

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
Developing an Unified Intercarrier)	CC Docket No. 01-92
Compensation Regime)	
)	

**COMMENTS OF PEERLESS NETWORK, INC.; WEST TELECOM SERVICES, LLC;
PENINSULA FIBER NETWORK, LLC; ALPHA CONNECT, LLC; RURAL
TELEPHONE SERVICE COMPANY, INC. D/B/A NEX-TECH; NEX-TECH, LLC; AND
TENNESSEE INDEPENDENT TELECOMMUNICATIONS GROUP, LLC D/B/A IRIS
NETWORKS**

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Networks*

Date: October 26, 2017

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Peerless Network, Inc. (“Peerless”); West Telecom Services, LLC (“West Telecom”); Peninsula Fiber Network, LLC (“Peninsula Fiber Network”); Alpha Connect, LLC (“Alpha Connect”); Rural Telephone Service Company, Inc. d/b/a Nex-Tech; and Nex-Tech, LLC (together, “Nex-Tech”); Tennessee Independent Telecommunications Group, LLC d/b/a iRis Networks (“iRis Networks”) (collectively, the “Carrier Coalition”) respectfully file these comments pursuant to the Commission’s September 8, 2017 Public Notice issued in the above-captioned proceedings.¹

I. INTRODUCTION AND SUMMARY

The Carrier Coalition is comprised of carriers that provide vital, diverse and innovative services within the national market for tandem, transport and transit services. Each member of the Carrier Coalition, on its own, has made substantial network investments to offer efficient

¹ *Parties Asked to Refresh the Record on Intercarrier Compensation Reform Related to the Network Edge, Tandem Switching and Transport, and Transit*, WC Docket No. 10-90, CC Docket No. 01-92, Public Notice, 32 FCC Rcd 6856 (rel. Sept. 8, 2017) (“Notice”).

interconnection and routing services. These services provide carrier customers with significant competitive alternatives for the exchange of traffic between different types of carriers.

An overview of each company's services is as follows:

- Peerless, through its affiliates, is a competitive local exchange carrier ("CLEC") in 42 states and the District of Columbia that provides wholesale interconnection services for all carrier types and for all types of traffic via innovative end office, tandem, and advanced routing services.²
- West Telecom is a CLEC in 47 states and the District of Columbia that provides wholesale voice origination and termination services to other carriers and service providers, allowing for the efficient exchange of traffic between different networks.³
- Peninsula Fiber Network operates in excess of 2,600 route miles of high-speed fiber optic transport throughout the Upper Peninsula and Northern Lower Peninsula of Michigan, as well as in Northern Wisconsin and into Eastern Minnesota, which is used to provide a range of services. Together with its wholly-owned subsidiary Alpha Connect, the companies provide competitive tandem and transport services that allow for the exchange of traffic between interexchange carriers ("IXCs") and the end offices of rural local exchange carriers ("RLECs").⁴
- iRis Networks operates a 5,000-mile fiber network across Tennessee and parts of Alabama, Georgia and Kentucky, providing varied competitive services to rural areas, including tandem and transport services providing for the exchange of traffic between the networks of IXCs and the end offices of RLECs.⁵
- Nex-Tech, headquartered in Lenora, Kansas, operates as both an RLEC and CLEC in areas of Northwest Kansas. Nex-Tech has invested hundreds of millions in fiber network facilities within its service areas. Among its services, Nex-Tech provides tandem switching and transport services that provide IXCs with efficient interconnection and routing to geographically dispersed locations in Kansas.⁶

Carrier customers using the services provided by members of the Carrier Coalition reap many important benefits, such as better customer service and quality assurance, increased

² See, e.g., <https://www.peerlessnetwork.com/about-us/company-overview/>.

³ See, e.g., <https://www.west.com/telecom-services/network/>.

⁴ See, e.g., <http://www.pfnllc.net/about-pfn/>.

⁵ See, e.g., <http://www.iristransport.com/>.

⁶ See, e.g., <https://www.nex-tech.com/About.aspx>.

network reliability and redundant routing, improved routing integrity, increased access to more diverse and advanced fiber optic services, and increased access to emergency services. To preserve and promote these important services, the Commission must be careful to ensure that rule modifications and regime reforms do not undermine the significant investments that Carrier Coalition members and similar providers have made and the important roles that they play.

As a fundamental matter, the Carrier Coalition members serve primarily, and in some cases fully, as intermediate carriers. As such, they do not directly serve end-users, but rather provide services that permit the exchange of traffic between the networks of other carriers and their end-user customers. It is crucial that the services provided by the Carrier Coalition members and similarly situated providers *not* be subjected to bill-and-keep—a system under which a carrier must “look[] to its end-users ... to pay for the costs of its network.”⁷ In short, under a bill-and-keep system, the Carrier Coalition members would have no way to obtain payment for the services they provide as intermediate carriers.

As fully explained in these comments, the Commission should—in a number of ways—heed this important principle when answering the questions posed in the *Notice* and take certain related actions to ensure that the market for tandem, transport and transit services remains competitive and robust.

First, when implementing any network edge rule, the Commission should create a general guideline under which the network edge is defined as the point in the network where

⁷ *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 Inter-carrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109; GN Docket No. 09-51; CC Docket Nos. 01-92 and 96-45; WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, ¶ 737 (2011) (“*USF/ICC Transformation Order*”).

traffic is routed to or from the carrier serving the end-user, so that services provided beyond the network edge—such as competitive tandem, transport, and transit services—are not subjected to bill-and-keep. This guideline should establish—at a minimum—that certain specific locations within a given end-user’s LATA, identified below, be adopted as the *presumptive* network edge. Such a guideline will serve to ensure that any network edge rule is implemented consistently across the nation by state commissions, and will promote competition in the market for competitive tandem, transport, and transit services.

Second, the Commission should immediately adopt a rule requiring that all wireline and wireless carriers make direct connections available at the network edge to requesting carriers that send or receive at least four (4) T-1s of originating and/or terminating traffic per month (or for IP networks or other modern technology, 200,000 monthly Minutes of Use (“MOUs”) sustainable average over a 30-day period). At this level of traffic, direct interconnection is generally, if not always, economically efficient for both carriers. However, some wireless carriers are now refusing direct interconnection at and above this level in order to force carriers to route all or certain types of traffic (*e.g.*, wholesale or long distance traffic) through such wireless carriers’ unilaterally chosen intermediate carrier partner, which then assesses excessive per-MOU charges that such partner—on information and belief—shares directly or indirectly with the wireless carrier. Since wireless carriers are prohibited from assessing access charges directly under the Commission’s existing intercarrier compensation rules, these schemes violate the pro-competitive purpose of the Communications Act of 1934, as amended (the “Act”), and are unjust and unreasonable. A requirement that direct connections be made available will serve to prohibit these arbitrage schemes, while resulting in a number of important policy benefits.

Third, the Commission should refrain from imposing bill-and-keep on tandem and transport services provided by carriers that do not serve end-users. Since these carriers do not serve end-users, they would have no way to obtain payment for the services they provide under a bill-and-keep system. Moreover, the competitive services offered by these providers face competition from a range of alternative services and are purchased by carrier customers on a voluntary basis, such that there is no need for the Commission to impose bill-and-keep or any other government-mandated rates. Rather, such services should continue to be subject to the existing permissive tariffing regime.

Additionally, the Commission should make special considerations for certain carriers that provide tandem and transport services in rural areas. Many intermediate carriers providing tandem and transport services to rural areas were formed by a consortium of RLECs, but are run independently and do not obtain any revenues from RLEC end-users. To avoid undermining the investments that such providers have made in deploying innovative fiber networks in rural areas, the Commission should ensure that bill-and-keep is not imposed on such carriers by virtue of an affiliate rule where such carrier may be owned, in part, by an RLEC. Further, where an RLEC provides both tandem switching and end office switching, the Commission should provide an extended transition period—among other things—for such carriers when transitioning originating switched access rate elements to bill-and-keep, so that such carriers have sufficient time and ability to adapt to alternative cost recovery methods.

Fourth, the Commission should likewise refrain from imposing bill-and-keep on transit services, which are functionally equivalent to tandem and transport services provided by intermediate carriers. As such, bill-and-keep is an irrational model for transit services, because it would force the end-users, if any, of carriers providing transit services to subsidize such services

for end-users that subscribe to carriers that do not provide them. Moreover, the market for transit services is highly competitive, such that there is no basis for imposition of government-mandated rates. Instead, the Commission should continue to allow transit providers to assess market-based rates for their service, pursuant to the existing permissive tariffing regime.

II. THE NETWORK EDGE: The Network Edge Should Be Defined to Ensure that Bill-and-Keep Applies Only to Switched Access Services Provided by Carriers Serving End-Users within Their Own Networks, and Direct Interconnection Should Be Required at the Network Edge with Any Requesting Carrier Whose Traffic Volumes Meet or Exceed the Equivalent of Four T-1s Per Month

In the *2011 ICC Transformation Order*, the Commission recognized that “[a] critical aspect to bill-and-keep is defining the ‘network edge’ for purposes of delivering traffic.”⁸ The “network edge,” the Commission explained, “is the point where bill-and-keep applies[;] a carrier is responsible for carrying, directly or indirectly by paying another provider, its traffic to that edge.”⁹ Any such “network edge” rule should encompass two key components.

First, the Commission must ensure that the chosen network edge location appropriately places the dividing line between (1) a carrier’s network used to provide services directly to its end-user subscribers and (2) a carrier’s network that does not directly serve end-users. Since bill-and-keep is premised on the notion that a carrier can increase end-user prices to recover payment for switched access services provided over the carrier’s own network, only the former category of carrier services should be subjected to bill-and-keep. As to carrier services that *are not* offered directly to end-users, such as the services provided by the Carrier Coalition members when serving as intermediate carriers, bill-and-keep should not apply. Rather, carriers providing these services should continue to charge their carrier customers for these valuable interconnection and traffic exchange services. To identify the appropriate points in the network of a carrier that

⁸ *2011 ICC Transformation Order*, ¶ 1320.

⁹ *Id.*

serves end-users where any bill-and-keep requirements would apply, the Commission should define the network edge based on presumptively designated locations fully detailed in subsection A, below.

Second, the Commission should require all wireline and wireless carriers to offer direct interconnection at the network edge to any requesting carrier whose traffic volumes meet or exceed the equivalent of four (4) T-1s per month (or for IP networks or other modern technology, 200,000 monthly MOUs sustainable average over a 30-day period), which is a “High Water Mark.”¹⁰ Such a rule is necessary to avoid arbitrage schemes under which terminating carriers¹¹ require traffic to be sent through an intermediate carrier partner that may impose charges for routing the traffic that the terminating carrier could not impose itself. By adopting this rule, the motivation for terminating carriers to involve intermediate carrier partners in any call flow will be minimized. As explained in subsection B below, the proposed “4 T-1” rule is a reasonable, industry standard-based threshold that is supported by Sections 251(a)(1), 201 and 202 of the Act, and will ensure more efficient interconnection, promote competition, and allow competitive forces to reduce rates assessed beyond the network edge.

¹⁰ “High Water Mark” in this case means the number of active standing calls carrying legitimate traffic to and from end-users of the network that are routed, via indirect interconnection facilities, to the carrier that serves the end-users, as call traffic between two carriers at or above this High Water Mark should be sent over direct connects.

¹¹ “Terminating carrier” as used in these comments is the carrier that actually terminates the call directly to the called party who is served by the terminating carrier’s network. “Sending carrier” as used in these comments is the originating carrier serving the calling party or the IXC serving the calling party. “Intermediate carrier” is the network owner that, in full or in part, connects a sending carrier’s network with a terminating carrier’s network so the sending and terminating carriers can exchange traffic with each other. “Terminating traffic” as used in these comments means all local and long distance traffic along with all retail and wholesale traffic—which may be all intermingled—that is sent to a wireless or wireline carrier’s end-users.

A. Defining the Network Edge

Under a bill-and-keep system, “carriers look first to their subscribers to cover the costs of the network, then to explicit universal service support where necessary.”¹² Since carriers that do not serve end-users cannot “look to subscribers” for recovery of payments, bill-and-keep should not apply to such carriers. Indeed, the Commission acknowledged the importance of this point in the *USF/ICC Transformation Order*, explicitly declining to apply the bill-and-keep transition adopted for terminating switched access rate elements “where the tandem owner does not own the end office” (and thus does not serve end-users).¹³ Nor did such transition address “transport charges ... where the terminating carrier does not own the tandem,” for the same reasons.¹⁴

This critical characteristic—whether a carrier serves end-users—must be carefully accounted for when defining the network edge, *i.e.*, “the point where bill-and-keep applies.”¹⁵ Indeed, it should be the guiding principle for determining the location of the network edge in any given scenario, to ensure that the enormous network investments made by intermediate tandem and transport providers are not undermined during the overall transition to bill-and-keep.

The network edge should therefore be defined so that bill-and-keep applies *only* to those switched access services that an end-user’s carrier provides within its own network. The Commission should establish this principle as a general guideline for state commissions to follow, to ensure consistent implementation of the network edge across the nation. Once originating switched access services are transitioned to bill-and-keep, this guideline should be

¹² *USF/ICC Transformation Order*, ¶ 34.

¹³ *Id.* ¶ 1312.

¹⁴ *Id.* ¶ 819.

¹⁵ *Id.* ¶ 1320.

used to determine the location where bill-and-keep begins on both the terminating end of a call *and* the originating end.

Further, the Commission’s guidelines should—at a minimum—provide that the following locations within a given end-user’s LATA be adopted as the *presumptive* network edge:

- The *End Office Switch* serving the called party, when that End Office does not subtend to a tandem switch owned by the terminating carrier.
- The *Tandem Switch* serving the called party’s End Office, when the terminating carrier owns the Tandem Switch.
- The *Point of Presence* (“POP”), when the terminating carrier does not have a switch in the LATA where the traffic is terminated.
- The *Mobile Switching Center* (“MSC”), when the terminating carrier is a CMRS provider.

If interconnection is not technically feasible at the relevant network edge location identified above, or if the terminating carrier is exempt from Section 251(c), 47 U.S.C. § 251(c), interconnection requirements and does not offer interconnection at the network edge, then the terminating carrier should be required designate an alternative location within its service territory as the network edge, subject to approval by the relevant state commission consistent with the Commission’s guidelines.¹⁶ However, conceptually speaking, if the terminating carrier requests or requires an alternative location, the terminating carrier should bear the full cost of facilities needed to provide connection at the alternative location. For instance, if the terminating carrier moves the network edge from the end office to an alternative location, it should absorb the cost of the facilities to that alternative location. In other words, the terminating carrier should not be

¹⁶ Relatedly, the Commission should require carriers to publish, via website, their network edge points and points of contact for interconnection agreements.

permitted to charge an interconnecting carrier for facilities between the presumptive network edge and the alternative location.

Each of the presumptive network edge locations identified above is “competitively neutral.”¹⁷ The Commission explained that a “competitively neutral” location is “where interconnecting carriers have competitive alternatives—other than services or facilities provided by the terminating carrier to transport traffic to the terminating carrier’s network.”¹⁸ The above locations meet this criterion, because they denote where traffic is routed to the terminating carrier’s network, and there generally exist a range of competitive options for a carrier to deliver traffic to these interconnection points. Such options include (a) direct interconnection with the terminating carrier, (b) competitive tandem and transport services, such as those offered by members of the Carrier Coalition, (c) wholesale routing options provided by IXCs that have direct interconnection with the terminating carrier, or (d) Internet Protocol (“IP”) interconnection arrangements that allow carriers to avoid traditional Public Switched Telephone Network (“PSTN”)-routing.¹⁹

The available competitive routing options will only continue to increase as networks transition to all-IP infrastructure. Moreover, since these competitive alternatives are offered and provided only to sophisticated carrier customers that voluntarily choose to use them, such

¹⁷ 2011 USF/ICC Transformation Order, ¶ 1321.

¹⁸ *Id.*, ¶ 1321, n.2388.

¹⁹ Significantly, the Commission has long-recognized that carriers providing such competitive alternatives, sometimes referred to as Competitive Access Providers (“CAPs”), “lack market dominance,” and as a result “are permitted to file tariffs on one-day’s notice and the tariffs are presumed lawful by the [Commission].” *Total Telecomm. Servs v. AT&T*, 919 F. Supp. 472, 476 (D.D.C. 1996), *aff’d*, 99 F.3d 448 (D.C. Cir. 1996); *see also Expanded Interconnection with Local Tel. Co. Facilities*, 7 FCC Rcd 7369, ¶ 65 n.167 (1992) (explaining that “CAPs ...do not control bottleneck facilities”), *on recon.*, 8 FCC Rcd 127 (1993), *rev’d in part and remanded in part, Bell Atlantic Tel. Cos. v. FCC*, 24 F.3d 1441 (D.C. Cir. 1994).

services should continue to be treated different from the switched access services provided by the end-user's carrier that are transitioned to bill-and-keep.²⁰

B. The Commission Should Establish Direct Interconnection Obligations Where a Requesting Carrier's Traffic Volumes Meet or Exceed the Equivalent of Four (4) T-1s Per Month

In addressing network edge issues, the Commission should, as indicated above, immediately require that all wireline and wireless carriers make direct connections available to requesting carriers that send or receive at least four (4) T-1s of originating and/or terminating traffic per month (or for IP networks or other modern technology, 200,000 monthly MOUs sustainable average over a 30-day period),²¹ *for all traffic—i.e., all local and long distance traffic along with all wholesale and retail traffic* (the “Four T1 Standard”), with a zero rate per MOU for all terminating traffic (“Direct Connect Requirement”).²²

As explained below, establishing the proposed Direct Connect Requirement is reasonable and consistent with industry standards. Further, the Direct Connect Requirement is necessary to stop arbitrage schemes under which certain terminating carriers require traffic to be sent through a designated intermediate carrier partner that imposes charges that the terminating carrier could not impose itself. Such schemes violate Sections 251(a)(1), 201 and 202 of the Act. Moreover,

²⁰ Indeed, the Commission has long viewed the switched access services of carriers serving end-users much differently from those that do not, given that “once an end user decides to take service from a particular LEC, that LEC controls an essential component of the system that provides interexchange calls, and it becomes the bottleneck for IXC's wishing to complete calls to, or carry calls from, that end user.” *Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, CC Docket No. 96-262, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 9923, ¶ 30 (2001).

²¹ For IP networks or other modern technology, four T-1s are generally equivalent to approximately 200,000 monthly MOUs, sustainable at the High Water Mark average over 30 days.

²² Delivering traffic via intermediate carriers would still be subject to payment from the sending carrier.

the Direct Connect Requirement would serve the public interest by promoting competition and allowing competitive forces to reduce rates assessed beyond the network edge.

1. The Four T1 Standard is Reasonable.

The proposed Four T1 Standard for the Direct Connect Requirement is reasonable and appropriate, given industry standard and Commission precedent.

The Four T1 Standard is a well-established *de facto* industry standard²³ for bi-directional/two-way traffic, as at such level a direct connection is typically cost efficient for both interconnecting carriers.²⁴ In fact, some incumbent local exchange carriers (“ILECs”) *require* interconnecting carriers to have direct connections to their end offices if the interconnecting carrier seeks to *terminate* merely **one** T-1 (24 trunks) of traffic on a monthly basis.²⁵ With

²³ See Comments of Hypercube Telecom, LLC on Further Notice of Proposed Rulemaking, WC Docket 10-90 *et al.*, at 5 (filed Feb. 24, 2012) (explaining that “[t]he industry traditionally has found direct interconnection to be appropriate when there is a proposed exchange of traffic requiring minimum of four T-1s or the equivalent amount of simultaneous exchanged traffic.”)

²⁴ Because the Four T1 Standard is designed to be bidirectional/two-way, it addresses “glare” (also referred to as “call collision”) issues over direct connect facilities. Because traffic management practices consider access traffic as “two way,” there is a reduction of capacity equal to 1/3 or 1/4 of the “fully loaded” capacity to address glare. In particular, glare is caused when either: (1) a terminal and data circuit-terminating equipment (“DCE”) specify the same channel at the same time to transfer a call request and handle an incoming call (when glare occurs, the DCE proceeds with the call request and cancels the incoming call), (2) a trunk or channel is seized at both ends simultaneously. Glare occurs when the end-user attempts to place an outgoing call and the call accidentally collides with an incoming call.

²⁵ See, e.g., AT&T 21-State Interconnection Agreement, Attach. 2, Sec. 4.3.2.4, p. 10 (June 29, 2017), available at

https://clec.att.com/clec_documents/unrestr/interconnect/multi/21ST%20ICA.pdf (“[w]here traffic from CLEC switch to an AT&T SOUTHWEST REGION 5-STATE End Office is sufficient (24 or more trunks), a Local Interconnection Trunk Group shall also be established to the AT&T SOUTHWEST REGION 5-STATE End Office. Once such trunks are provisioned, traffic from CLEC to AT&T SOUTHWEST REGION 5-STATE must be redirected to route first to the Direct End Office Trunk Group (DEOT) with overflow traffic alternate routed to the appropriate AT&T SOUTHWEST REGION 5-STATE Tandem that switches Section 251(b)(5)/IntraLATA Toll Traffic.”); see also CenturyLink Multi- State Negotiations Interconnection Agreement Template, Sec. 7.2.2.1.3, p. 80 (July 1, 2017), available at <http://www.centurylink.com/wholesale/clecs/nta.html#>) (“[w]hen either Party utilizes the other

decreasing bandwidth costs and the use of modern technologies, such as the public Internet, the Four T1 Standard may, in fact, represent a conservative estimate of the bi-directional/two-way traffic level necessary for a direct connection to add economic value.

The Four T-1 Standard is also consistent with the FCC's past pronouncements concerning the volume of traffic that justifies direct interconnections. While acknowledging that direct connections to requesting carriers with very limited amounts of traffic may be inefficient, the Commission has recognized that direct connections are reasonable at far lower levels of traffic than the proposed Four T-1 Standard. The Commission, for example, has found that direct connections are justified when a carrier uses such facilities to send at least one T-1 (DS-1) and/or 200,000 MOU per month to another carrier.²⁶ The Four T-1 Standard is therefore well-supported and eminently reasonable.

2. The Refusal of Certain National Wireless Carriers to Allow Direct Connects Is a Prime Example of Why the Commission Needs to Adopt the Direct Connect Requirement Now

In addition to the support of industry standards, network architecture economics, and FCC precedent for the Direct Connect Requirement, the Commission should adopt the Direct Connect Requirement to prevent carriers from engaging in arbitrage and promote competition. Since the issuance of the *2011 USF/ICC Transformation Order*, it has become very clear that the

Party's Tandem Switch for the exchange of local traffic, where there is a DS1's worth of traffic (512 CCS) between the originating Party's End Office Switch delivered to the other Party's Tandem Switch for delivery to one (1) of the other Party's End Office Switches, the originating Party will order a direct trunk group to the other Party's End Office Switch. To the extent that CLEC has established a Collocation arrangement at a CenturyLink End Office Switch location, and has available capacity, CLEC may, at its sole option, provide two-way direct trunk facilities from that End Office Switch to CLEC's Switch.”).

²⁶ *Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration et al.*, CC Docket Nos. 00-218, 00-249, 00-251, Memorandum Opinion and Order, 17 FCC Rcd 27039, ¶ 116, n.384 (2002) (“*Virginia Arbitration Order*”).

Commission needs to address the abuse of existing rules. A prime example of abuse can be found in the practices of certain national commercial mobile radio service (“CMRS”) providers (“Wireless Carriers”) that refuse to establish direct connects with other carriers, including members of the Carrier Coalition, that seek to terminate certain types of traffic to the Wireless Carriers’ end-users.²⁷ For example, all four major Wireless Carriers have refused direct connects for interMTA traffic that terminates on their networks and/or are, directly or indirectly, assessing excessive MOU fees to terminate such traffic. Generally speaking, these Wireless Carriers are denying requested direct connections on the asserted basis that Section 251(a) obligations can be satisfied via indirect connections at the Wireless Carriers’ sole discretion.²⁸

²⁷ See, e.g., *Informal Complaint by CenturyLink Communications, LLC Against T-Mobile USA, Inc. and Request for Mediation*, File No. EB-16-MDIC-0020, at 2 (filed Nov. 10, 2016) (“*CenturyLink Informal Complaint*”) (“T-Mobile is engaging in an unlawful arbitrage scheme by which it refuses to make available direct connections to CenturyLink and other interexchange IXC’s when they seek to terminate access voice traffic to T-Mobile – and simultaneously forces them to deliver that traffic via the higher-priced, per-minute tandem services of intermediate carriers that, in turn, share their access charge revenue with T-Mobile.”); see also Comments of CenturyLink, LLC, WC Docket 10-90 *et al.*, at 9-10 (filed July 31, 2017), available at <https://ecfsapi.fcc.gov/file/107310238413010/170731%20CTL%20Coms%20WC%2010-90%20FINAL.pdf>.

²⁸ See, e.g., *O1 Communic’ns, Inc. (U6065C) vs. New Cingular Wireless PCS, LLC (U3060C) and AT&T Mobility Wireless Operations Holdings, Inc. (U3021C)*, Case 15-12-020, Decision Granting Motion to Dismiss Complaint, at 11 (Cal. Pub. Utils. Comm’n Sep. 20, 2016) (“find[ing] that nothing in federal law requires AT&T Mobility Wireless to directly interconnect with O1 Communications”), available at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M167/K385/167385831.PDF> (subsequent history omitted); see also Application of New Cingular Wireless PCS, LLC (U-3060-C) and AT&T Wireless Operations Holdings, Inc. (U-3021-C) For Rehearing of Decision No. 17-08-016, at 7 (emphasizing that “direct interconnection . . . is not required under section 251(a),” and “indirect interconnection . . . satisfies a telecommunications carrier’s duty to interconnect pursuant to section 251(a).”). In certain of these cases, the Wireless Carrier’s RBOC/ILEC affiliate is in-fact serving as the Wireless Carrier’s intermediate carrier partner in these call flows, yet the RBOC/ILEC affiliate or its IXC affiliate frequently advocate against using other intermediate carriers when they are not serving as the intermediate carrier partner to the terminating carrier. Some RBOC/ILECs have gone so far as to suggest that their wireless company is “not an affiliate” of the RBOC/ILEC bearing the same name for purposes of the

Upon information and belief, Wireless Carriers are engaging in this relatively new practice in order to perpetuate revenue-generating arbitrage schemes that force carriers to send terminating traffic destined to a Wireless Carrier's end-users through the Wireless Carrier's intermediate carrier partner. These intermediate carrier partners then assess terminating MOU charges and (on information and belief) share such revenues, either directly or indirectly, with their Wireless Carrier partner. Due to such new practices, many carriers that previously sent terminating traffic to the Wireless Carriers over direct connections (for which there were no MOU charges) are now forced to pay unjust and unreasonable per-MOU rates to the Wireless Carriers' unilaterally-chosen intermediate carrier partners.

As demonstrated below, this denial of direct connections in order to engage in arbitrage schemes is unlawful for many reasons, including that such practices: (1) run counter to the purpose of Section 251(a) of the Act and (2) violate the prohibitions against unjust and unreasonable rates and unjust and unreasonable discrimination imposed under Sections 201 and 202 of the Act.²⁹

transition to bill-and-keep. *See generally* AT&T Brief in Support of Answer, EB Docket No. 17-227 (filed Oct. 10, 2017), *available at* <https://ecfsapi.fcc.gov/file/1010914724340/Intercarrier%20Comp%20Level%203%20Complaint%20Brief%20Final.pdf>.

²⁹ The Commission has long held that CMRS providers are subject to the requirements imposed by Sections 251(a)(1). The Commission has also recognized that, pursuant to Section 332(c)(1)(A) of the Act, CMRS providers are "common carriers" and are subject to Sections 201 and 202 of the Act. *See Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services*, CC Docket No. 94-54, Second Notice of Proposed Rulemaking, 10 FCC Rcd 10666, ¶ 38 (1995) ("*CMRS Interconnection Order*") ("remind[ing] all CMRS providers from whom interconnection is sought, that they are common carriers subject to the basic commands of Sections 201 and 202 of the Communications Act.") (subsequent history omitted); *see also 2011 USF/ICC Transformation Order*, ¶ 842 (stating that "we observe that CMRS providers are required to interconnect with other carriers under section 251(a) of the Act, and that section 201 also provides the Commission authority to require CMRS providers to interconnect."); *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, Notice of Proposed Rulemaking, 16 FCC Rcd 9610, ¶ 95 (2001) (holding that "[p]ursuant to

a. The Wireless Carriers' conduct violates the spirit of Section 251(a)(1)

The Wireless Carriers' arbitrage schemes violate the spirit and purpose of Section 251(a)(1) of the Act.³⁰ Congress enacted Section 251(a) as part of the Telecommunications Act of 1996, which, among other objectives, was intended to “promot[e] increased competition in telecommunications markets that are already open to competition, including the long distance services market.”³¹ Section 251(a) was promulgated to promote this objective by requiring telecommunications carriers to “interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers.”³² Wireless Carriers, however, are using Section 251(a) as a shield against direct connections even where such direct connections are more economically efficient than indirect interconnection, thereby perversely harming competition.³³ As a result, carriers that send terminating traffic to a Wireless Carrier engaged in such a scheme are forced to route traffic through the Wireless Carrier's bottleneck intermediate

section 251(a), as well as sections 201(a) and 332(c), CMRS carriers have a general duty to directly or indirectly interconnect with each other”); *Policy and Rules Concerning the Interstate Interexchange Marketplace; Implementation of Section 254(g) of the Communications Act of 1934, as Amended; Petitions for Forbearance*, CC Docket No. 96-61, Memorandum Opinion and Order, 14 FCC Rcd 391, ¶ 15 (1998) (explaining that “the interconnection requirements of section 251(a) clearly apply to CMRS providers”).

³⁰ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, 47 U.S.C. §§ 151 *et. seq.* (“1996 Act”).

³¹ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Services Providers*, CC Docket Nos. 96-98, 95-185, First Report and Order, 11 FCC Rcd 15499, ¶ 3 (1996) (subsequent history omitted).

³² 47 U.S.C. § 251(a).

³³ Surprisingly, while AT&T Wireless now argues it has the right choose whether it will offer direct or indirect connections to a carrier (*see supra* note 28), AT&T has previously argued that “[o]riginating telecommunications carriers also should have the right to determine whether they will deliver telecommunications traffic directly or indirectly to terminating telecommunications carriers.” *See* AT&T's Reply Comments, WC Docket No. 06-159, at 3 (filed Sep. 25, 2006), available at <https://ecfsapi.fcc.gov/file/6518510056.pdf>.

carrier partner, which assesses excessive per MOU charges. These schemes, therefore, artificially increase costs of interconnection and are inherently anticompetitive, violating the pro-competitive objectives of the 1996 Act.³⁴

b. The Wireless Carriers' conduct violates Sections 201 and 202 of the Act and improperly circumvents the Commission's established intercarrier compensation regime by indirectly assessing charges that could not be assessed directly

The Wireless Carriers' conduct also violates Sections 201 and 202 of the Act, which codify "the bedrock consumer protection obligations of a common carrier...[and represent] the core concepts of federal common carrier regulation dating back over a hundred years."³⁵ The per MOU charges assessed by Wireless Carriers' intermediate carrier partners are unjust and unreasonable in violation of Section 201(b) of the Act, because when a carrier terminates long distance traffic to a Wireless Carrier's end-users via a direct connection with the Wireless Carrier, the carrier does not incur any terminating per MOU charges (*i.e.* the per MOU rate to terminate traffic is zero).

By refusing to make direct connections available for all or certain types of traffic where there are sufficient volumes of traffic to justify direct connection as a matter of economic efficiency, Wireless Carriers force interconnecting carriers to incur per MOU charges that are

³⁴ Wireless Carriers' abuse of the Section 251(a)(1) indirect interconnection option is particularly serious for consumers whose telecommunications carriers rely on least cost routing to provide competitively priced services, because direct connection arrangements typically offer the most efficient, least costly way to route large volumes of traffic to a terminating carrier. The inability to connect directly, together with being forced to route calls through a Wireless Carrier's intermediate carrier partner, essentially eliminates most alternative, least cost routing options for terminating calls to Wireless Carriers' customers. This, in turn: (a) increases the cost of providing services to consumers and (b) decreases a carrier's ability to offer competitively priced services to consumers.

³⁵ *Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance et al.*, WT Docket No. 98-100, GN Docket No. 94-33, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 16857, ¶ 15 (1998).

wholly unnecessary. Moreover, the excessive rates assessed by Wireless Carriers' intermediary carrier partners are unwarranted and supracompetitive. By making direct connects unavailable, the intermediate carrier partners have a bottleneck monopoly on delivering terminating traffic to the Wireless Carriers' end-users, which allows them to assess unjust and unreasonable MOU charges to terminate such traffic. For example, Inteliquent's rate deck pricing went up by **400 percent** after it entered into (on information and belief) a revenue sharing agreement with T-Mobile.³⁶

The Commission previously found that practices enabling telecommunications carriers to “charge indirectly, through a sham arrangement, rates it could not charge directly” are unjust and unreasonable, and in violation Section 201(b).³⁷ The Wireless Carriers are engaging in a similar sham arrangement here, because absent an agreement, the Wireless Carriers are not permitted to assess access charges for terminating calls to their end-user customers. In the *2011 USF/ICC Transformation Order*, the FCC stated that:

CMRS providers are prohibited from filing interstate access tariffs, *see* 47 C.F.R. § 20.15(c), but may collect access charges from an IXC if both parties agree pursuant to contract. Practically speaking, this means that CMRS providers generally do not collect access charges for calls that originate or terminate on their networks. CMRS providers are, however, able to receive reciprocal compensation for eligible traffic that terminates on their networks, although the record indicates that many of those arrangements are also bill-and-keep.³⁸

³⁶ See Cal. Pub. Utils. Comm'n C.15-11-018, O1 Communications, Inc. vs. T-Mobile USA, Inc., T-Mobile West, LLC and MetroPCS California, LLC dba Metro PCS, Verified Complaint of O1 Communications, Inc., ¶ 47 (filed Nov. 30, 2015) (“*O1 Complaint*”), available at <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=156126895>.

³⁷ *Total Telecomm. Servs, Inc. v. AT&T*, Memorandum Opinion and Order, 16 FCC Rcd 5726, ¶ 18 (2001) (subsequent history omitted).

³⁸ *2011 USF/ICC Transformation Order*, ¶ 738, n.1286 (citing *Petitions of Sprint PCS and AT&T Corp. for Declaratory Ruling Regarding CMRS Access Charges*, WT Docket No. 01-316, Declaratory Ruling, 17 FCC Rcd 13192, 13198, para. 12 (2002) (*Sprint/AT&T Declaratory Ruling*), *petitions for review dismissed*, *AT&T Corp. v. FCC*, 349 F.3d 692 (D.C. Cir. 2003); Letter from Tamara Preiss, Vice President, Federal Regulatory, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92, WC Docket No. 07-135, at 6, 10 (filed June 28, 2010);

As such, the Wireless Carrier schemes to share a portion of access charge revenues collected by their intermediate carrier partners is unlawful, because they are effectively imposing charges “indirectly” that they are legally prohibited from charging “directly.”

Moreover, Wireless Carriers’ refusal to offer direct connects is in itself an unjust and unreasonable *practice* in violation to Section 201(b). In particular, when Wireless Carriers stop allowing certain carriers to terminate long distance or wholesale traffic over direct connections and force carriers to send such traffic indirectly via the Wireless Carrier intermediate carrier partner, Wireless Carriers harm consumers by imposing a dangerous, non-redundant bottleneck and increasing the instances of post-dial delays, non-completions, and dropped calls. This increase in such problematic calls happens because the routes available for indirectly transmitting traffic to the Wireless Carriers’ customers may not have sufficient capacity to handle the additional traffic that was previously transmitted via direct connections. For example, as stated in public filings, O1’s California customers experienced high rates of post-dial delays and non-completions after T-Mobile disconnected direct connections. O1 was told that increasing capacity to address the issue would take months.³⁹ Many calls from O1’s California customers to T-Mobile end-users were dropped, were not completed, and service quality was seriously affected.⁴⁰

Wireless Carrier conduct also violates the prohibition against unjust and unreasonable

CTIA *USF/ICC Transformation NPRM* Comments at 36 (explaining that bill-and-keep “is the model that has been successful in the wireless industry”); T-Mobile *USF/ICC Transformation NPRM* Comments at 24 (internal citations omitted) (detailing that “[w]ireless carriers essentially operate now under a bill and-keep regime, and bill-and-keep, is in large part, the end point of this proposal”).

³⁹ See *O1 Complaint*, Attach. B, at 6.

⁴⁰ See *id.*, at 3.

discrimination under Section 202(a). For example, one Wireless Carrier only allows direct connections to terminate retail traffic of direct connecting carrier, but forces such carriers to route their wholesale terminating traffic through the Wireless Carrier's intermediate carrier partner. Another Wireless Carrier requires that all non-local/long distance traffic be routed through its Regional Bell Operating Company ("RBOC") ILEC affiliate. However, because there is no technical reason to justify the different treatment between retail and wholesale traffic or local and long distance traffic or selectively using the Wireless Carrier's intermediate carrier partner for wholesale or non-local/long distance traffic, a Wireless Carrier's refusal to offer direct connects on such basis is unjustly and unreasonably discriminatory in violation of Section 202(a).

The Wireless Carriers' conduct additionally violates Section 201(a) of the Act, which imposes a duty to "establish physical connections with other carriers" "upon reasonable request."⁴¹ As discussed above, a request for direct connection when exchanging at least four T-1s of traffic per month is reasonable, such that the refusal to furnish direct connection for such traffic volumes is unlawful.

3. The Direct Connect Requirement Will Prevent Arbitrage and Will Promote Competition, the Public Interest, Network Reliability, and Public Safety

Critical beneficial aspects of the Direct Connect Requirement are that it will prevent arbitrage (such as the Wireless Carrier schemes detailed above), and will serve the public interest by promoting competition, network reliability via redundant routing, and public safety.

Indeed, by requiring direct connections be made available to carriers exchanging traffic at or above the Four T-1 Standard, interconnecting carriers will not be forced to indirectly route traffic (to be terminated to a Wireless Carrier's end-user subscribers) through the artificial

⁴¹ 47 U.S.C. § 201(a).

bottleneck facilities of a Wireless Carrier's intermediate carrier partner—and pay (currently excessive) per MOU charges—where such indirect connection arrangements are economically inefficient. Moreover, in contravention of the *2011 USF/ICC Transformation Order*'s objectives, Wireless Carriers' indirect arbitrage routing schemes “create” rather than “eliminate competitive distortions between wireline and wireless services.”⁴² Such arbitrage schemes are inefficient and anticompetitive, and provide Wireless Carriers with an unfair competitive advantage.⁴³ The Commission can prevent such harm by adopting the proposed Direct Connect Requirement.

Additionally, the Direct Connect Requirement will increase the availability of competitive routing and interconnection services. Rather than being forced to send traffic through a Wireless Carriers' single bottleneck intermediate carrier partner, carriers will have the option of using direct connects established by various independent intermediate carriers pursuant to the Direct Connect Requirement. Thus, the Direct Connect Requirement will promote competition among intermediate carriers, which will drive costs down, improve service quality, and spur innovation.⁴⁴

⁴² *2011 USF/ICC Transformation Order*, ¶ 34. Wireless Carriers' refusal to offer direct connection in the circumstances described herein defies the *2011 USF/ICC Transformation Order*, which was “supposed to be fair to consumers, with hundreds of millions of Americans paying less on their wireless and long distance bills than they should in the form of hidden, inefficient charges.” *Id.*, ¶ 9.

⁴³ See, e.g., *CMRS Interconnection Order*, ¶ 43 (“reiterat[ing] that the Commission stands ready to intercede in the event a CMRS provider refuses a reasonable request to interconnect. We will be particularly vigilant in policing, where they exist, any efforts by CMRS providers to deny interconnection in order to gain an unfair competitive advantage.”); *id.*, ¶ 37 (stating that the Commission “fully expect[s] all CMRS providers to behave in an economically rational manner and to implement direct and efficient network connections at reasonable costs when the opportunity and need arise”).

⁴⁴ As the Commission similarly recognized in its *Tandem-Switching Order*, “[b]y further reducing barriers to competition in switched access services, our actions will benefit all users of tandem switching...Our actions also should promote more efficient use and deployment of the country's telecommunications networks, encourage technological innovation, and exert downward pressure on access charges and long distance rates, all of which should contribute to

Requiring such direct connects is in the public interest⁴⁵ for these reasons and also because doing so furthers redundancy. Additional redundancy promotes public safety and reduces traffic concentration problems, such as network outages and traffic disruptions.⁴⁶ Indeed, the Katrina Report demonstrates the critical necessity of and the public interest in having

economic growth and the creation of new job opportunities. In addition, these measures should increase access to diverse facilities, which could improve network reliability.” See *Expanded Interconnection with Local Telephone Company Facilities*, CC Docket No. 91-141, Third Report and Order, 9 FCC Rcd 2718, ¶ 2 (1994) (“*Tandem-Switching Order*”).

⁴⁵ When requiring carriers to offer physical direct connects pursuant to Section 201(a), the Commission has found “such action necessary or desirable in the public interest.” See 47 U.S.C. § 201(a); see, e.g., *Peoples Telephone Cooperative, Inc. v. Southwestern Bell Telephone Co. and General Telephone Co. of the Southwest*, Memorandum Opinion and Order, 62 FCC 2d 113 (1976); *Joint Petition of CPI Microwave, Inc., and Midwestern Relay Co. for an Order to Show Cause with Respect to American Telephone and Telegraph Co., Illinois Bell Telephone Co., and Southwestern Bell Telephone Co.*, Memorandum Opinion and Order, 49 FCC 2d 778 (1974).

⁴⁶ See *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119, Notice of Proposed Rulemaking, 21 FCC Rcd 7320, Append. B at 14 (2006), available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-06-83A1.pdf (discussing the need for “redundant pathways” because the “switches that failed, especially the tandems, had widespread effects on a broad variety of communications in and out of the Katrina region.”) (“*Katrina Report*”); see also *Improving 9-1-1 Reliability, Reliability and Continuity of Communications Networks, including Broadband Technologies*, PS Docket Nos. 13-75, 11-60, Notice of Proposed Rulemaking, 28 FCC Rcd 3414, ¶¶ 11 & 12 (Mar. 30, 2013) (“*9-1-1 Reliability NPRM*”) (explaining, among other things, that a “9-1-1 communications were disrupted in large part because of avoidable planning and system failures, including inadequate physical diversity” and “lack of physical diversity in Verizon’s network also contributed to the 9-1-1 outages as single failures isolated large portions of the 9-1-1 network and disabled monitoring functions, preventing repair crews from receiving alarms” and citing FCC Pub. Safety & Homeland Sec. Bureau, *Impact of June 21012 Derecho on Communications and Networks and Service*, Report and Recommendations, 2013 WL 139332, at 1 and 18 (PSHSB, rel. Jan. 10, 2013)), available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-318331A1.pdf; *9-1-1 Reliability NPRM* at ¶ 13 (explaining that “[m]any of the vulnerabilities revealed by the derecho hinge on the concept of physical diversity. Under generally accepted definitions, physical diversity means that two circuits follow different paths separated by some physical distance so that a single failure such as a power outage, equipment failure, or cable cut will not result in both circuits failing.”). Having redundant networks also reduces tandem exhaust. See, e.g., *Core Communications v. Verizon Maryland, Inc.*, File No. EB-01-MD-007, Memorandum Opinion and Order, 18 FCC Rcd 7962, ¶ 21 (2003); *Virginia Arbitration Order*, ¶¶ 77-86.

redundant switching pathways and redundant traffic routing.⁴⁷ Relatedly, the Commission previously noted “that the interconnectivity of mobile communications networks promotes the public interest because it enhances access to all networks, provides valuable network redundancy, allows for greater flexibility in communications, and makes communications services more attractive to consumers. It is one further step toward a ubiquitous ‘network of networks.’”⁴⁸

Therefore, in order to ensure that Section 251(a) is not abused, and to serve the public interest by promoting competition and addressing critical public safety and network reliability concerns, the Commission should adopt the proposed Direct Connect Requirement.

III. TANDEM SWITCHING AND TRANSPORT: Tandem Switching and Transport Services to the Network Edge Should Not Be Subjected to Bill-and-Keep and Should Remain Subject to Permissive Tariffing, and Specific Rules Should Be Adopted to Account for Certain Circumstances Involving Carriers that Serve Rural Areas

A. The Commission Should Not Extend the Bill-and-Keep Regime to Tandem Switching and Transport Services or Prohibit Tariffing

As discussed above, the rate transitions adopted under the *2011 USF/ICC Transformation Order* reduced tandem switching and transport charges only where the terminating price cap carrier also owns the tandem switch in the serving area.⁴⁹ The transitions, however, did not apply to tandem switching and transport providers that do not own the end office (*i.e.*, intermediate

⁴⁷ *Katrina Report*, at 9 (“Katrina highlighted the dependence on tandems and tandem access....The high volume routes from tandem switches, especially in and around New Orleans were especially critical and vulnerable. Katrina highlighted the need for diversity of call routing and avoiding strict reliance upon a single routing solution.”). As the Katrina Report acknowledged, having increased tandem network redundancy and diversity is a critical component for “improving disaster preparedness, network reliability and communications among first responders.” *See id.* at 1 and 14.

⁴⁸ *CMRS Interconnection Order*, ¶ 28.

⁴⁹ *See 2011 USF/ICC Transformation Order*, ¶ 819; *see also* 47 C.F.R § 51.907(g)(2) & (h). For rate-of-return carriers, most of these charges are capped at interstate levels. *2011 USF/ICC Transformation Order*, ¶ 819; *see also* 47 C.F.R § 51.909(a)(1).

carriers) because such providers do not have end-users from which to recover payments under a bill-and-keep system.

Without this carve-out, competitive tandem and transport providers would be unable to obtain payment for the valuable network services they provide, which are purchased by carrier customers on a voluntary basis. Any transition of such services to bill-and-keep would seriously undermine the network investments made by providers of these services, and would likely result in these carriers leaving the market, thereby reducing competition, innovation, investment, and the availability of alternative networks.⁵⁰ The Commission must therefore preserve this crucial carve-out by establishing the following rules:

1. A sending carrier will compensate intermediate carriers for all services the sending carrier chooses to purchase, including without limitation dedicated transport, common transport, tandem switching, and/or other network functions.
2. A terminating carrier will not be compensated for tandem switching and common transport where the terminating carrier fully owns the access tandem serving the called party's end office (since the access tandem will be the terminating carrier's network edge).⁵¹

⁵⁰ Relatedly, any Commission decision that could cause a carrier to exit the market may constitute a regulatory takings in violation of the Fifth Amendment to the U.S. Constitution. In particular, if the Commission issued a decision that forced intermediate carriers to transition their rates to bill-and-keep, which would effectively set their rates to zero when they route switched access traffic, intermediate carriers could be forced out of business since they do not have end-users to obtain payment for the switched access services provided. Thus, any Commission decision that could cause such an end result may violate the Takings Clause. *See Duquesne Light Co. v. Barasch*, 488 U.S. 299, 307-08 (1989). Under this Constitutional protection, “a rate is too low if it is ‘so unjust as to destroy the value of [the] property for all the purposes for which it was acquired,’ and in so doing ‘practically deprive[s] the owner of property without due process of law.’” *Id.* “If the rate does not afford sufficient compensation, the State has taken the use of utility property without paying just compensation and so violated the Fifth... Amendment[.]” *Id.* at 308; *see also Illinois Bell Tel. Co. v. FCC*, 988 F.2d 1254, 1263 (D.C. Cir. 1993) (an unconstitutional takings occurs when the rate set by the government “threatens [the carrier’s] financial integrity ... or otherwise impedes [its] ability to attract capital.”).

⁵¹ An equivalent network edge rule should be adopted for originating traffic once originating switched access rate elements are ultimately transitioned to bill-and-keep.

3. A sending carrier will compensate a terminating carrier if the sending carrier chooses to rely on a terminating carrier to provide common transport needed to reach the terminating carrier's network edge.

The second and third rule above follow from the definition of the network edge—*i.e.*, a terminating carrier will only be compensated if it provides services purchased on a voluntary basis to *reach* the network—while the first rule preserves the carve-out for intermediate carriers.

Additionally, intermediate carriers should not be subjected to government-mandated rate reductions. Similar to the impact of bill-and-keep, mandatory rate reductions for intermediate carrier services would have harmful effects, because intermediate carriers have no end-users from which to offset rate reductions. Moreover, there is no policy-based reason for any rate reductions, because intermediate carrier services are competitive and are used by sophisticated carrier customers on a voluntary basis. As detailed above, a range of competitive options exist for customers of intermediate carrier services. Indeed, as noted, the Commission has long-held that such providers are non-dominant and “lack market power,” such that prices are sufficiently regulated by market forces.⁵² Accordingly, the services provided by intermediate carriers should remain subject to permissive tariffing, with tariff filings continued to be deemed lawful when filed pursuant to Section 204(a)(3) of the Act⁵³ or otherwise presumed lawful when made effective on one-day's notice.⁵⁴

⁵² See *supra* note 19; see also *Technology Transitions et al.*, GN Docket No. 13-5 *et al.*, Declaratory Ruling, Second Report and Order, and Order on Reconsideration, 31 FCC Rcd 8283, ¶ 10 (Wireline Comp. Bur. 2016) (stating that “non-dominant carriers lack the market power necessary to sustain prices either unreasonably above or below costs”) (internal quotations omitted).

⁵³ 47 U.S.C. § 204(a)(3); 47 C.F.R. § 61.15(b).

⁵⁴ See 47 C.F.R. § 61.58(a)(2)(ii) &(f); see also *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, CC Docket No. 79-252, First Report and Order, 85 FCC 2d 1, ¶ 94 (1980).

B. The Commission Should Adopt Rules to Protect Intermediate Carriers Serving Rural Areas and RLECs

The Commission should devise special rules to protect certain providers of tandem and transport services used to deliver traffic to an RLEC's network edge. In particular, certain intermediate carriers—including iRis Networks, Peninsula Fiber Network, Alpha Connect, and Nex-Tech—play a unique role in the telecommunications industry, in that they provide competitive tandem switching and/or transport services to low volume areas served by subtending RLECs. In many cases, these intermediate carriers were formed for this purpose by a consortium of RLECs, some or all of which may still have an ownership interest in the intermediate carrier. Such intermediate carriers, however, are independently run and do not receive any end-user revenues from the subtending RLECs.

By building sophisticated fiber networks throughout rural areas, the intermediate carriers sought to (a) reduce RLEC dependency on services previously provided only by large monopolist ILECs, (b) obtain Feature Group D access that large ILECs were unwilling to provide, so that RLECs had the more detailed and enhanced billing records needed to eliminate unidentified and unbillable traffic the RLECs were receiving from the large ILECs,⁵⁵ and (c) provide IXC and other carrier customers with a way to efficiently route traffic to rural end offices and avoid incurring expenses to connect, update and maintain outside plant facilities to interconnect with each RLEC. These intermediate carrier networks are also used to provide vital services to rural areas, and thus it is critically important that intercarrier compensation reforms do not undermine investments in these networks.

⁵⁵ RLECs could only get Feature Group C transport trunks from large ILEC access tandems and such trunks did not send traffic with carrier identification codes ("CICs") and therefore, the RLECs could not route and bill the traffic to the appropriate IXC.

For instance, if tandem switching and transport services for such carriers were transitioned to bill-and-keep, they would be unable to operate—and would likely be forced out of the market⁵⁶—because they could not recover costs of providing switching and transport services, infrastructure, deployment upgrades and improvements, and operating and maintenance expenses.⁵⁷ This in turn would reduce competitive routing alternatives to the subtending RLECs, would likely cause rural call completion issues as carriers are forced to seek other—if any—higher-cost routing options,⁵⁸ and would also ultimately harm consumers in the form of higher prices and lost services (particularly in rural areas).⁵⁹

To protect these intermediate carrier networks, the Commission should hold that such carriers are not subject to the “affiliate rule” for purposes of determining whether they are inside or outside the network edge. Under the *2011 USF/ICC Transformation Order*, terminating tandem switching and transport rates of price cap carriers are being reduced and transitioning to bill-and-keep where “the terminating carrier or its affiliate” owns the tandem switch.⁶⁰ The Act defines the term “affiliate” to include a carrier that is more than 10 percent owned by another

⁵⁶ As discussed above, any Commission decision prompting such an end result may constitute an unconstitutional regulatory takings in violation of the Takings Clause of the Fifth Amendment to the U.S. Constitution. *See supra* note 50.

⁵⁷ In fact, such intermediate carriers are already experiencing lost tandem switching revenues associated with the provision direct trunking arrangements and would face severe hardship operating altogether if tandem and transport charges went to bill-and-keep.

⁵⁸ For example, the only option for IXC's may be to obtain direct connects to each affected subtending RLEC end office, which would likely be significantly more expensive and less efficient than the arrangement currently offered by the intermediate carrier.

⁵⁹ The cost to RLECs of providing exchange access services would likely increase to accommodate direct connects or alternative routing arrangements, and associated rate increases may be too expensive for the RLECs end-users to absorb.

⁶⁰ *See* 47 C.F.R. § 51.907(g)(2).

carrier.⁶¹ If this rule were applied to RLECs, any intermediate carrier that is more than 10 percent owned by an RLEC may be considered the RLEC's "affiliate," such that the intermediate carrier's tandem switching and transport rates would arguably be subjected to the transition. This would be problematic, because many intermediate carriers serving rural areas were formed by consortiums of RLECs and may be more than 10 percent owned by an individual RLEC, yet such carriers operate independently and do not obtain any RLEC end-user revenues. To avoid the harmful effects that a bill-and-keep system would create if imposed on such intermediate carriers, the Commission should clarify that such carriers are not considered "affiliates" of the RLECs for purposes of any rate transition, and that tandem switching and transport services of such intermediate carriers are deemed beyond an RLEC's network edge.

Lastly, the Commission should adopt particular rules when transitioning originating switched access rate elements in situations where an RLEC directly owns both the access tandem and end office that serves the end-user. Given the extent to which RLECs rely on revenues from originating switched access services, the transition of such services to bill-and-keep will be extremely disruptive. RLECs that provide both tandem and end office services will be affected to an even greater extent. Additional measures should therefore be taken to ensure such RLECs are adequately able to adapt to shifting cost-recovery methods. Specifically, the Commission should (1) establish an extended transition period for originating tandem switching and transport services for such RLECs, (2) institute an access recovery mechanism for such RLECs, and (3) allow such RLECs to be eligible for other USF funding before rates are transitioned. By implementing these additional measures, the Commission will help to prevent end-user rates from becoming unaffordable in rural communities that rely heavily on RLEC services.

⁶¹ 47 U.S.C. § 153(2).

IV. TRANSIT: The Commission Should Not Apply Bill-and-Keep or Otherwise Mandate Rate Reductions for the Highly Competitive Transit and Other Services Provided by Intermediate Carriers and Should Allow Intermediate Carriers to Tariff Transit Rates

The Commission has explained that “transiting occurs when two carriers that are not directly interconnected exchange non-access traffic by routing the traffic through an intermediary carrier’s network.”⁶² As such, “although transit is the functional equivalent of tandem switching and transport, today transit refers to non-access traffic, whereas tandem switching and transport apply to access traffic.”⁶³ In the *2011 USF/ICC Transformation Order*, the Commission did not decide whether transit services must be provided pursuant to Section 251 of the Act,⁶⁴ and sought “comment on the need for regulatory involvement and the appropriate end state for transit service.”⁶⁵ In refreshing the record, the Commission raised the issue of whether the Commission should adopt regulations governing the rates for transit services.⁶⁶ As explained below, the Commission should not do so, and instead should treat transit service under the same rules and guidelines described above for tandem and transport services provided by intermediate carriers.

A. The Commission Should Not Impose Bill and Keep or Any Other Price Regulations on Transit Services

As a preliminary matter, the Commission should not impose bill-and-keep arrangements on transit service provided by intermediate carriers since, by definition, such carriers have no end-user customers they can bill for transit services. Bill-and-keep, as explained above, is based

⁶² *2011 USF/ICC Transformation Order*, ¶ 1311.

⁶³ *Id.* The Carrier Coalition would prefer not to differentiate between jurisdictional types of traffic in pricing. Differentiation between types of traffic is the primary reason carriers use additional routing to circumvent cost differences (access vs. transit).

⁶⁴ 47 U.S.C. § 251.

⁶⁵ *2011 USF/ICC Transformation Order*, ¶ 1313.

⁶⁶ *See Notice* at 3.

on the principle that the costs of providing a particular service should be recovered by a carrier from its end-user subscribers—the individuals and entities who benefit from that service and choose to subscribe to that network—rather than “looking to other carriers and their customers to pay for the costs of its network.”⁶⁷

Although certain transit providers may have end-user customers for *other* services, such end-users, as AT&T previously articulated, “are not parties to the calls that such providers deliver in their transit capacity, and they neither benefit from those calls nor cause any of their costs.”⁶⁸ For this reason, it would be nonsensical, unfair, and contrary to the public interest to force certain end-users (who just happen to subscribe to a carrier that also provides transit services) to pay the transit costs associated with calls placed by other carriers’ end-users.⁶⁹

Nor should the Commission otherwise impose any non-bill-and-keep price regulations on transit services, as such regulations are not only unwarranted due the significant competition among transit providers—as explained below—but could actually harm competition. If transit service providers are not able to earn sufficient compensation under a rate-regulated regime, such services will not remain viable.⁷⁰ As a result, transit service competition would be decimated, ultimately harming consumers in the form of increased prices, degraded service quality, and decreased service reliability.

More specifically, if the Commission imposes price regulations that ultimately force

⁶⁷ See, e.g., *2011 USF/ICC Transformation Order*, ¶ 34.

⁶⁸ Reply Comments of AT&T, WC Docket No. 10-90 *et al.*, at 40 (filed Mar. 30, 2012) (“AT&T’s March 30, 2012 Reply Comments”), available at <https://ecfsapi.fcc.gov/file/7021905425.pdf>.

⁶⁹ *Id.*

⁷⁰ As discussed above, imposing a bill-and-keep regime on transit services simply does not make sense since transit service providers do not have end-users they can receive compensation from for their transit services. Moreover, imposition of bill-and-keep on such services may, as noted above, constitute an unconstitutional regulatory takings. See *supra* note 50.

intermediate carriers to exit the transit market, many originating and terminating carriers will have few call routing options and may be forced to use inefficient transit routes offered by the remaining providers. Any remaining transit service providers will have the incentive and ability to raise rates. As a result, originating and terminating carriers that rely on transit services will be forced to either: (1) absorb the increase costs in order to remain competitive, hindering their viability and ability to invest in network upgrades and deployment, or (2) pass cost increases on to their end-users in the form of higher bills. Since these outcomes are clearly contrary to the public interest, the Carrier Coalition urges the Commission not to impose price regulations on transit services.⁷¹

Moreover, in no event may transit services be subjected to TELRIC-based pricing under Sections 251 and 252 of the Communications Act. As multiple commenters noted in 2012, Sections 251 and 252 of the Act do not give the Commission authority to impose TELRIC-based price regulation on transit services. The Commission lacks authority under Section 251, because transit services are not considered “interconnection” under Section 251(c)(2) of the Act.⁷² In addition, Section 251(b)(5) and the rate prescription rules in Section 252(d)(2) only apply to compensation for services involving traffic “transport and termination.” Intermediate transit providers do not, however, “terminate” traffic.⁷³

⁷¹ If any pricing guidelines are issued by the Commission for carriers offering tandem switching and transport services used in routing access traffic, regulations implementing such guidelines should provide an extended transition period, such as least 36 months from the date regulations go into effect that implement such guidelines, to allow such carriers sufficient time to implement tariff changes and commercial agreements.

⁷² See AT&T’s March 30, 2012 Reply Comments, at 41-42.

⁷³ *Id.* at 43.

B. Transit Services are Highly Competitive Such that Regulatory Intervention Is Unwarranted

As with tandem and transport services provided by intermediate carriers, regulation of transit services is neither necessary nor in the public interest, because competition already ensures just and reasonable rates for those services.⁷⁴ Transit services are widely available today and the market for transit services is robustly competitive, as evidenced by the fact that (a) in most areas multiple providers offer transit services, (b) prices for transit services remain low, and (c) originating and terminating carriers may use direct connections to avoid use of transit provider, if desired. Imposing rate regulations on a competitive market is unwarranted and contrary to the public interest, as it would stifle competition.

One hallmark of a competitive market is that there are a sufficient number of providers to choose from. The transit service market is clearly competitive in this respect, because originating and terminating carriers generally have the option of choosing from a number of transit service providers, including ILECs and third-party alternative providers such as the members of the Carrier Coalition. Indeed, there are four or more transit providers in nearly every major market, and additional competitive options are available through IP interconnection arrangements.⁷⁵ The robust competition in the transit market has resulted in significant investment and innovation in transit services. As networks transition to all-IP infrastructure, competition in the transit market will only increase.

⁷⁴ *Bus. Data Servs. in an Internet Protocol Env't et al.*, WC Docket No. 16-143 *et al.*, Report and Order, 32 FCC Rcd 3459, ¶ 94 (rel. Apr. 28, 2017) (“*Bus. Data Servs. Order*”).

⁷⁵ The Carrier Coalition acknowledge that in certain geographic areas, due to limited levels of traffic, the transit market is somewhat less competitive or “thin.” However, as Level 3 previously explained, “the market is and can be competitive in most areas, and it is difficult to draw a line between those that are and can be competitive and those that cannot be competitive without freezing competition where it exists.” Level 3 Communications, LLC Comments on Sections XVII.L-R of the CAF/ICC Further Notice of Proposed Rulemaking, WC Docket 10-90 *et al.*, at 2 (filed Feb. 24, 2012), available at <https://ecfsapi.fcc.gov/file/7021865541.pdf>.

Another major hallmark of a competitive market is low prices, because “increased competition is likely to place downward pressure on prices.”⁷⁶ Alternatively, in the absence of competition, dominant carriers may exercise market power and raise prices. Competition in the transit market is thus evidenced by the fact that transit rates have generally declined by up to 90% over the past 10 years (with the exception of certain situations where carriers engage in arbitrage to increase charges, as with the Wireless Carrier refusals to provide direct connections detailed above). Since 2011, many intermediate providers have also implemented commercial agreement options that include transit rates (as well as tandem rates) that are competitive with ILEC rates.

As an additional alternative, carriers generally have the option to avoid using transit services via direct interconnections. While transit services are already available on a competitive basis, competition in the transit market would be further promoted by policies that encourage direct connections as an alternative to transit services. For example, the Commission can and should adopt the Direct Connect Requirement to prohibit carriers from unreasonably refusing direct connections, as fully discussed above. By increasing the availability of direct connections with originating and terminating carrier networks, the Commission will ultimately enhance competition in the transit service market, thereby incentivizing transit service providers to continue to keep their rates low.

In short, the transit services market is robustly competitive and therefore it is illogical and contrary to the public interest for the Commission to intervene and impose price regulations. As the Commission recognizes, transit services are the “functional equivalent of tandem switching

⁷⁶ *Bus. Data Servs. Order*, 32 FCC Rcd 3459, ¶ 25 (2017).

and transport.”⁷⁷ Accordingly, transit services an intermediate carrier provides in routing non-access traffic should be treated in the same manner as tandem switching and transport services an intermediate carrier provides in routing access traffic, under the rules and guidelines outlined in Section II above.⁷⁸

C. Intermediate Carriers Should Be Allowed to Tariff Transit Rates

Currently, transit services and rates are effectively part of many carriers’ state and federal tariffs, and the Carrier Coalition urges the Commission to allow such tariffs to remain in effect. While certain carriers may not include transit services in their tariffs, they may use guidebooks as “pseudo tariffs” for intermediate services, including transit service. Not only is there no rational reason to decommission tariffs that are currently lawful, but allowing carriers to tariff transit rates promotes competition by protecting smaller intermediate carriers and reduces transaction costs associated with maintaining individual contracts with many carrier customers. Permissively tariffed transit rates provide such intermediate carriers with an effective fail-safe if they choose not to enter into a commercial agreement, and provide an effective regulatory vehicle for collecting revenues for the use of their networks.

⁷⁷ 2011 USF/ICC Transformation Order, ¶ 1311.

⁷⁸ In the absence of Commission action relating to the regulatory treatment of transit services, certain state commissions have adopted regulations to fill the gap. However, these state actions should not discourage the Commission from acting in the public interest and exercising its preemption authority over transit services to ensure such services are deregulated at the federal and state levels. *See, e.g., AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 378 (1999) (the FCC has “jurisdiction to make rules governing matters to which the 1996 Act applies”); *see also Am. Commc’ns Servs., Inc. MCI Telecomm. Corp.*, CC Docket No. 97-100, Memorandum Opinion and Order, 14 FCC Rcd 21579, ¶ 13 (1999) (“the Commission has on numerous occasions preempted state law that conflicted with federal law or stood as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress” and citing *City of New York v. FCC*, 486 U.S. 57 (1988); *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691 (1984); *Ill. Pub. Telecomm. Ass’n v. FCC*, 117 F.3d 555 (D.C. Cir. 1997); *State of California v. FCC*, 75 F.3d 1350 (9th Cir. 1996); *State of California v. FCC*, 39 F.3d 919 (9th Cir. 1994); *Pub. Serv. Comm’n of Md. v. FCC*, 909 F.2d 1510 (D.C. Cir. 1990); *Ill. Bell Tel. Co. v. FCC*, 883 F.2d 104 (D.C. Cir. 1989)).

The only reasons certain carriers may support the de-tariffing of transit services is to (a) avoid regulatory oversight from the FCC or state commissions or (b) impose hardship on smaller competitors in the transit market. Although competition exists in the transit market and pricing regulation is unwarranted, permissive tariffing is necessary due to the overall power gap that continues to exist between ILECs and most third-party intermediary carriers. Permissive tariffing eases market entry for smaller competitors, allowing them to simplify administration of their relationships with multiple carrier customers.⁷⁹ As such, permissive tariffing promotes competition in the transit market and thus should be kept in place.

⁷⁹ While tariffed rates of competitive transit providers are and should continue to be presumed reasonable, the Commission and its state counterparts retain authority to review such rates on a case-by-case basis in the event of any specific complaints.

V. CONCLUSION

For the foregoing reasons, the Commission should establish rules on the network edge, tandem switching and transport, and transit that are consistent with the above comments.

Respectfully submitted,

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Date: October 26, 2017