 18, 2000), available at: <http://www.fcc.gov/Speeches/Kennard/Statements/2000/stwek096.html>.

³³ Ethernet over Copper appears also to be gaining traction in Europe according to recent reports. “European telcos turn to Ethernet over copper,” Total Telecom, Sept. 7, 2009 (available at: <http://www.totaltele.com/view.aspx?ID=448650>).

³⁴ Sean Buckley, “Finding New Gold in Copper,” FierceTelecom, p. 8 (Sept. 2012).

A. Increasing Demand for Ethernet

Virtually all enterprise backbones are built using Ethernet technology. Because Ethernet has become the standard for enterprise networks, businesses are seeking and have sought to extend their Ethernet networks from their LAN to their WAN – thereby simplifying and optimizing their IT network.³⁵

Enterprise customers, including, SMBs, continue to migrate towards IP based applications thereby expanding their consumption of packet network capacity.³⁶ These IP-based applications continue to become more multimedia oriented, creating more demand for higher capacity networks. Included in this trend is an increased adoption of Voice over IP (VoIP), with its economy, and efficiency to connect myriad locations including offices, remote locations and employee home offices.³⁷ These services must be supported by end-to-end transport networks with high capacity, high availability, and high performance denoted by low packet loss, packet latency, and packet jitter.³⁸

B. Ethernet Over Copper is Ideally Suited to Meet Growing Broadband Demand

While many urban areas have seen expansion of fiber capacity, the vast majority of commercial buildings lack fiber-based broadband. Furthermore, the business case to invest in the capital cost to deploy fiber in the near term for one or two Ethernet service terminations is marginal at best.³⁹ On the other hand, EoC is ideal because it leverages existing copper and allows providers and customers to expand capacity by increasing investment through deployment of network gear rather than through major capital construction projects.

EoC has additional advantages as well. For instance, while fiber remains the ideal solution, the Commission has long recognized the significant time, expense and disruption that occurs when fiber is deployed.⁴⁰ Deploying EoC avoids the time and expense of digging up streets to deploy fiber. As a result, broadband services over EoC can be deployed in a fraction of the time it takes to

³⁵ See *Ex Parte* Letter from Jeffrey White, Hatteras Networks, Attachment, Leveraging Installed Copper to Reach Underserved and Unserved Community Anchor Institutions, GN Docket 09-51, at p. 7 (June 1, 2009) (“Hatteras *Ex Parte*”).

³⁶ *Id.*

³⁷ *Id.*

³⁸ Hatteras *Ex Parte* at p. 7.

³⁹ *Id.* at p. 8.

⁴⁰ See *Connect America Fund Order*, 26 FCC Rcd 17663 at ¶¶ 4-5, 7; *TRO*, ¶¶ 85-91.

deploy fiber to a new location. In addition, according to some equipment manufacturers, EoC bandwidth can typically be provided at a fraction of the cost of comparable bandwidth provided over fiber networks.⁴¹

As carriers add more EoC customers to their networks it increases the demand for more middle mile fiber bandwidth. More bandwidth demand and revenue then changes the business case for capital investment in fiber.

As business customers increasingly turn to Ethernet-based communications services to link their Ethernet local area networks (“LANs”), CLECs have been responding by developing broadband offerings based on EoC, Ethernet over DS1, and Ethernet over BSDSL technologies. These services are being marketed to small and medium sized businesses, filling in a significant gap in the offerings of the ILECs and cable.⁴²

In addition to providing opportunities for small and medium size business to access the same robust and innovative IP applications available to fortune 500 companies, EoC allows large companies to leverage their network infrastructure to small remotely located offices, even those in more rural less densely populated areas as well as to individuals working remotely from home.⁴³

Further, there is some suggestion that Ethernet services are more cost effective for business customers.⁴⁴ According to some providers, when compared to TDM-based services, a business receives over two times the bandwidth for the same price.⁴⁵

EoC can also benefit the residential markets and consumers. Some CLECs are using EoC to offer higher speed broadband, voice and video services to residential customers. Verizon, for one, has announced it will not expand its FIOS network, choosing to invest instead in its wireless network.⁴⁶ AT&T recently announced that it will invest in additional deployment of its U-verse network capability (fiber-to-the-node), fiber to multi-tenant buildings, and its LTE

⁴¹ Hatteras *Ex Parte* at p. 7-8.

⁴² Covad Comments, WC Docket No. 09-223, at 4.

⁴³ See http://www.fiercetelecom.com/special-reports/competitive-carriers-hone-their-ethernet-over-copper-skills?utm_source=editorscorner#ixzz1sy4FBq7g.

⁴⁴ Hatteras *Ex Parte* at pp. 7-8.

⁴⁵ *Id.* at p. 7.

⁴⁶ See Letter from K. Gordon, New York Assistant Attorney General to J. Brilling, N.Y.P.S.C., Case 10-C-0202, Petition of Attorney General Eric T. Schneiderman to Modify the Verizon Service Quality Improvement Plan. (July 30, 2012) (“NY AG Letter”).

network.⁴⁷ In neighborhoods without FiOS or similar fiber-based deployments, consumers should not be relegated to slow DSL services that are incapable of supporting applications today's consumers' demand, such as streaming video, teleworking, and distance learning. Residential EoC could increase bandwidth not only for these applications, but also for higher quality Video Relay Service ("VRS") provided to hearing and speech impaired individuals.⁴⁸

IV. THE COMMISSION SHOULD ACT NOW TO MAINTAIN COMPETITIVE ACCESS TO COPPER LOOPS THAT CAN BE USED TO DEPLOY AFFORDABLE BROADBAND

A. ILECs are Expected to Disable Copper Permanently Where They Deploy Fiber

In June 2012, Verizon signaled its intent to abandon its copper network. Verizon's CEO told investment analysts Verizon is "going into the copper plant areas and every place we have FiOS, we are going to kill the copper."⁴⁹ AT&T announced a significant investment in fiber upgrades in its wireline network and requested that the Commission remove regulatory requirements that AT&T maintain its "legacy TDM network."⁵⁰ More recently, Verizon announced that it would not replace the copper that was destroyed by superstorm Sandy.⁵¹ This is a disturbing sign that the nation's two largest ILEC's are actively seeking to remove infrastructure that fosters competition. The Commission has an obligation to act and preserve the access it has mandated to local loops in order to preserve broadband competition.

Allowing ILECs to remove copper infrastructure that CLECs are using to provide competitive service -- or would be able to use to provide service at a

⁴⁷ Laying a Foundation for Future Growth, AT&T Analyst Conference, (Nov. 7, 2012); Available at <http://www.att.com/gen/general?pid=23393>; <http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661&mapcode=>

⁴⁸ See Comments of Telecommunications for the Deaf and Hard of Hearing, Inc. *et al.*, GN Docket 12-228, at p. 5 (filed Sept. 20, 2012) ("For low income deaf and hard of hearing consumers who rely on broadband enabled services such as VRS and other iTRS services for communications, the retirement of copper loops may remove their only affordable access to broadband services.").

⁴⁹ Transcript, Verizon at Guggenheim Securities Symposium, at p. 8 (June 21, 2012).

⁵⁰ AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, (filed Nov. 7, 2012).

⁵¹ Thomas Gryta, "Verizon to Use Fiber to Fix Network," Wall St. J. (Dec. 4, 2012).

customers' request -- impedes competition. As New York's Attorney General has observed, at most customer locations there is a duopoly at best.⁵² In small and medium sized business markets in particular, it is unlikely that there are any competitive facilities deployed even by the ILECs themselves. For example, in AT&T's 22 state footprint, AT&T has announced that it intends to deploy fiber to reach approximately 50 percent of the multi-tenant office buildings in its 22 state footprint with fiber.⁵³ This still leaves the remaining half of the multi-tenant business locations in AT&T's territory wholly reliant on copper infrastructure for reliable wire based broadband services. Even if the ILEC deployed fiber in a wire center, its competitors would likely need access to copper in the same wire center, both to continue serving existing customers and to compete for ILEC customers whose budget may not be able to absorb the cost of upgrading to fiber-based services.⁵⁴ Allowing an ILEC to remove copper infrastructure where it has deployed fiber would further entrench the ILEC's already dominant position in the marketplace with an effective monopoly for serving the area where fiber is deployed.

The Commission recognizes the importance of providing regulatory certainty to promote investment and innovation. Under the current copper retirement regime, ILECs believe they have the freedom to "kill the copper." For example, TDS Metrocom's Wisconsin interconnection agreement with AT&T provides that AT&T is not required to maintain an existing copper loop connected to a particular customer premise after the retirement notice period has expired.⁵⁵ CLECs lack regulatory certainty that the last mile copper loops on which they rely to provide broadband service to existing and potential customers will continue to be available. This lack of regulatory certainty hinders investment in the network gear needed to provide Ethernet over copper. Without some assurance that the

⁵² NY AG Letter.

⁵³ See Laying a Foundation for Future Growth, AT&T Analyst Conference, Nov. 7, 2012 at p. 11. Available at <http://www.att.com/gen/general?pid=23393>.

⁵⁴ Verizon, for example, has stated that it uses copper replacement has an opportunity to generate additional revenue by selling customers more expensive service, including bundles. See Transcript, Fran Shammo, Verizon Senior V.P. and CFO, Goldman Sachs Communacopia Conference, at p. 10 (Sep. 20, 2012).

⁵⁵ Amendment to Interconnection Agreement by and between Wisconsin Bell, Inc. d/b/a AT&T Wisconsin and TDS Metrocom, LLC, §11.1.2(a) (dated Feb. 29, 2008) ("AT&T shall maintain the existing copper Loop connected to the particular customer premises after deploying the FTTH/FTTC Loop and provide nondiscriminatory access to that copper Loop on an unbundled basis *unless AT&T retires that copper Loop* pursuant to the terms of section 11.1.3 [which require AT&T to comply with FCC network disclosure requirements and any applicable state requirements].") (emphasis added).

loops they currently use, and would use in the future, will continue to be available, CLECs and their investors may not be able to justify capital expenditures that must be recovered over multiple years.

B. Removing Obstacles to Providing Ethernet over Copper Deployment Will Foster Broadband Competition, Innovation and Investment

The Commission has long recognized the need to promote investment in the full range of communications technology that will bring broadband to American consumers and businesses. Commission policy not only encourages deployment of fiber but also seeks to “promote the deployment of equipment that can unleash the full potential of the embedded copper loop plant so that consumers can experience enhanced broadband capabilities before the mass deployment of fiber loops.”⁵⁶ It would be contrary to Commission policy to allow ILECs to “kill the copper” and permanently remove copper infrastructure thereby preventing use of such infrastructure to provide broadband service. Regulatory protections are needed to bar the ILECs from unilaterally and permanently disabling their copper loop plant and thereby discouraging investment in EoC and other broadband over copper offerings.

Broadband innovation, investment and competition require access to unbundled copper loops. When these loops are not available at economic prices, the lack of copper effectively prevents CLECs from offering broadband service by raising the CLEC’s costs to the point where no customer can afford to purchase the service.

First, the Commission’s existing copper retirement rules permit ILECs to retire copper loops over CLEC objections *even where competitors currently use those loops to provide broadband to existing customers*. For example, if an ILEC files a notice of copper retirement, a CLEC objects to the retirement on the basis that it is using copper loops scheduled to be retired to provide a 10 Mbps broadband service to a hospital, and the Commission takes no action, the objection is deemed denied and the ILEC is permitted to retire the copper loop. This process is unreasonable and unfair, not only to the CLEC, but also to its broadband customer.

In such instances the Commission is most likely condemning the customer to a single broadband provider, or at best to a duopoly. The Commission has received significant data confirming that competitors have deployed broadband-capable fiber facilities only to a small percentage of businesses nationwide. This

⁵⁶ TRO, ¶ 244.

means that in “the vast majority of commercial buildings in their territories, the ILEC is likely the only carrier that owns a last-mile connection to the building.”⁵⁷ This analysis has been confirmed both by independent sources,⁵⁸ as well as the Commission’s own decisions.⁵⁹

The Commission has repeatedly recognized the dangers duopolies pose to competition.⁶⁰ The Commission and courts have “long recognized that duopolies may present significant risks of collusion and supracompetitive pricing, which can lead to significant decreases in consumer welfare.”⁶¹ As the Commission has explained, these risks to competition and consumer welfare are supported by “Empirical evidence of duopolistic competition in some telecommunications markets.”⁶² More significantly, the Commission found that duopoly markets are inconsistent with the unbundling provisions of the 1996 Act, where “Congress established means for additional competitors to enter without fully duplicating the incumbent’s local network.”⁶³ Thus the 1996 Act is clear that “Congress wanted to enable entry by multiple competitors through use of the incumbent LEC’s network.”⁶⁴

Nor are the alternatives viable. Self-provisioning last mile facilities to

⁵⁷ *United States v. SBC Communications, Inc.*, Complaint, No. 1:05-cv-02102, ¶ 15 (D.D.C. Oct. 27, 2005); *United States v. Verizon Communications Inc. and MCI, Inc.*, Complaint, No. 1:05-cv-02103, ¶ 15 (D.D.C. Oct. 27, 2005) .

⁵⁸ See Government Accountability Office, Report to the Chairman, Committee on Government Reform, House of Representatives, FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services, GAO-07-08, at 20 (Nov. 2006) (finding competitive deployment in 16 markets limited to 6% of buildings with DS1demand; 15% with DS3 demand, and 25% with demand for 2 or more DS-3s).

⁵⁹ *Petitions of the Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Boston, New York, Philadelphia, Pittsburgh, Providence and Virginia Beach Metropolitan Statistical Areas*, 22 FCC Rcd 21293, ¶ 41 (finding that competitors light only 0.25% of the commercial buildings in the six covered MSAs combined.); *Petitions of Qwest Corp. for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Denver, Minneapolis, St. Paul, Phoenix and Seattle Metropolitan Statistical Areas*, 23 FCC Rcd 11729 ¶ 40 (finding that competitors served approximately 0.17 to 0.26 percent of all commercial buildings in the four MSAs combined.).

⁶⁰ See *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, WC Docket No. 09-135, 25 FCC Rcd 8622 (rel. June 22, 2010) (“*Phoenix Forbearance Order*”).

⁶¹ *Phoenix Forbearance Order* ¶ 29.

⁶² *Id.* ¶ 31. (citing duopoly era in mobile wireless).

⁶³ *Id.* ¶ 32.

⁶⁴ *Id.*

small and medium size businesses and residential consumers is not an economic option. As explained above, such deployment is rarely economic in areas outside of the most densely populated business centers. The Commission has consistently found that all competitive carriers, including cable companies, “face extensive economic barriers” to the deployment of competitive facilities where they lack existing facilities needed to serve the customer.⁶⁵ These barriers include significant sunk costs along with substantial economies of scale and scope.⁶⁶ These barriers continue to make deployment of competitive last mile broadband facilities “costly and difficult.”⁶⁷ Furthermore, the ILECs are no longer required to offer tariffed access to Ethernet that competitors might be able to use as inputs to their own services.⁶⁸

At a minimum, the Commission should revise its rules to ensure that copper routes supporting at least one customer currently receiving broadband over copper are preserved. This action would ensure that no current broadband over copper customer loses access to its service and preferred service provider and preserve opportunities for additional customers to gain such access along the same route. The Commission has determined that competitors are impaired without access to copper loops. ILECs should not be permitted to retire copper routes in use by a competitor without an affirmative showing that the competitor is not impaired without access to the copper loops in that route.

V. THE COMMISSION HAS THE AUTHORITY TO ESTABLISH RULES THAT PROMOTE AFFORDABLE BROADBAND OVER COPPER LOOPS

Adopting the rules proposed herein promoting affordable broadband over copper loops implements statutory mandates in the Communications Act and the Telecommunications Act of 1996. As discussed below, these mandates, including Sections 251(c)(3), 271, and 706 of the Act, provide the Commission both “authority” and “discretion” “to settle on the best regulatory or deregulatory approach to broadband,”⁶⁹ which includes adopting the proposed rules. Pursuant to its plenary authority under § 201, the Act provides the Commission with the

⁶⁵ Phoenix Forbearance Order ¶ 90 (citing TRO ¶¶ 85-91).

⁶⁶ TRO, ¶ 86.

⁶⁷ Phoenix Forbearance Order ¶ 73.

⁶⁸ See *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, 22 FCC Rcd 18705 (2007).

⁶⁹ *Ad Hoc Telecomms. Users Comm. v. FCC*, 572 F.3d 903, 906–07 (D.C. Cir. 2009).

authority to “prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this Act.”⁷⁰

A. Commission Authority Under Section 706

Section 706 of the 1996 Act⁷¹ provides the Commission with authority to establish rules that would promote affordable broadband over copper. Section 706 instructs the Commission to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans” and, if it finds that advanced telecommunications capability is not being deployed to all Americans “on a reasonable and timely basis,” to “take immediate action to accelerate deployment of such capability.”⁷² “[A]dvanced telecommunications capability,” as defined in the statute, includes broadband Internet access.⁷³

Section 706(a) requires that the Commission encourage the deployment of such capability by “utilizing, in a manner consistent with the public interest, convenience, and necessity,” various tools including “measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”⁷⁴ For the reasons stated above, adopting rules that promote affordable broadband over copper “will have precisely that effect.”⁷⁵

Section 706(a) authorizes the Commission “to take actions, within [its] subject matter jurisdiction and not inconsistent with other provisions of law, that encourage the deployment of advanced telecommunications capability by any of

⁷⁰ 47 U.S.C. § 201(b); *see also AT&T v. Iowa Utils. Bd.*, 525 U.S. 366, 378 (1999) (the Commission “has rulemaking authority to carry out the ‘provisions of this Act,’ which include §§ 251 and 252, added by the Telecommunications Act of 1996.”) (quoting § 201(b)).

⁷¹ § 706, Pub. L. 104-104, Title VII, February 8, 1996, 110 Stat. 153, reproduced in the notes under 47 U.S.C. § 157. Section 706 is not part of the Communications Act of 1934. Congress enacted Section 706 as part of the Telecommunications Act of 1996 and more recently codified the provision in Chapter 12 of Title 47, at 47 U.S.C. § 1302.

⁷² 47 U.S.C. § 1302(a), (b).

⁷³ 47 U.S.C. § 1302(d)(1) (defining “advanced telecommunications capability” as “high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology”).

⁷⁴ 47 U.S.C. § 1302(a).

⁷⁵ *See In re Preserving the Open Internet Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, 25 FCC Rcd 17905, 17968 ¶¶ 117-123 (Dec. 23, 2010) (discussing same in the context of establishing open Internet rules) (“*Net Neutrality Order*”).

the means listed in the provision.”⁷⁶

Section 706(b) of the 1996 Act⁷⁷ provides additional Commission authority to take actions such as adopting rules that would promote affordable broadband over copper. In particular, Section 706(b) directs the Commission, if it finds that advanced communications capability is not being deployed in a reasonable and timely fashion, to “*take immediate action* to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁷⁸ As recently as August of 2012, the Commission “conclude[d] that broadband deployment to *all* Americans is not reasonable and timely” and noted that “[a]s a consequence of that conclusion,” Section 706(b) was triggered.⁷⁹ Therefore, Section 706(b) directs the Commission to “take immediate action to accelerate broadband deployment” and adopt pro-investment, pro-competition rules that would promote affordable broadband over copper.

B. Commission Authority Under Section 251(c)(3)

Acting under the statutory mandate of section 706(b), section 251(c)(3) of the Act,⁸⁰ provides the Commission with the authority to establish regulations applicable to incumbent LECs that under the Commission’s existing rules are already obligated to provide unbundled access to copper loops. In the TRO and the TRRO the Commission unequivocally found that CLECs were impaired without access to copper loops: ILECs must “offer unbundled access to stand-alone copper loops and subloops for the provision of narrowband and broadband services.”⁸¹

⁷⁶ *Net Neutrality Order*, ¶ 119.

⁷⁷ 47 U.S.C. § 1302(b).

⁷⁸ *Id.* (emphasis added).

⁷⁹ *2012 Broadband Report*.

⁸⁰ The 1996 Act imposes a number of duties on incumbent LECs that are designed to open local markets to competition that could all serve as the basis for the Commission’s jurisdiction. “Foremost among these duties is the incumbent LEC’s obligation under 47 U.S.C. § 251(c)(3) ... to share its network with competitors.” *AT&T Corp. v. Iowa Utils. Bd.*, 525 US 366, 371 (1999) (“*Iowa Utils. Bd.*”). In particular, section 251(c)(3) requires “that incumbent LECs make elements of their networks available on an unbundled basis to new entrants at cost-based rates, pursuant to standards set out in section 251(d)(2).” *TRRO* ¶ 1. In addition, section 251(d)(2) provides that “[i]n determining what network elements should be made available for purposes of subsection (c)(3), the Commission shall consider, at a minimum, whether ... the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.” 47 U.S.C. § 251(d)(2).

⁸¹ *TRO*, ¶ 7 (2003).

Because the Commission has the authority to require Section 251(c)(3) unbundling of copper loops and has already made that determination, the Commission likewise has the authority, in an effort to promote competition and affordable broadband over copper, to prevent ILECs from retiring copper loops and subloops that CLECs require as Section 251(c)(3) UNEs to provide broadband over copper. Such action would be consistent with the Act because the retirement of copper by incumbent LECs denies CLECs nondiscriminatory access to facilities without which the Commission has already found CLECs are impaired.

C. Commission Authority Under Section 271

Under Section 271 of the Act, the Commission also has the authority to promote the availability of copper loops and regulate the ability of the largest ILECs — the Bell Operating Companies (“BOCs”) — to retire and remove such loops from service in order to promote competition and affordable broadband over copper loops. Section 271(c)(2)(B)(iv) requires that BOCs provide requesting carriers with access to “Local loop transmission from the central office to the customer’s premises, unbundled from local switching or other services.”⁸² This obligation is independent of any duty to offer UNE loops pursuant to Section 251(c)(3), as described above.⁸³ Further, while UNEs under Section 251(c)(3) are only available where the Commission has determined requesting carriers are impaired,⁸⁴ Section 271 imposes on the BOCs a *permanent* duty to provide access to the items enumerated on the competitive checklist, even where requesting carriers are not impaired.⁸⁵

For purposes of Section 271(c)(2)(B)(iv), the Commission defined the “local loop” “as a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the demarcation point at the customer premises”⁸⁶ and declared that to satisfy the checklist the BOC “must

⁸² 47 U.S.C. § 271(c)(2)(B)(iv).

⁸³ *TRO*, ¶ 654.

⁸⁴ *See* 47 U.S.C. § 251(d)(2)(B).

⁸⁵ *See USTA II*, 359 F. 3d at 588. In the *TRO*, the Commission explained that a BOC’s obligation to provide access to elements encompassed within the competitive checklist continued even after the BOC was no longer required to provide the corollary element under Section 251(c)(3) of the Act. *See TRO*, ¶ 655.

⁸⁶ *Joint Application by BellSouth Corporation, Bellsouth Telecommunications, Inc., and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in Georgia and Louisiana*, 17 FCC Rcd 9018, 9144 ¶ 218 n. 852 (2002) (emphasis added); *Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of*

provide access to any functionality of the loop requested by a competing carrier unless it is not technically feasible to condition the loop facility to support the particular functionality requested.”⁸⁷ Furthermore, in order to comply with the requirement to provide nondiscriminatory access to loops, BOCs must, upon request, “take affirmative steps to condition existing loop facilities to enable competing carriers to provide services not currently provided over the facilities.”⁸⁸

It would be consistent with § 271 and the Commission’s decision implementing the checklist to specify that the BOCs may not remove copper loops from their network in order to avoid the unbundling obligations set forth in § 271. The Commission has the authority to create such a rule and the public interest in deployment and adoption of affordable justifies such a rule.

D. The Broadband Plan Supports Commission Action

The National Broadband Plan recognized the need to harness the untapped resources in the nation’s existing copper loop plant. For example, in Recommendation 4.7, the Plan urged the Commission to review its competition regulations “and take expedited action ... to ensure widespread availability of inputs for broadband services provided to small businesses, mobile providers and enterprise customers.”⁸⁹ Among those inputs are copper loops. In recommendation 4.9, the Report urges the Commission to “ensure appropriate balance in its copper retirement policies.” The Broadband Plan recognizes that competitors “are currently using copper to provide SMBs with a competitive

the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services In Texas, 15 FCC Rcd 18354, 18480 ¶ 246 (2000) (“SWBT Texas 271 Order”).

⁸⁷ *Application by Qwest Communications International Inc. for Authorization to Provide In-Region, InterLATA Services in Arizona*, 18 FCC Rcd 25504 at App. C ¶ 49 (2003) (emphasis supplied); *see also SWBT Texas 271 Order*, 15 FCC Rcd at 18480-81, ¶ 248; *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York*, 15 FCC Red 3953, 4095-96 ¶ 271 (1999) *aff’d sub nom. AT&T Corp. v. FCC*, 220 F3d 607 (D.C. Cir. 2000); *Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in Louisiana*, 13 FCC Red 20599, 20713 ¶ 187 (1998).

⁸⁸ *Application by Verizon Maryland Inc., Verizon Washington, D.C. Inc., Verizon West Virginia Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization To Provide In-Region, InterLATA Services in Maryland, Washington, D.C., and West Virginia*, 18 FCC Rcd 5212 App. F ¶ 49 (2003).

⁸⁹ Connecting America, National Broadband Plan, Recommendation 4.7 at p. 48.

alternative for broadband service.”⁹⁰ The recommendation further suggests that competitors using unbundled copper loops may “provide their own set of integrated broadband, voice and even video” using such inputs.⁹¹ Of course when such facilities are “retired” or removed, this impedes competitors’ “existing broadband services” provided over such copper loops as well as “the ability of competitors to offer new services.”⁹²

VI. REMEDY REQUESTED

While the *TRO* adopted rules to govern ILEC copper loop retirement, the text of the *TRO* cannot be read to permit the ILECs to “kill” copper loops and permanently disable them. The *TRO* instead observes that the notice requirements it adopted were intended to “ensure that the [C]LECs maintain access to loop facilities.”⁹³ Further, the *TRO* provides that its rules will deem denied any filed opposition to an ILEC’s copper loop retirement notice “unless the retirement scenario suggests that competitors will be denied access to the loop facilities required under [the Commission’s] rules.”⁹⁴ Under these rules it appears likely that the Commission never intended to allow ILECs to wholly dismantle or “kill” their copper loop infrastructure to the detriment of competitors.

In order to guard against the premature dismantling of a vital conduit for providing broadband for those in areas where competitive deployment of fiber is not currently deployed, Petitioners urge the Commission to adopt the following relief.

A. Suspend the Current Rules Regarding Copper Retirement

As an interim measure, until the completion of the rulemaking, the Commission should suspend its rules permitting ILECs to retire copper loops absent emergency circumstances.

B. The Commission should adopt the following rules to promote the efficient use of already existing copper infrastructure that is available to provide affordable broadband service:

- **Reverse “deemed denied” standard.** All interconnecting carriers shall be given advance notice of permanent

⁹⁰ National Broadband Plan at Recommendation 4.9, p. 48.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *TRO*, ¶ 281.

⁹⁴ *TRO*, ¶ 282.

disabling or removal of copper loops (including copper feeder) and an opportunity to object. Where copper is being used to provide broadband service to existing customers, permission to remove or permanently disable shall only be given by the Commission upon an affirmative finding that the particular disabling or removal is in the public interest, that the customers receiving service will not have service disrupted and will have a choice among reasonably priced competitive offerings of the same or similar service.

- **Clarify “retirement” does not permit physical removal.** The Commission should clarify that permission to retire copper (loops or feeder) does not afford the ILEC the right to remove copper from the ground (or poles). The Commission apparently contemplated in the *TRO* that this could encompass removal of copper;⁹⁵ however, without clarification, the term retirement could be interpreted broadly.⁹⁶ The Commission should therefore clarify that retirement does not refer to the physical removal of copper, and that any action short of that does not terminate the obligation to provide unbundled access to loop elements over copper. For instance, retirement could be interpreted as a declaration by the carrier that copper is “retired,” *i.e.* it is no longer available for use while leaving it in place; a decision by the carrier that it will disable the copper while leaving it in place in a condition from which it could be made available with some modification; or a decision by the carrier that it will no longer maintain a copper facility, without physically removing or disabling it. This is an asset that can be leveraged to promote affordable retail broadband; it would be highly inefficient to allow the mothballing of this asset when it otherwise remains in place for productive use.

⁹⁵ *TRO*, n.847.

⁹⁶ For example, retirement could mean that the ILEC no longer intends to use the facility but it will otherwise remain in place and be maintained, or it could mean that the ILEC carrier will disable the copper while leaving it in place in a condition from which it could be made available with some modification; or it could mean that the ILEC will no longer maintain the facility, but will not physically remove or disable it.

- **Separately define standard for removal.** The Commission should also separately define removal and permit removal only in a very narrow range of circumstances, rather than permitting this useful asset to be regularly taken out of commission too easily.
- **Apply the retirement rules to the feeder portion of the loop.** In the *TRO*, the Commission modified its network disclosure rules to provide for an opportunity to object to notices of retirement of copper loops and subloops, but provided that this would not apply to notices of retirement of the feeder portion of loops.⁹⁷ However, if the feeder portion of the loop is unavailable for unbundled access, the practical difficulty of obtaining access to the remaining portion of the loop forecloses competitive access to the customer.
- **Make retirement/removal data easily accessible and searchable.** The Commission should require ILECs to maintain a comprehensive database, accessible to CLECs and regulators, that includes information about the availability of copper. The database shall indicate whether copper has been merely disabled or permanently removed and should permit look-ups on a geographic basis.
- **State action to preserve copper.** The Commission should clarify that state commissions may adopt restrictions on disconnection, removal, or disabling of copper loops that are stronger than the Commission's rules.
- **Public notice period.** The Commission should deny the US Telecom petition requesting that the notice time period for retiring copper loops begins with the ILEC notice to interconnecting carriers rather than the Commission's public notice.

⁹⁷ *TRO*, at n.829.

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VII. CONCLUSION

Since the adoption of copper retirement rules, advancements in EoC technology have enabled carriers to increase significantly the broadband speeds that can be achieved over embedded copper infrastructure. Incumbent and competitive carriers alike should be able to utilize embedded copper loops to offer high-speed broadband to customers during the transition from all-copper networks to primarily-fiber networks. Deploying fiber to the majority of customer locations will not be cost-justified for some time to come, and it may never be economical for multiple providers to deploy fiber to certain customers or classes of customers.⁹⁸ Until fiber deployment is economical, or technological advancements enable faster speeds using another technology, copper is a valuable tool to bring affordable, high-speed broadband to many consumers and small and medium businesses. The Commission should update its regulations to encourage use of this valuable resource and accelerate broadband deployment and adoption throughout America.

Respectfully submitted,

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⁹⁸ Because reasonable wholesale access to fiber last mile facilities has not materialized, the Commission also should update its impairment analysis for fiber loops, especially for small and medium-sized business customers.

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