

**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

**PETITION FOR RECONSIDERATION OF
THE NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES,
MAINE OFFICE OF THE PUBLIC ADVOCATE, MARYLAND OFFICE OF THE
PEOPLE’S COUNSEL, AND THE UTILITY REFORM NETWORK
OF DECLARATORY RULING, SECOND REPORT AND ORDER, AND ORDER ON
RECONSIDERATION**

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EXECUTIVE SUMMARY

The National Association of State Utility Consumer Advocates (“NASUCA”), the Maine Office of the Public Advocate, the Maryland Office of People’s Counsel, and The Utility Reform Network petition for reconsideration of the “technical guidance” in Appendix B of the *Voice Replacement Order*. The *Voice Replacement Order* itself adopts reasonable rules concerning the adequacy of a voice replacement offering that would enable an incumbent to file for the automatic grant of a Section 214 request for discontinuance of a traditional (i.e., time-division multiplexing (“TDM”)/copper-based) voice telephone service. But the technical guidance in Appendix B is inconsistent with the rules and does not achieve the Commission’s objective that technology transitions result in consumers receiving service with comparable service quality and performance to that provided over the Public Switched Telephone Network.

As explained in the Petition and in the attached declaration of David J. Malfara, Sr., the technical guidance does not recognize that the PSTN is an end-to-end experience. The Commission cannot hope to preserve PSTN quality if it only tests a portion of a phone call.¹

Further, Appendix B presumes that the replacement service is an over-the-top (“OTT”) service, rather than a managed-VoIP service such as is offered by cable-based providers or incumbent ILECs. Commission data indicates that OTT services collectively serve a minuscule 0.8% of the VoIP lines provisioned by the ILECs that would seek a section 214 discontinuance.²

Finally, the technical guidance ignores the serious complications introduced when calls can be expected to traverse – as they will during the nation’s extended transition to new technology – different technology platforms and the networks of multiple carriers.

Mr. Malfara’s declaration constructs a “PSTN Operational Quality Reference Model” to identify the key attributes of the PSTN that should be preserved as the nation’s core networks transition to different technology platforms. It is the fundamental purpose of our Petition to provide the Commission a framework to ensure that the consumer quality of experience (“QoE”) with the PSTN is preserved in the future. As written, the metrics identified by the Technical Appendix would not achieve that end, and we request that the Commission replace those metrics with the recommendations in our Petition.

¹ In contrast, in the context of the Commission’s broadband obligations from which the Technical Appendix is derived, it is reasonable to measure the performance of an internet access service across only that portion of the service – i.e., *access* – that the carrier is providing.

² See Local Telephone Competition: Status as of December 31, 2013, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission, October 2014, Figure 5 Interconnected VoIP Subscribership by Reported Service Features, page 7. Although the Commission characterizes VoIP subscriptions as between “nomadic” and “not nomadic,” those categories effectively proxy for a distinction between “OTT” and “managed” VoIP services.

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I. Introduction

Pursuant to 47 CFR 1.429(a), the National Association of State Utility Consumer Advocates (“NASUCA”),³ the Maine Office of the Public Advocate,⁴ the Maryland Office of

³ NASUCA is a voluntary association of 44 consumer advocate offices in 41 states and the District of Columbia, incorporated in Florida as a non-profit corporation. NASUCA’s members are designated by laws of their respective jurisdictions to represent the interests of utility consumers before state and federal regulators and in the courts. Members operate independently from state utility commissions as advocates for utility ratepayers. Some NASUCA member offices are separately established advocate organizations while others are divisions of larger state agencies (e.g., the state Attorney General’s office). NASUCA’s associate and affiliate members also serve utility consumers but are not created by state law or do not have statewide authority. Some NASUCA member offices advocate in states whose respective state

People’s Counsel,⁵ and The Utility Reform Network (“TURN”),⁶ petition for reconsideration of the Declaratory Ruling, Second Report and Order, and Order on Reconsideration, FCC No. 16-90, released on July 15, 2016 and published in the Federal Register on September 12, 2016 (“*Voice Replacement Order*”).⁷ The *Voice Replacement Order* adopts reasonable general rules concerning the adequacy of a voice replacement offering that would enable an incumbent to file for the automatic grant of a Section 214 discontinuance of a traditional (i.e., time-division multiplexing (“TDM”)/copper-based) voice telephone service. But the Order provides further *technical guidance* that does not achieve the Commission’s objective that technology transitions not harm the Public Switch Telephone Network (“PSTN”). This is more fully explained in the Declaration of David J. Malfara, Sr., attached to this petition. As such, we request that the Commission reconsider and revise its technical guidance,⁸ to ensure that the Commission’s core objective – *i.e.*, that “consumers expect and deserve a replacement that will provide comparable

commissions do not have jurisdiction over certain telecommunications issues.

⁴ The Maine Office of the Public Advocate is the state agency charged by statute with representing the interests of Maine users of utility services.

⁵ The Maryland Office of People’s Counsel (OPC), created in 1924, is the oldest utility consumer advocacy office of its kind in the United States. The People’s Counsel is appointed by the Attorney General, with the advice and consent of the Senate, and acts independently of the Maryland Public Service Commission (PSC) and the Office of Attorney General. OPC is a State of Maryland agency, yet works independently to represent Maryland’s residential consumers of electric, natural gas, telecommunications, private water and certain transportation matters before the PSC, federal regulatory agencies and the courts.

⁶ The Utility Reform Network (TURN) is an independent, state-wide California utility consumer advocate organization. We have represented the interests of California telecommunications, electricity and gas customers before state and federal regulators, the California Legislature and the courts for over 40 years.

⁷ See 81 FR 62632-62657.

⁸ We use the term “technical guidance” in this Petition to refer to the Commission’s discussion in Appendix B to the *Voice Replacement Order* as well as portions of its analysis described in ¶¶s 95-122.

network quality and service performance”⁹ – is satisfied.

We emphasize at the outset that the *Voice Replacement Order* recognized that the Commission had “received limited responses to our request for comment on the appropriate benchmarks and metrics” to judge the technical parameters of a suitable replacement offering.¹⁰ The Commission filled the gap in the record by attempting to “rely on industry technical standards and our [the Commission’s] approaches in other proceedings to adopt the benchmarks we will use in our Section 214 process.”¹¹ Importantly, however, the “other proceedings” relied upon involved the broadband obligations associated with the receipt of Connect America Fund (“CAF”) support. As we demonstrate below, these broadband obligations focus on performance metrics only to the “edge of the internet” (which may be an appropriate measure for an Internet *access* service), but is fundamentally at odds with the fact that the PSTN is an *end-to-end service* that typically traverses multiple network technologies and owners. As such, voice interconnection – a topic upon which the *Voice Replacement Order* is silent – will play a defining role in protecting the public interest and determining the reliability and quality of the network of the future.¹²

To be clear, we share the Commission’s conclusion that customers expect an “adequate

⁹ *Voice Replacement Order* at ¶ 69. Additional criteria adopted by the Commission include ensuring that:

- Critical applications related to public safety and protecting those most vulnerable remain accessible and operational through any transition; and
- Consumers have access to the applications and functionalities they have come to associate as key components of a legacy communications service.

¹⁰ *Voice Replacement Order* at ¶ 95.

¹¹ *Ibid.*

¹² As we discuss below, the Internet is a “best-efforts” network that is not designed to support PSTN-level quality. For a fuller discussion of the differences between the Internet and the managed IP networks commonly used to provide IP-based voice services see *The Transition to an All-IP Network: A Primer on the Architectural Components of IP Interconnection*, Joseph Gillan and David Malfara, National Regulatory Research Institute, NRRI 12–05 (May 2012), pps. 2-6.

replacement for a wireline legacy voice service will be available in the same coverage area, allow customers to make and receive high quality voice calls consistently, and support the applications and functionalities on which they rely.”¹³ We recognize the need to provide adequate guidance to the industry “to minimize uncertainty or confusion that could slow or even discourage technology transitions,”¹⁴ and that “established criteria gives applicants, consumers, and competitors the information they need and should enable us to evaluate these types of discontinuance applications more briskly to the benefit of applicants and the American public.”¹⁵ It is precisely because we understand this balance that we request the Commission to more fully develop the record concerning the appropriate performance metrics and benchmarks that will define the PSTN of the future so that “consumers can continue to expect strong service quality, access to critical applications such as 911, and interoperability with other key applications and functionalities.”¹⁶

II. The Connect America Fund Broadband Obligations Should Not Be Used to Judge the Adequacy of a PSTN Voice Replacement Offering

As the Commission explicitly acknowledged, the limited record leading to the *Voice Replacement Order* resulted in the Commission relying on previous approaches, most specifically its approach implementing the CAF.¹⁷ The Connect America program is a transformative effort to achieve universal broadband service, while at the same time preserving the nation’s long-standing commitment (as a matter of statute and policy) to universal voice

¹³ *Voice Replacement Order* at ¶ 90.

¹⁴ *Ibid* at ¶ 70.

¹⁵ *Ibid* at ¶ 69 (footnotes omitted).

¹⁶ *Ibid* at ¶ 5.

¹⁷ *Ibid* at ¶ 95.

service (*i.e.*, the PSTN).¹⁸ To achieve these twin objectives, the CAF establishes *two* separate obligations: one involving the traditional *voice* service that has long been the goal of federal universal service policy, and an additional set of *broadband* obligations that must be satisfied as well.¹⁹

Importantly, when the Commission established the CAF, it did not diminish the quality standards that would apply to the voice service that must be offered by a CAF recipient. To the contrary, the Commission established an “equivalency requirement” so that the move to broadband facilities did not reduce its commitment to voice telephony service.²⁰

The decision to classify the supported services as voice telephony should not result in a lower standard of voice service: Many of the enumerated services are universal today, and we require eligible providers to continue to offer those particular functionalities as part of voice telephony. Rather, the modified definition simply shifts to a technologically neutral approach, allowing companies to provision voice service over any platform, including the PSTN and IP networks.²¹

The central point here is that there is nothing in the *USF Transformation Order* that remotely suggests that the ETC’s *voice* service obligation is anything less than a continuation of PSTN-quality service. Certainly there are aspects of IP networks that cannot replicate the PSTN

¹⁸ See Connect America Fund et al., WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC 17663 (2011) (“*USF Transformation Order*”), *aff’d sub nom. In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014).

¹⁹ *USF Transformation Order* at ¶ 75: “Consistent with the Commission’s longstanding practice, we continue to require all USF recipients to offer voice service. In addition, as a condition of receiving support, recipients must now also offer broadband service.”

²⁰ The Commission adopted (and defined) the term “voice telephony” to make clear that it was adopting a technology-agnostic view and defining by defining the voice telephony functionally: “Given that consumers are increasingly obtaining voice services over broadband networks as well as over traditional circuit switched telephone networks, we agree with commenters that urge the Commission to focus on the functionality offered, not the specific technology used to provide the supported service.” *USF Transformation Order* at ¶ 77 (footnotes omitted).

²¹ *USF Transformation Order* at ¶ 78.

experience (the need for backup power is the obvious example),²² but the managed-IP networks that deliberately isolate (in some manner) voice service from other services (such as Internet access or video) can emulate PSTN quality, which is the desired goal.²³ As such, the *USF Transformation Order* requirement that the ETC continue to provide voice service without diminishment is achievable and should not be abandoned.

Separately, the CAF program establishes a set of broadband obligations that includes the requirement that the broadband service provide “latency suitable for real-time applications and services such as VoIP,”²⁴ but that component of the ETC’s *broadband* obligation does not define the *voice* service obligation of the CAF recipient. The obligation merely establishes that the Internet access service must meet baseline performance metrics to support an over-the-top (OTT) voice service by a third party (such as Vonage). But there was never any suggestion in the *USF Transformation Order* that this OTT voice opportunity was sufficient, or even tangentially related, to the CAF recipients’ obligation to continue to offer voice service that did not result in a “lower standard” of service.²⁵

Subsequent to the *USF Transformation Order*, the Commission provided additional detail concerning a CAF recipient’s obligations, making clear that the state-level commitment to “offer

²² See 47 CFR § 12.5 and *Ensuring Continuity of 911 Communications*, Report and Order, 30 FCC Rcd 8677, 8681 (2015) (*Ensuring Continuity of 911 Order*).

²³ We discuss below that managed-VoIP services are the market norm, with over-the-top (“OTT”) VoIP subscriptions representing only 10% of all VoIP subscriptions. See fn. 33 *infra*.

²⁴ *USF Transformation Order* at ¶22.

²⁵ The Commission similarly adopted voice and broadband obligations applicable to rate-of-return ETC recipient of CAF support that required a continuation of the existing voice services. See *Connect America Fund et al.*, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087, 3099, para. 28 (2016) (*Rate-of-Return Reform Order*) at ¶ 25 (“We conclude that rate-of-return carriers electing model support will be required to *maintain* voice and existing broadband service ...”), and ¶ 52 (“Even though the locations at or above the funding cap are not “fully funded” with model support, carriers will receive a significant amount of funding – specifically, \$200 per month for each of the capped locations – which will permit them [rate-of-return carriers] to maintain *existing* voice service...”) (emphasis added).

broadband at actual speeds ... with latency suitable for real-time applications, such as VoIP” is a “condition of receiving support for voice telephony.”²⁶ Again, nothing in the *CAF Phase II Service Obligations Order* suggests, much less states, that the broadband obligation to facilitate an OTT VoIP application satisfies the ETC’s separate obligation to provide voice telephony. Rather, the broadband obligation is a *condition* for receiving voice telephony support; it is not the voice telephony offering itself.

Significantly, the Commission never fully established the technical parameters of the voice service that must be offered by CAF II recipients, other than by noting that there should be no diminishment in the service they have traditionally provided.²⁷ The fundamental purpose of the CAF is to enable incumbent local exchange carriers (“ILECs”) to deploy broadband IP networks and to use those supported networks for both voice *and* Broadband Internet Access Service. Clearly, such a program will accelerate the conditions contemplated by the *Voice Replacement Order* – *i.e.*, a point-in-time where traditional TDM facilities will be replaced entirely by the IP facilities – and it is critical that PSTN-quality services not suffer as a result. As we explain below, the technical guidance of the *Voice Replacement Order* will not assure such an outcome and we ask that the Commission conduct a limited reconsideration of these portions of the Order to achieve its core objectives.²⁸

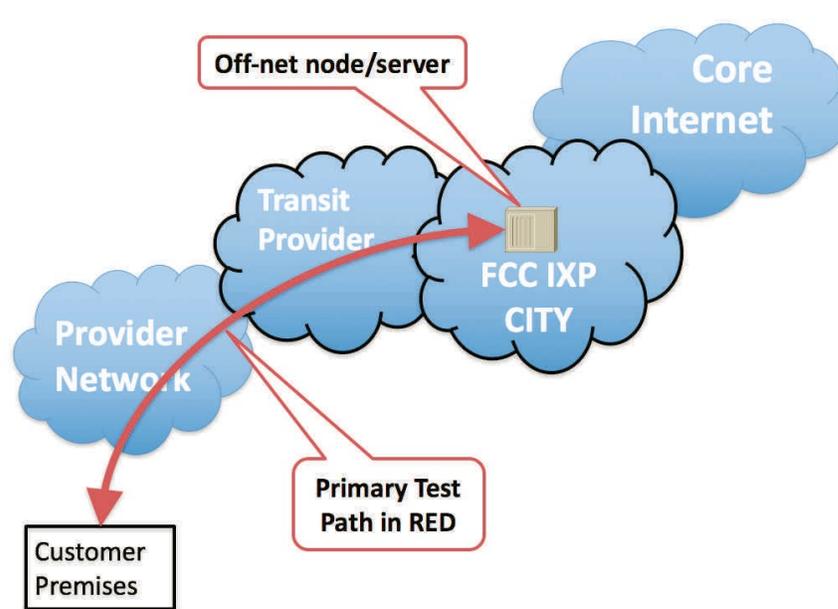
²⁶ *Report and Order*, WC Docket No. 10-90, October 31, 2013, 28 FCC Rcd 15060 (*CAF Phase II Service Obligations Order*) at ¶ 4 (emphasis added).

²⁷ *USF Transformation Order* at ¶ 78.

²⁸ We recognize that the Commission delegated to the Office of Engineering and Technology the authority to issue more specific testing requirements if needed; it did so with the assumption that the Order and Technical Appendix provided all of the information required. (*Voice Replacement Order* at ¶ 106.) As we explain in the section that follows, however, the guidance provided is not only incomplete and insufficient, but also founded on incorrect assumptions.

III. The Technical Guidance of the *Voice Replacement Order* Should Seek to Retain the Quality of Experience of the PSTN

In the section below, we explain why the technical guidance of the *Voice Replacement Order* – guidance that is incorrectly grounded in the broadband, but not voice, obligations of the Connect America decisions – will not preserve the Quality of Experience (“QoE”) that consumers have come to expect from the PSTN. To best express our concerns, we use the Commission’s illustration from Appendix B.²⁹ This figure (below) is intended to illustrate how applicants should determine whether their voice replacement offering meets the performance benchmarks established by the Commission.



There are three errors with the evaluation approach illustrated by the figure above.³⁰ The

²⁹ *Voice Replacement Order*, Appendix B, at ¶ 14.

³⁰ Although the errors are expressed sequentially, each is of equal importance.

first is that the figure does not recognize that the PSTN is an end-to-end experience. The Commission cannot hope to preserve PSTN quality if it only tests a portion of a phone call.³¹

Second, the illustration presumes that the replacement service is an OTT service, rather than a managed-VoIP service, such as those offered by cable-based providers, incumbent ILECs and CLECs, that is designed to achieve quality and reliability by segregated voice traffic.³²

There is no reason to include OTT services that can suffer from Internet congestion. OTT services are not designed for the unique requirements of voice service within the universe of potential replacement services, much less should they establish performance testing approaches premised on that configuration. Commission data indicates that OTT services collectively serve approximately 10% of all VoIP and a minuscule 0.8% of the VoIP lines provisioned by the ILECs that would seek a section 214 discontinuance.³³ OTT services are not the market solution.

Finally, the illustration ignores the serious complications introduced when calls can be expected to traverse – as they will during the nation’s extended transition to new technologies – different technology platforms and the networks of multiple carriers. The Commission simply cannot ensure that PSTN quality is preserved if it fails to address the need for VoIP interconnection and how to best eliminate unneeded protocol conversions.³⁴

Significantly, each of the concerns identified above can be addressed. In the attached

³¹ In contrast, in the context of the Commission’s broadband obligations from which the Technical Appendix is derived, it is reasonable to measure the performance of an internet access service across only that portion of the service – i.e., *access* – that the carrier is providing.

³² See *fn. 12 infra* for a discussion concerning the difference between managed and OTT services.

³³ See *Local Telephone Competition: Status as of December 31, 2013, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission, October 2014, Figure 5 Interconnected VoIP Subscribership by Reported Service Features, page 7*. Although the Commission characterizes VoIP subscriptions as between “nomadic” and “not nomadic,” those categories effectively proxy for a distinction between “OTT” and “managed” VoIP services.

³⁴ See *The Transition to an All-IP Network: A Primer on the Architectural Components of IP Interconnection*, Joseph Gillan and David Malfara, *supra* footnote 12.

declaration, David Malfara, an engineer with extensive experience in PSTN network design and its replacement technologies, provides a framework that would improve the technical guidance in *Voice Replacement Order* and Technical Appendix. Mr. Malfara:

- a. Describes the PSTN's legacy voice service in terms of the existing quality attributes upon which users have come to depend;
- b. Demonstrates that the technical guidance outlined in the *Voice Replacement Order* to determine that a service is an adequate "replacement service" for PSTN legacy voice service is not sufficient to accomplish the Commission's public interest goals; and, most importantly,
- c. Proposes a technologically-neutral comparative process, with the associated benchmarks, that could be used to qualify a replacement service for PSTN legacy voice service, when it is provided using the next-generation "Voice as a Service" (VaaS) model, now common in the technical transition of the industry.

Mr. Malfara first constructs a "PSTN Operational Quality Reference Model" to identify the key attributes of the PSTN that should be preserved as the nation's core networks transition to different technology platforms. Mr. Malfara then proposes metrics that more fully ensure that the consumer QoE with the PSTN is preserved in the future than the metrics identified by the Technical Appendix to the Order.

Our Petition builds on (and does not seek to amend) the Commission's three-prong test.³⁵ Each of the proposed metrics are intended to *replicate* the QoE between a legacy PSTN call and a call initiated by a replacement service.³⁶ Moreover, Mr. Malfara's analysis recognizes that testing and benchmarks must consider the multi-carrier and multi-technology nature of the transition. As a result, the technical guidance provided in the attached declaration better achieves the Commission's objectives than the guidance provided by the *Voice Replacement Order*, and we ask that the Commission reconsider this section of the Order.

³⁵ Malfara Declaration at ¶ 63.

³⁶ *Ibid* at ¶ 64.

IV. Conclusion

For the reasons here stated, the *Voice Replacement Order* will fail to achieve the Commission's core goal to provide consumers "a replacement that will provide comparable network quality and service performance."³⁷

For these reasons, the report and order should be reconsidered.

Respectfully submitted,

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³⁷ *Voice Replacement Order* at ¶ 69.

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