

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Ensuring Customer Premises Equipment Backup Power for Continuity of Communications	)	PS Docket No. 14-174
	)	
Technology Transitions	)	GN Docket No. 13-5
	)	
Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers	)	RM-11358
	)	
Special Access for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM-10593

**COMMENTS OF ADTRAN, INC.**

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## SUMMARY

In establishing policies concerning the technology transition from TDM circuit-switched voice services networks to all-IP multi-media networks, the Commission should avoid imposing regulatory burdens that will deter or delay investment in advanced technologies. As the Commission concluded in the *National Broadband Plan*, requiring carriers to maintain duplicative networks—one copper and one fiber—“would be costly, possibly inefficient and reduce the incentive for incumbents to deploy fiber facilities.” The Commission has long recognized the importance of maintaining and enhancing the incentives for providers to deploy fiber.

On the other hand, ADTRAN recognizes that advances in technology now allow very robust broadband services to be provided over copper loops. The Commission can harmonize policies concerning fiber and copper by requiring reasonable notification, but not Commission approval, for copper retirement. In addition, the Commission can establish a framework and time frame for the incumbent carriers’ voluntary sale or auction of copper facilities to competitive carriers. ADTRAN also urges the Commission to preempt any state public service commission attempts to impose more stringent requirements for the retirement or sale of copper facilities, because that would conflict with the federal policy of encouraging the deployment of fiber and other advanced technologies.

ADTRAN appreciates the Commission’s goal of also minimizing any harmful effects on consumers from technology upgrades, but some of the *NPRM*’s proposals should not be adopted because they would impose significant burdens on the carriers without really benefiting consumers. The Commission should avoid imposing detailed notification obligations on carriers that assume those carriers have knowledge of the customers’ CPE, third-party services or health conditions. Nor should the Commission attempt to restrict “upselling.” As the *National Broadband Plan* recognizes, consumers’ lack of knowledge of how broadband services can benefit them is a significant cause of insufficient broadband adoption.

Finally, ADTRAN urges the Commission not to adopt its proposal to impose on some carriers an obligation to supply backup power to every subscriber to facilities-based fixed voice services. Such an obligation would not be technology neutral. In addition, many of the proposed obligations assume that the carriers have knowledge of and control over the customers’ CPE, which has not been the case since the mid-1980’s. Moreover, the vast majority of consumers have demonstrated through their purchase of various services and CPE -- which do not rely on carrier-supplied power -- that they do not believe such a capability is essential. ADTRAN believes that a better course of action would be to require all service providers and CPE manufacturers to notify their customers about the capabilities or limitations of their service to function during a power outage, and allow customers that want to acquire backup power services to purchase them. Carriers can help facilitate customers’ acquisition of backup power supplies for those that desire it, but the Commission should not require carriers to provide it to every one of their customers.

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**COMMENTS OF ADTRAN, INC.**

ADTRAN, Inc. (“ADTRAN”) takes this opportunity to comment on several issues raised in the Commission’s recent Notice of Proposed Rulemaking concerning the technology transition from networks based on time-division multiplexed (TDM) circuit-switched voice services running on copper loops to all-Internet Protocol (IP) multi-media networks using copper, co-axial cable, wireless, and fiber as physical infrastructure.<sup>1</sup> ADTRAN believes that this transition – which is already well under way – will enhance the robustness and efficiency of

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<sup>1</sup> *Ensuring Customer Premises Equipment Backup Power for Continuity of Communications; Technology Transitions; Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, 29 FCC Rcd 14968 (November 25, 2014) (hereafter cited as “NPRM”).

communications networks. The Commission should thus take steps to facilitate that transition, while at the same time requiring sensible efforts to minimize any disruption on customers and competition that might otherwise occur. ADTRAN is concerned, however, that some of the *NPRM*'s proposals could have the effect of deterring or delaying the deployment of next generation network facilities and services.

As a manufacturer of telecommunications equipment used in the incumbent telephone companies' networks, ADTRAN appreciates the manifold benefits of the evolution away from TDM networks. ADTRAN, founded in 1986 and headquartered in Huntsville, Alabama, is a leading global manufacturer of networking and communications equipment, with an innovative portfolio of solutions for use in today's telecommunications networks. ADTRAN's equipment is deployed by some of the world's largest service providers, as well as distributed enterprises and small and medium businesses. ADTRAN thus brings an expansive perspective to this proceeding, as well as an understanding of the impact of regulatory obligations on network operators' deployment and investment decisions.

#### **Copper Retirement and the Impact on Competitors**

The *NPRM* appears to provide somewhat mixed signals with respect to the issue of copper retirement in the context of the transition to an all-IP multimedia network. The Commission recognizes the benefits of next generation networks with fiber deployed to or near the premises, but then proposes some options that could delay or impede such deployments by unnecessarily hampering copper retirement. As explained below, ADTRAN believes the Commission should not impose requirements that would retard the transition all-IP multimedia networks, but instead should encourage the deployment of fiber deeper into the network. On the other hand, the Commission can craft rules that would also allow third parties to make use of the

robust capabilities of the already deployed copper -- so long as the costs of such use are borne by those third parties. Otherwise, there is a risk that deployment of advanced technologies would be deterred.

***The Commission Should Facilitate the Deployment of Fiber***

The *NPRM* acknowledges the benefits to the incumbent carriers and their customers of the next generation networks:

We recognize the many benefits of fiber-based service and the desirability for incumbent LECs of not having to operate both copper and fiber networks indefinitely, including the potential for more bandwidth and increased reliability in difficult weather conditions. . . . We emphasize that we support and encourage these and other fiber deployments, and are committed to maintaining the incentives for providers to deploy fiber.<sup>2</sup>

Such a Commission policy of encouraging the deployment of fiber-based and other broadband services is certainly not new. Over a decade ago in the *Triennial Review Order*, the Commission emphasized the importance of incentivizing investment for the deployment of new technologies.<sup>3</sup> And more recently in the *National Broadband Plan*, the Commission recognized that requiring incumbent LECs to maintain duplicative networks—one copper and one fiber—“would be costly, possibly inefficient and reduce the incentive for incumbents to deploy fiber facilities.”<sup>4</sup> ADTRAN can vouch for the manifold benefits of fiber-based and other broadband services, and has itself launched a gigabit initiative with the goal of having 200 gigabit communities up and

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<sup>2</sup> *NPRM* at ¶ 15.

<sup>3</sup> *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, et al., CC Docket No. 01-338, et al., Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17111 (2003) (“*Triennial Review Order*”).

<sup>4</sup> Omnibus Broadband Initiative, Connecting America: The National Broadband Plan, GN Docket No. 09-51, at p. 48 (2010) (hereafter cited as “*National Broadband Plan*”).

running by the end of 2015.<sup>5</sup>

Accelerating the deployment of fiber clearly serves the public interest. However, it is not enough to merely espouse such a policy. The Commission must ensure that the rules adopted in this proceeding do not, in practice, deter or delay the deployment of advanced services.

### ***Making use of the already Deployed Copper Facilities***

While fiber provides robust broadband capabilities, ADTRAN also knows first-hand that copper loops are not an obsolete technology. As ADTRAN has explained in several different Commission proceedings,<sup>6</sup> DSL and Ethernet over Copper technologies have continued to evolve, and currently are able to support robust high-speed services. Significant enhancements have been made in improving the capacity/throughput of DSL by advances such as G.fast, pair-bonding and vectoring.<sup>7</sup> These advances allow carriers to take full advantage of the extensive base of copper loops that currently comprise much of the telecommunications plant in service.

G.fast<sup>8</sup> is the latest in a series of technologies including VDSL2 and ADSL2+ that has steadily increased the capacity available to subscribers over the copper loop plant. This technology, which is deployed from distribution points located deep in the outside plant, can

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<sup>5</sup> See, *Light Reading*, August 13, 2014, “Adtran Launches 'Gig Communities' Initiative,” available at <http://www.lightreading.com/broadband/fttx/adtran-launches-gig-communities-initiative/d/d-id/710330>. See also, <http://gigcommunities.net/>.

<sup>6</sup> E.g., ADTRAN Comments in GN Docket No. 12-353, filed March 5, 2013; ADTRAN Reply Comments in WC Docket No. 10-90, filed February 13, 2013; ADTRAN Ex parte Submission in WC Docket No. 10-90, filed October 27, 2010.

<sup>7</sup> See also, Remarks of Tom Wheeler, Chairman, Federal Communications Commission, Mid-Atlantic Venture Association, November 4, 2014, available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2014/db1104/DOC-330315A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1104/DOC-330315A1.pdf) at p. 4: “New breakthroughs, however, mean that the old copper infrastructure has a new future. ... Yes, the future is fiber. But while copper is old, it is not obsolete.”

<sup>8</sup> ITU-T Recommendation G.9701, “Fast Access to Subscriber Terminals (FAST) – Physical layer specification,” December 2014.

deliver combined upstream and downstream speeds of up to 1 Gbps over short loops, and hundreds of Mbps on loops of up to several hundred meters.

Another means of increasing the capacity of DSL service is to utilize fully the multiple copper loops that have already typically been deployed to most homes by “bonding” those loops. Using VDSL2 technology and two-pair bonded loops, broadband download speeds of 80 Mbps can be provided on loop lengths up to 2500 feet. Alternatively, using ADSL2+ technology and two-pair bonded loops, the subscriber can get download speeds of 25 Mbps on loop lengths of up to 10,000 feet. And where there are additional loops (which may be the case for most residences, or for broadband service to businesses or to remote terminals), multi-pair bonding can be used to provide hundreds of Mbps download speeds.

One of the challenges limiting DSL performance is crosstalk between the loops within the same binder group in the network. A solution to mitigate crosstalk is vectoring, which uses advanced signal processing techniques to alleviate crosstalk. By performing the signal processing jointly among a group of lines at the DSL Access Multiplexer (DSLAM), rather than performing the signal processing on a line-by-line basis, the crosstalk can be significantly reduced or eliminated, thereby increasing capacity. Using vectoring, DSL download speeds of 100 Mbps can be provided on loops of up to 1800 feet over a single copper loop pair, or that same speed can be provided at up to 3400 feet with two-pair bonding. Vectoring thus provides significant enhancements on relatively short copper loops, and combined with bonding, it allows service on loops of up to 3400 feet at the 100 Mbps download speeds adopted as the longer term goal under the Commission’s National Broadband Plan.<sup>9</sup> In addition, companies continue to

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<sup>9</sup> National Broadband Plan, Chapter 2, Goals for a High Performance America (available at <http://www.broadband.gov/plan/2-goals-for-a-high-performance-america/>).

refine these DSL technologies.<sup>10</sup> Moreover, advances in Outside Plant DSLAMs (OSP DSLAMs) are making it more economical to limit the length of the DSL copper loops to the customer premises, so that these download speeds can be provided on a cost effective basis to many more subscribers. Indeed, because of its cost and capabilities, DSL is the last-mile technology of choice for high-speed broadband services in Europe.<sup>11</sup>

ADTRAN itself is engaged in significant research and development to enhance the capabilities of copper-based broadband technologies. ADTRAN has a long history of working closely with the ITU-T and other standards development organizations to develop G.fast and many other copper loop access technologies. ADTRAN also continues to innovate with DSL technologies, having recently introduced a variation of DSL technology that enables VDSL2 and G.fast to coexist on the same copper loop.<sup>12</sup> This will allow DSL carriers to deploy G.fast on a node by node basis, rather than having to upgrade entire markets from VDSL2 to G.fast, thus supporting even more economical broadband upgrades.

The *NPRM* likewise recognizes the potential virtues of the legacy copper networks in terms of providing robust services to consumers by both competitive and incumbent carriers:

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<sup>10</sup> *E.g.*, one company, Ikanos, uses NodeScale vectoring to achieve speeds of 100 mbps currently, and anticipates speeds over DSL of 800 Mbps. *See*, <http://gigaom.com/2010/10/25/100-mbps-dsl/>.

<sup>11</sup> *See, e.g.*, <http://fastnetnews.com/dslprime/42-d/4845-dsl-tsunami-rolling-over-europe-first-look>.

<sup>12</sup> *See, CED Magazine*, August 14, 2014, “Adtran paves VDSL2-to-G.fast trail,” available at <http://www.cedmagazine.com/news/2014/08/adtran-paves-vdsl2-to-gfast-trail>. G.fast allows download speeds of 700 Mbps or more over copper loops between a fiber-fed cabinet and the home. *E.g.*, *Recombu*, “BT’s G.fast gigabit broadband over copper trials achieve 700Mbps download speeds,” September 25, 2014, available at <http://recombu.com/digital/news/bt-gfast-gigabit-broadband-trials-achieve-700mbps-downloads>. *See also*, PC World, “Gigabit speeds over telephone wires get closer thanks to new G.fast standard,” December 8, 2014, available at <http://www.pcworld.com/article/2856532/gigabit-speeds-over-telephone-wires-get-closer-thanks-to-new-gfast-standard.html>.

Construction of fiber and transitions to next-generation networks carry clear benefits, but this does not mean that copper networks are without value. In particular, the Commission recognizes the importance of copper facilities as a means for competitors to provide advanced telecommunications capability to businesses, schools, libraries, hospitals, other enterprise customers, and consumers with disabilities. Competitive LECs provide voice and broadband service to enterprise customers by leasing copper loops and connecting those loops to their own Digital Subscriber Line (DSL) or EoC equipment that is generally collocated in the incumbent LEC's central office. Competitive LECs can provide broadband with EoC at speeds from 3 to 30 Mbps, and in some areas can reach 200 Mbps. Companies are testing technologies over copper that will provide speeds of 10 Gbps.<sup>13</sup>

In providing for continuing access to and use of the embedded copper loops, however, the Commission must ensure that it does not do so in a manner that would discourage or delay the deployment of new fiber facilities.

### ***Harmonizing the Fiber and Copper Policies***

On multiple occasions in the *NPRM* the Commission indicates that it is not proposing to

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<sup>13</sup> *NPRM* at ¶ 22 [citing TelePacific et al. Request to Refresh Record at 5; *see also* Comments of Overture Networks, Docket No. RM-11358, at 5 (filed Mar. 5, 2013); Steven J. Vaughan-Nicholas, G.fast: 1 Gigabit per second DSL, ZDNet, July 14, 2014, <http://www.zdnet.com/g-fast-1-gigabit-per-second-dsl-7000031575/> (explaining ITU-sponsored development of G.fast that “drastically increases speed over copper by using wider frequency profiles than earlier versions of DSL. While VDSL2 uses 17 or 30MHz, G.fast will work on 106MHz and eventually at 212MHz.”); *see also* Press Release, Alcatel-Lucent, Alcatel-Lucent sets new world broadband speed of 10 Gbps transmission of data over traditional copper telephone lines, Press Release, July 9, 2014, <http://www.alcatel-lucent.com/press/2014/alcatel-lucent-sets-new-world-record-broadband-speed-10-gbps-transmission-data-over-traditional> (announcing XG.FAST, an extension of G.fast, that uses an increased frequency range up to 500 MHz to achieve higher speeds, 10 Gbps, but over shorter distances).] *See also*, *NPRM* at ¶ 18:

AT&T has indicated that it intends to maintain its copper for some of its services, such as its fiber to the node (FTTN)-based U-verse service and other DSL and Ethernet over Copper (EoC) services. Specifically, in response to comments on its Proposal for Trial Wire Centers, AT&T stated “copper loops and/or subloops will likely continue for some time to be used to serve customers and to provide various types of services.” [citing Sean Buckley, *AT&T, CenturyLink, Frontier See Utility with Copper but Want Flexibility in Technology Transition* (Mar. 18, 2014), <http://www.fiercetelecom.com/story/att-centurylink-frontier-see-utility-copper-want-flexibility-technology-tra/2014-03-18> ; Reply Comments of AT&T, GN Docket Nos. 13-5 and 12-353, at 42-43 (filed Apr. 10, 2014)].

create a hurdle to the retirement of copper facilities of the incumbent carriers by imposing a requirement to obtain Commission approval for such actions.

- “So long as no service is discontinued in this process (e.g., TDM basic voice), a carrier need only provide notice of its intent to retire the legacy facilities (e.g., copper loops). We propose to retain the notice-only nature of the copper retirement process; we do not wish to impede carriers from transitioning to new networks, such as fiber-to-the-home.”<sup>14</sup>
- “With respect to copper retirement, we reiterate that we do not propose any change to the notion that an incumbent carrier has the right to cease operating its copper network.”<sup>15</sup>
- “Currently, incumbent LECs that intend to retire loops or subloops that are being replaced with FTTH or Fiber-to-the-Curb (FTTC) loops must provide notice via our network change disclosure process. Interconnecting carriers can seek to delay but cannot prevent retirement, nor do our rules contemplate that we approve or deny planned copper retirements for which incumbent LECs provide notice under Part 51.”<sup>16</sup>
- “We then explain why we do not intend to establish an approval requirement for copper retirement.”<sup>17</sup>
- “Because we expect that an approval requirement would undesirably harm incentives for fiber deployment and because we do not wish to impose a technological mandate, we decline requests to revise our network change notification rules to require incumbent LECs to obtain our approval for copper retirement, as some have suggested. In other words, we believe that copper retirement should remain a notice-based process.”<sup>18</sup>

ADTRAN believes this is the correct approach as a matter of both policy and law. Requiring Commission approval of copper retirement would likely entail indeterminate and extensive delays, impose significant compliance costs, and create uncertainty, all of which would deter investment in fiber. Moreover, Section 214(a)(3) of the Communications Act provides:

No carrier shall discontinue, reduce, or impair *service* to a community, or part of a

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<sup>14</sup> *NPRM* at ¶ 5.

<sup>15</sup> *NPRM* at ¶ 6.

<sup>16</sup> *NPRM* at ¶ 16.

<sup>17</sup> *NPRM* at ¶ 49.

<sup>18</sup> *NPRM* at ¶ 56.

community, unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby; ... ***Provided, however, That nothing in this section shall be construed to require a certificate or other authorization from the Commission for any installation, replacement, or other changes in plant, operation, or equipment,*** other than new construction, which will not impair the adequacy or quality of service provided. (emphasis added)

The statute makes clear that an upgrade in facilities, such as deployment of fiber, does not require Commission approval.<sup>19</sup>

However, short of imposing a requirement of obtaining prior approval, the Commission could still impose unnecessarily lengthy or burdensome notice obligations that would stifle or delay copper retirement, and thereby deter fiber deployment. The *NPRM* asks whether the current requirement of a minimum of ninety days' advanced notice of copper retirement is sufficient, or should be expanded.<sup>20</sup> ADTRAN believes that in light of the other changes the Commission is proposing to implement, the minimum notice period can be shortened to sixty days in instances where facilities, but not services, will be changed. For such instances where only facilities will be changed and expanded notification obligations will presumably be imposed, then sixty days advanced notification should be adequate in all but unusual

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<sup>19</sup> The Commission should thus reject the request of some competitive carriers that would require Commission approval before an incumbent carrier could retire copper facilities, and would severely limit the instances where the Commission could grant such approval. *See e.g., NPRM* at n. 60:

BridgeCom et al. Petition at 11-12 (“[T]he Commission should provide that the retirement will not be permitted unless the retirement is necessitated by undue hardship that would be caused to the ILEC if retirement does not go forward, or if the retirement is caused by factors outside of the control of the ILEC such as natural events or accidents.”). COMPTTEL argues that the Commission should prohibit incumbent LECs from “removing, disabling, or failing to maintain copper” unless the Commission makes a finding that such request is in the public interest, and the public service standard should “ensure the availability of functionally equivalent comparable wholesale services at equivalent prices, terms and conditions.”

<sup>20</sup> *NPRM* at ¶ 59.

circumstances. And if a customer or competitor believes it needs extra time to prepare for the change in facilities, then ADTRAN would suggest allowing the customer or competitor to request an automatic thirty day extension of the notice period. Moreover, if the customer or competitor can demonstrate unusual circumstances necessitating even more time to make changes, then an additional period of time (of up to sixty days – or a total maximum of one-hundred-and-fifty days) could be ordered by the Commission.<sup>21</sup> A longer timeframe of 180 days should apply when services are eliminated as a result of the network change. The Commission should also make clear that the notice period begins to run only when the competitive carrier is provided a complete and accurate list of impacted circuits and, if applicable, specifics on replacement services available if a TDM service is discontinued.

The Commission should resist calls by some competitors to impose more burdensome notification or prior approval requirements. The *NPRM* explains that competitive carriers have sought to halt copper retirements, claiming "that incumbent LECs are retiring copper—and thereby wasting a valuable resource—merely to preclude potential broadband competitors from providing service."<sup>22</sup> Such an allegation is unfounded. As the Commission acknowledges, it makes no sense for the incumbent carriers to bear the unnecessary costs of an outmoded network, along with the costs of a new, highly-efficient fiber-based broadband network.<sup>23</sup> Incumbent carriers' retirement of copper is rational and economic -- not anticompetitive conduct.

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<sup>21</sup> Such a time frame for advanced notice also coordinates with AT&T's proposal for facilitating the sale or lease to competitors of copper facilities that are being retired. *NPRM* at ¶ 86.

<sup>22</sup> *NPRM* at ¶ 20.

<sup>23</sup> *E.g.*, *NPRM* at ¶ 15 ("We recognize the many benefits of fiber-based service and the desirability for incumbent LECs of not having to operate both copper and fiber networks indefinitely, including the potential for more bandwidth and increased reliability in difficult weather conditions.").

As the NPRM observes, some competitive carriers have proposed a rash of limits on the incumbents' ability to replace copper facilities with fiber:

BridgeCom et al. and XO et al. recommend a number of suggestions that would delay copper retirements or make them more difficult to obtain, including: (1) permitting copper loop retirements only if the incumbent LEC offers an unbundled, comparable service over the FTTH/FTTC loops or demonstrates to the Commission that retention of the copper plant would be unreasonably costly and contrary to the public interest; (2) permitting copper retirement only if necessitated by natural events, accidents, or to avoid undue hardship to the incumbent LEC; (3) requiring express Commission approval before copper may be retired; (4) permitting states to adopt copper loop requirements stronger than the Commission's rules; (5) requiring incumbent LECs to sell copper loops that they retire; (6) requiring incumbent LECs to publish notice of a proposed copper retirement at least 12 months before implementation; and (7) extending regulations to the copper feeder portion of the loop.<sup>24</sup>

Just about all of these various requirements would make it exceedingly difficult for the incumbent carriers to upgrade their facilities, and thereby deter investment in new fiber. The Commission should reject these proposals. As explained above, the Commission should be encouraging, not discouraging, the deployment of fiber and advanced services.

There is, however, one step the Commission could take that would allow competitive carriers to continue to take advantage of the robust capabilities of copper, without saddling the incumbent carriers with the burden of maintaining two networks. As the *NPRM* suggests, "[o]ne potential way to maintain valued parts of the copper network while allowing incumbent LECs to continue their technology transition plans would be for incumbent LECs to sell or auction copper facilities that they intend to retire, ***on reasonable terms and conditions***."<sup>25</sup> Getting the terms and conditions right is critical, however, to avoid the kind of "synthetic competition" that the Court of Appeals decried in overturning the Commission's earlier unbundling decision.<sup>26</sup>

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<sup>24</sup> *NPRM* at n. 61.

<sup>25</sup> *NPRM* at ¶ 84 (emphasis added).

<sup>26</sup> *United States Telecom Ass'n v. FCC*, 359 F.3d 554, 573 (D.C. Cir. 2004), *cert. denied*,

ADTRAN agrees with Commission's tentative conclusion that any such sale or auction not be mandatory.<sup>27</sup> The Commission should not attempt to dictate the prices or other terms and conditions of these sales, particularly because any such regulator-set prices will be arbitrary, and would likely encourage the companies to lobby the Commission rather than bargain in good faith. ADTRAN also urges the Commission to preempt any state public service commission attempts to impose more stringent requirements, because that would conflict with the federal goal of encouraging the deployment of fiber and other advanced technologies.<sup>28</sup>

ADTRAN believes that the FCC should seriously consider AT&T's proposal for making retired copper facilities available to competitive carriers.<sup>29</sup> The Commission's goal should be to provide a workable mechanism and time frame that takes account of the needs of competitive carriers without imposing too onerous a burden on the incumbent carriers. If there are multiple competitive carriers interested in acquiring the retired copper facilities, an incumbent carrier could utilize an auction procedure as suggested by BridgeCom *et al.*<sup>30</sup> Under either proposed scenario, the parties would determine the prices, rather than having the Commission arbitrarily selecting a price or pricing methodology.<sup>31</sup> And once the competitive carrier acquired the copper

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125 S.Ct. 313, 316, 345 (2004).

<sup>27</sup> *NPRM* at ¶ 89 (“We tentatively conclude that the Commission should pursue a voluntary approach, rather than impose a requirement for sale or auction of copper facilities, as proposed by parties such as WorldNet.”).

<sup>28</sup> *Minnesota Public Utilities Com'n v. FCC*, 483 F. 3d 570 (8th Cir. 2007).

<sup>29</sup> *NPRM* at ¶ 86, citing Letter from Robert C. Barber, Attorney, AT&T, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-253, et al., at 14 (filed May 30, 2014).

<sup>30</sup> *NPRM* at ¶ 85, citing Petition of BridgeCom Int'l, Inc., et al. for Rulemaking and Clarification of the Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers, RM-11358, at 1 (filed Jan 18, 2007) at 14.

<sup>31</sup> Commission imposition of an obligation to sell at "book prices" or TELRIC would create

facilities, the incumbent carrier would be relieved of obligations to maintain those facilities (although they could agree to provide such services for a fee). To the extent that competitive carriers could economically make use of the retired copper loops, such procedures would allow them to do so, without unreasonably burdening the incumbent carriers.

### **Impact of Technology Transition on Consumers**

In addition to seeking to ameliorate the impact of technology transitions on competitors, the *NPRM* also includes proposals to mitigate the effects on consumers. While ADTRAN appreciates the Commission's goal of minimizing any harmful effects on consumers from technology upgrades, some of the *NPRM*'s proposals would impose significant burdens on the incumbent carriers without really benefiting consumers.

### ***The Commission Should Not Impose Unreasonable Notification Requirements***

As a general proposition, ADTRAN agrees that incumbent carriers should provide some generalized and fulsome notice to its customers of changes in the network that might affect the customers' services. Carriers already have a desire to do so in order to minimize customer confusion and annoyance -- businesses have no interest in alienating their customers. However, some of the particular notification requirements proposed in the *NPRM* presume that the incumbent carriers have specific knowledge about their customers that they simply do not possess. And without such knowledge, the incumbent carriers are in no position to provide such particularized notifications.

For example, the *NPRM* suggests: "We propose that affected customers who must receive notice are anyone who will need new or modified CPE or who will be negatively

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difficult cost accounting and cost allocation issues (and inevitably lead to disputes that would require the Commission and the carriers to expend significant resources and time resolving), and would be unlikely to provide the correct pricing signals in any event.

impacted by the planned network change."<sup>32</sup> However, the Commission deregulated and detariffed CPE in the early 1980's,<sup>33</sup> so the incumbent carriers do not have control over the CPE owned or used by their customers. Nor would an incumbent carrier have knowledge of particular third-party services, such as alarm monitoring, that any particular customer may be receiving over its telephone lines.<sup>34</sup> Without collecting information on every customer's CPE and services, the incumbent carriers could not make the types of specific notifications proposed in the *NPRM*.

Likewise, the *NPRM* asks: "How can we ensure that notice to customers with disabilities is provided in accessible formats?"<sup>35</sup> Again, unless the incumbent carriers have information on the health/capabilities of their subscribers, they will not be able to provide particularized notifications in particular formats. And ADTRAN presumes that most consumers may be reluctant to report on their medical conditions to their phone companies. The Commission should not adopt particularized notification obligations that are based on information the incumbent carriers do not have. Nor should the Commission require that the carriers collect such information.

On the other hand, the *NPRM* suggests:

However, retail customers are affected by certain planned network changes involving

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<sup>32</sup> *NPRM* at ¶ 61.

<sup>33</sup> *Procedures for Implementing the Detariffing of Customer Premises Equipment and Enhanced Services* (Second Computer Inquiry), 95 FCC2d 1276 (1983).

<sup>34</sup> *E.g.*, *NPRM* at ¶ 10 (Currently, consumers may expect certain familiar data-based services, such as credit card readers, home alarms, and medical alert monitors to function in a particular way.").

<sup>35</sup> *NPRM* at ¶ 63. The *NPRM* also seeks comment on other health-related issues: "For example, to what extent will the applicant be required to identify the services that might be disrupted—e.g., home health monitoring, TTY-based communications—and the extent to which loss of support for each such service might have an adverse impact on people with disabilities, as well as its plans for acceptable replacements?" *NPRM* at ¶ 96.

copper retirement, particularly those that require a technician to seek entry to a retail customer's premises home. In those circumstances, we believe that an incumbent LEC's retail customers should be part of the network change disclosure process, and in particular we propose that incumbent LECs should be required to provide such customers notice of an impending copper retirement.<sup>36</sup>

In those situations where the incumbent carrier will need to enter the customer's home as a result of a change in network facilities, ADTRAN believes that advanced notification is appropriate. Indeed, it would presumably be necessary, because the carrier would not want to engage in breaking and entering to gain access to the customer's home.

***The Commission Should Not Impose a Prohibition on "Upselling"***

ADTRAN is also troubled by the *NPRM*'s proposal to limit an incumbent carrier's ability to market additional services to its customers in connection with its upgrade in facilities: "We therefore propose requiring incumbent LECs to supply a neutral statement of the various choices that the LEC makes available to retail customers affected by the planned network change."<sup>37</sup> Such a requirement would run counter to the interests of the consumers and the public interest. Making customers aware of the benefits of the new technologies, and the new and better services supported by the upgrades, is a good thing.

Indeed, the *National Broadband Plan* recognizes that broadband availability is not enough – the United States also needs to increase broadband adoption.<sup>38</sup> And one of the primary reasons for lack of broadband adoption is the absence of knowledge of the benefits of broadband services. The *National Broadband Plan* includes recommendations to increase public awareness of how broadband services can improve the consumers' lives:

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<sup>36</sup> *NPRM* at ¶ 62.

<sup>37</sup> *NPRM* at ¶ 72.

<sup>38</sup> *National Broadband Plan* at p. 123 ("Lack of adoption is a larger barrier to universal broadband than lack of availability.").

Recommendation 9.7: The private sector and non-profit community should partner to conduct a national outreach and awareness campaign.

How people perceive the Internet shapes how they use it. People with strong concerns about potential hazards online reported engaging in a narrower range of activities online than users without those worries. ***For broadband to be beneficial to their lives, consumers need to be aware of both the benefits of broadband as a means for solving everyday problems and of ways to manage potential hazards. While digital literacy training supports this goal, it is important to explicitly demonstrate the relevance of broadband to people’s lives in order to create comfort and familiarity with technology in communities.*** Leading media, broadband providers and other technology companies should partner with national non-profits with strong ties to underserved communities to conduct a nationwide outreach and awareness campaign. The campaign should specifically target key segments of non-adopters such as the elderly, low-income Americans, ethnic and racial minorities and rural Americans. ***Its messaging should communicate to audiences and their families, in a culturally relevant way, why broadband matters.***<sup>39</sup>

The Commission should thus be encouraging -- not prohibiting -- “upselling” by the incumbent carriers.

***The Commission Should Not Mandate that the Incumbent Carrier be Responsible for Providing Battery Backup Power to Every Customer***

ADTRAN is also concerned by the *NPRM*’s proposals to require that carriers be saddled with the obligations to provide backup battery power that would “apply to facilities-based fixed voice services, such as interconnected VoIP, that are not line-powered by the provider.”<sup>40</sup> Such a requirement would place an unfair burden on the carriers, would impose a cost on consumers for a capability that the vast majority of customers seemingly do not desire, and would not be technology neutral. ADTRAN believes that a better course of action would be to require all service providers (and CPE manufacturers) to notify their customers about the capabilities or limitations of their service to function during a power outage, and allow customers that want to

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<sup>39</sup> *National Broadband Plan* at p. 180 (emphasis added, footnotes omitted).

<sup>40</sup> *NPRM* at ¶ 35.

acquire backup power services to purchase or lease such capabilities.

ADTRAN does agree with the *NPRM*'s pronouncement that clarity with regard to the availability of and responsibility for CPE backup power is important.<sup>41</sup> Consumers ought to be told when they acquire CPE or sign up for service (and perhaps even reminded annually) as to the capability of their service to continue functioning in the event of a power outage. Armed with such knowledge, consumers can decide what steps they may want or need to take to ensure that their CPE will operate even in the event of a power outage, and that service will be available (assuming the carrier's network continues to operate). ADTRAN disagrees, however, with the *NPRM*'s proposal to mandate that for certain carriers or services, those carriers must provide backup power to every one of their customers.

Historically, the monopoly telephone service provider offered telephone service that included the customer premises equipment (you had your choice of any color black rotary phone), and that CPE for residential customers was powered by low-voltage current carried over the telephone company's copper lines. One of the side benefits of this method of provisioning telephone service was that service would continue, even when the power provided by the local electric company was out. However, this model of CPE-furnished only by the service provider no longer exists. And the vast majority of customers have indicated that they seemingly prefer a service provisioning model where their CPE is not powered by the phone company over copper loops.

Telephone service subscribers have "voted" with their choice of service providers,

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<sup>41</sup> *NPRM* at ¶ 32 ("As technology transitions, it is important that lines of responsibility for provisioning CPE backup power are clearly delineated and understood by providers and consumers alike, so that performance can meet expectations and continuity of communications can be ensured. Establishing clear expectations for both providers and customers as to their responsibilities throughout the course of an outage should minimize the potential for lapses in service to occur due to consumer confusion or undue reliance on the provider.").

services and CPE, and they overwhelmingly have chosen not to have their CPE powered by the telephone companies' copper loops. According to the most recent annual CDC survey, 44% of subscribers have "cut the cord," and do not subscribe to a landline telephone service<sup>42</sup> -- and thus do not depend on telephone company power for their handsets. In addition, many consumers have substituted VoIP services in lieu of traditional landline telephone service, and thus no longer rely on telephone company-supplied power for their phone service. Indeed, according to the Local Telephone Competition Report issued by the Industry Analysis and Technology Division of the Commission, residential VoIP subscriptions slightly exceed switched access connections.<sup>43</sup> In addition, many of the remaining incumbent carriers' landline subscribers have substituted cordless phones, which are powered by plugging into the electric outlets, not powered by the telephone company. Consumers are selecting cordless phones in a significant number of households that still have landline service, as reflected by the fact that for the most recent year where data is available, sales of cordless telephones were just about double the sales of corded telephones – 7.3 million cordless phones versus 3.7 million corded phones.<sup>44</sup> In sum, based on their choice of services and/or CPE, power supplied by the telephone company apparently is not viewed as critical for the large majority of consumers.

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<sup>42</sup> See, [www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201412.pdf](http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201412.pdf). And even if those wireless customers also subscribe to a broadband service and utilize an over-the-top VoIP service for telephone calls, such services do not rely on electric power furnished by the telephone company over a copper loop.

<sup>43</sup> FCC Industry Analysis and Technology Division, "Local Telephone Competition: Status as of December 31, 2013" (October 2014), Table 2, available at [Local Telephone Competition as of 12/31/13](#).

<sup>44</sup> 2014 TIA'S 2014-2017 ICT MARKET REVIEW AND FORECAST, Table 4-4.1. The data are derived from the TIA 2013 ICT Market Review & Forecast, a proprietary annual publication from TIA containing distilled data and analysis on information and communications technology industry trends and market forecasts through the end of 2017. This document is available for purchase at <http://www.tiaonline.org/resources/market-forecast>.

Citing a Public Knowledge survey, the *NPRM* asserts that “45% of consumers surveyed keep their landline in addition to their cell phone because their landline continues to function during power outages.”<sup>45</sup> Actually, according to the description of the survey results, what that particular survey indicated was that of the consumers surveyed who had both a cell phone and a landline phone, 45% stated that “*a reason* you keep your landline phone at home, given that you also have a cell phone” is that “[l]andline works when there’s an electric outage”.<sup>46</sup> So, it is “a reason,” not necessarily “the reason” or a “primary reason.” Moreover, it is not 45% of customers surveyed, but 45% of a subset of the customers surveyed (those that have both a cell phone and a landline, which is 47.7% of the households in the survey). So, assuming *arguendo* the validity of the Public Knowledge survey, *one* of the reasons 21.5% (45% x 47.7%) of those surveyed keep their landline is because it works when there is an electric outage. The Public Knowledge survey thus confirms consumers’ preferences as reflected in their purchase of services and CPE that do not rely upon telephone company-supplied power – the vast majority of consumers apparently do not view it as essential.

ADTRAN thus believes that it makes much more sense to facilitate the purchase of backup battery power by those who desire such a capability, rather than impose a requirement on certain carriers to furnish such a capability to every one of their customers, whether those customers want it or not. Such a more targeted approach will reduce the inefficiency and inequity of requiring customers to purchase a capability they do not desire or value. It will thus

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<sup>45</sup> *NPRM* at n. 107, citing Letter from Jodie Griffin, Senior Staff Attorney, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, Attach. at 2, 7 (Nov. 2014)(emphasis added).

<sup>46</sup> Public Knowledge Survey, Table 2.

help ensure that the benefits of any new regulatory obligations exceed the costs.<sup>47</sup> In addition, it will avoid expending significant Commission and carrier resources addressing disputes over trying to set minimum capabilities and other requirements. Moreover, this approach eliminates the tilting of the playing field by having the Commission impose a mandatory burden on only some services and technologies.

The Commission's proposal to impose an obligation to provide every customer with "backup power that is capable of powering their customers' CPE during the first eight hours of an outage"<sup>48</sup> creates an impossible burden on the carriers. As noted above, the Commission de-tariffed and deregulated CPE more than thirty years ago.<sup>49</sup> As a result, telephone carriers have limited knowledge of or control over a customer's CPE. And yet the *NPRM* proposes obligations on the carriers that assume those carriers have knowledge of and can control the customers' CPE, or that would require carriers to decide what communications are "essential." Such proposals include:

- "We therefore intend that any backup power requirements we propose today afford sufficient power for minimally essential communications, including 911 calls and the receipt of emergency alerts and warnings. We seek comment on what services should be considered "minimally essential" for purposes of continuity of power."<sup>50</sup> ***Does this mean that a carrier would also need to power a TV or radio if customers want to get their alerts/news from those sources, or if a customer uses their television for fielding phone calls (e.g., <http://xfinity.comcast.net/callerid/>)?***
- "In addition, we seek comment on the extent to which backup power can be prioritized or otherwise conserved for such minimally essential communications needs. For example, can service providers offer mechanisms for lowering power

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<sup>47</sup> *NPRM* at ¶ 41.

<sup>48</sup> *NPRM* at ¶ 35.

<sup>49</sup> *See* n. 33, *supra*.

<sup>50</sup> *NPRM* at ¶ 34.

usage and conserving battery power, such as a default turnoff of all communication services when the device is operating on battery, so that the device does not drain backup power while a consumer is away from home or otherwise not using the device?”<sup>51</sup> ***How can the carrier know if the customer is home? How is the carrier supposed to perform such functions when they may not be able to control remotely customer-furnished CPE?***

- “What measures can providers take to rapidly load shed non-essential communications functions to extend the duration of available backup power to support minimally essential functions?”<sup>52</sup> ***How is the carrier supposed to determine whether any particular communications functions are essential? Must the carrier monitor the consumer’s call to determine if they are checking on their child’s well-being at school versus engaging in idle gossip? Again, how are they supposed to remotely control customer-furnished CPE?***
- “Should providers be expected to standardize CPE power supplies and connector interfaces across network devices and CPE, so that a common battery backup unit can be used in the home with multiple devices.”<sup>53</sup> ***How are carriers supposed to require standardized CPE when carriers have no control over what CPE a customer buys or installs?***
- “In the event we were to adopt a requirement that providers must provision CPE backup power, we expect that providers would be entitled to commercially reasonable compensation in exchange for providing this service.”<sup>54</sup> ***Is the Commission going to determine or set standards for “commercially reasonable compensation”?***

The Commission can avoid burdening itself and the carriers with such impossible tasks by placing responsibility on the customers, and not the carriers, to deploy backup capabilities if so desired.

That is not to say that carriers should have no role whatsoever. ADTRAN does believe that carriers, as well as CPE suppliers, should notify customers of the capabilities of their services or equipment to operate when power is out. They should also explain to customers how

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<sup>51</sup> *Ibid.*

<sup>52</sup> *Ibid.*

<sup>53</sup> *NPRM* at ¶ 38.

<sup>54</sup> *NPRM* at n. 109.

they can obtain backup power supplies. Moreover, carriers and CPE suppliers should participate in any efforts to develop standardized technologies or interfaces that would make it easier and more efficient for customers to deploy backup power.<sup>55</sup> And certainly carriers could voluntarily offer their customers backup power capabilities and options if they perceive sufficient demand, or want to differentiate their services.

Finally, to the extent that the Commission determines that there is a failure in the marketplace to make backup power devices readily available, then in that situation the Commission could also require carriers to offer a limited number of options for their customers who want to purchase such capabilities but cannot readily do so at local stores or over the Internet. Such an obligation would be analogous to the Commission's requirement that CMRS providers offer a minimum number of Hearing Aid Compatible handsets.<sup>56</sup>

## CONCLUSION

ADTRAN welcomes the Commission's efforts to clarify and revise its policies to account for the technology transition to all-Internet Protocol (IP) multi-media networks. The Commission rightly considers the goal of minimizing the disruptions to consumers and competitors, but must also ensure that any new rules do not deter or needlessly delay the deployment of these upgraded services and facilities. ADTRAN urges the Commission to follow

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<sup>55</sup> *NPRM* at ¶ 38.

<sup>56</sup> 47 C.F.R. § 20.19(c).

its suggestions herein as a better means of balancing those goals. Following such a path will well serve the public interest.

Respectfully submitted,  
ADTRAN, Inc.

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